RELATIONSHIP QUALITY AND RELATIONSHIP VALUE AS KEY DRIVERS OF RELATIONSHIP SATISFACTION AND LONG-TERM ORIENTATION IN BUYER-SELLER RELATIONSHIPS: THE CASE OF THE UK ELECTRICAL AND ELECTRONICS INDUSTRIES

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ABSTRACT

This study focuses on two aspects of business-to-business relationships, relationship quality and relationship value. Crosby *et al.* (1990) suggest that the quality of the relationship determines the probability of continued exchange between buyer and seller. Following Crosby *et al.'s* (1990) ground-breaking relationship quality study some important dimensional issue remain. The dominant conceptualisation of relationship quality defines it as a higher-order construct consisting of either outcome or process dimensions. The outcome dimensions of relationship quality have been examined extensively in the literature, whilst the process dimensions have received limited attention. The literature identifies the need for a better understanding of how relationship quality is developed in business-to business exchange. Therefore a vital first step for the current study is the development of a process conceptualisation of relationship quality.

For the past three decades, the customer value literature has focused on the value a customer receives from the exchange of products and services. However, over the past decade researchers have begun to examine the value a customer derives from the exchange relationship itself. These studies of relationship value have focused on the tangible aspects of value such as the economic and functional benefits of a supplier relationship. The current study examines not only the tangible benefits of a supplier relationship but also the relationship's intangible benefits such as the social, emotional and knowledge benefits.

Adopting a process approach to the quality of relationship between buyer and seller, the current study conceptualises Relationship Quality (RQ) as a higher-order structure consisting of a behavioural RQ and a cognitive RQ dimension. Relationship value is also conceptualised as a high-order construct consisting of a relationship benefit and a relationship sacrifice dimensions. From these conceptualisations a research and two competing models are developed and the interrelationship between constructs relationship quality, relationship value, relationship satisfaction and long-term orientation is tested.

Data were collected by means of self-completion questionnaires among buyers in the UK electrical and electronics industries and analysis was conducted using the structural equation modelling technique PLS. The findings suggest that relationship quality is a determinate of relationship value and both have a direct and indirect effect on relationship satisfaction and long-term orientation. Through the improved conceptualisations of relationship quality and relationship value and the development and testing of theoretically grounded research and competing models, the current study provides and original contribution to scholarly literature. In addition, a contribution has been made to business practice, through the advancement of normative managerial guidelines to aid decision-making when managing long-term customer relationships.

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PART A: INTRODUCTION

This section comprises a single chapter that presents an overview of the study

Chapter A1: Introduction

CHAPTER A1: INTRODUCTION

This chapter presents an overview of the subject matter. The research problem is delineated and the conceptual and theoretical focuses are provided. Research needs, the contributions to be made, and the aim and objectives of the investigation are defined. A brief description of the research methodology is provided and finally the limitations and structure of the study are stated.

A1.1 BACKGROUND TO THE RESEARCH

In an analysis of developing theories of relationship marketing, Möller and Halinen (2000) identified four distinct literatures that have contributed to this concept: industrial marketing (Ford, 1990; Håkansson, 1982; Möller and Wilson, 1995), services marketing (Grönroos, 1990; Berry and Parasuraman, 1993; Fisk *et al.,* 1993), channels marketing (Anderson and Narus, 1984; Heide and John, 1990, 1992; Morgan and Hunt, 1994), and database marketing (Shore and Stone, 1988; Jenkinson, 1995). Irrespective of domain, definitions of relationship marketing are remarkably similar. For example, Grönroos (1990, p.5) argued that the purpose of "relationship marketing is to establish, maintain, enhance and commercialise customer relationships, so that the objectives of both parties involved are met". Similarly, Morgan and Hunt (1994, p.22) suggested that "relationship marketing refers to all marketing activities directed toward establishing, developing and maintaining successful relational exchange". It consequently follows that maximising exchange success through developing and maintaining customer relationships is at the core of relationship marketing and by extension relational exchange.

Over the past decade, the relationship quality between buyer and seller and the value generated by the relationship have emerged as two important relationship marketing concepts. The value a customer receives has been conceptualised as a trade-off between price and functional utility (Christopher, 1982; Monroe, 1990), although others have argued (e.g., Zeithaml, 1988; Chang and Wildt, 1994) that perceptions of customer value go beyond just a price-quality trade-off to include less tangible elements such as the social and knowledge acquiring components of interaction between buyer and seller. This suggests that customer value is derived from both the

product/service being exchanged and the supporting relationship. Although not previously tested (see Table B1.5 Outcomes of Relationship Quality), it is reasonable to assume that the quality of the exchange relationship will have an effect on customer value. Houston and Gassenheimer (1987) argued that relationship quality is dependent on the actions of the relationship partners. Others have suggested that a relationship partner's actions lead to relationship value (Lapierre, 1997; Gassenheimer *et al.*, 1998). In addition, the literature offers overwhelming evidence that relationship value impacts on levels of relationship satisfaction (Eggert and Ulaga, 2002; Spiteri and Dion, 2004) and long-term orientation (Altman and Taylor, 1973; De Ruyter and Bloemer, 1999). As a consequence relationship quality and relationship value are the fundamental aspects of relational exchange.

A1.2 RESEARCH NEEDS AND CONTRIBUTION

Relationship value and relationship quality have emerged as two of the principle constructs in relationship marketing literature. Authors have conceptualised relationship value in terms of its tangible elements, such as the financial rewards of product and service exchange (Lapierre, 2000: Menon *et al.,* 2005). Additionally relationship value has been seen as having intangible elements (Gwinner *et al.,* 1998; Reynolds and Beatty, 1999). However, the scope of these tangible and intangible elements of relationship value has yet to be explored. Writing in the customer value literature, both Sheth *et al.* (1991) and Holbrook (1994) offer a broader perspective on the tangible and intangible elements of customer value that offer hitherto untapped insights for a revised conceptualisation of relationship value.

The general value literature indicates clearly that product quality and service quality are determinants of customer value (Menon *et al,* 1997; Homburg and Garbe, 1999). Using the same logic, relationship quality may be viewed as a determinant of relationship value. Researchers have defined relationship quality as being made up of its outcomes (Dorsch *et al.,* 1998; Rauyruen and Miller, 2007), while others have defined it as consisting of process and/or outcome dimensions (Johnson and Raven, 1996; Lages *et al,* 2004). The outcome approach identifies *what* relationship quality achieves (i.e., trust, satisfaction and commitment), whereas the process approach specifies *how* relationship quality is achieved. Prior conceptualisations have lacked

clarity as to the approach adopted. As a result, confusion exists in classification of relationship quality outcome and process dimensions. In the context of business-to-business buyer-seller relationships an improved conceptualisation of relationship quality that focuses on the process dimensions will offer greater clarity on how this phenomenon is achieved.

The interrelationship between relationship quality and relationship value has received limited research attention (c.f., Menon *et al,* 1997; Homburg and Garbe, 1999). However, there is evidence that suggests relationship value impacts on levels of relationship satisfaction (Eggert and Ulaga, 2002; Spiteri and Dion, 2004) and long-term orientation (Altman and Taylor, 1973; De Ruyter and Bloemer, 1999). Several studies have found a direct relationship between relationship quality and long-term orientation (Crosby *et al.,* 1990; Lagace *et al.,* 1991; Bejou *et al.,* 1996; Boles *et al.,* 2000; Hennig-Thurau *et al.,* 2002; Rauyruen and Miller, 2007) and the studies of Johnson and Raven (1996) and Woo and Ennew (2006) identified a pathway between relationship quality and relationship satisfaction. To the knowledge of this author these four constructs: relationship quality, relationship value, relationship satisfaction and long-term orientation have not been tested in a single model. By examining the relationship between these constructs academic knowledge will be added and managers will benefit from new insights into the action necessary to develop and maintain customer relationships.

As a result of identifying the research needs, three issues relating to relationship quality and relationship value are viewed as meriting research attention and form the focus of the proposed study. Specifically this study attempts to provide:

1. An Improved Conceptualisation of Relationship Quality

As the literature review demonstrates, service quality has been conceptualised as a process (Grönroos, 1984; Parasuraman *et al.,* 1988). The relationship quality literature on the other hand defines quality mainly in terms of its outcomes (i.e., trust, satisfaction and/or commitment) (Crosby *et al.,* 1990; Dorsch *et al.,* 1998). While some attempts have been made to conceptualise relationship quality in terms of its process elements (i.e., technical, social and economic) (Huntley, 2006; Holmlund, 2008), confusion regarding these elements and their dimensions remains. This study seeks to clarify the conceptualisation of relationship quality

and to identify the dimension of relationship quality that best support the process of market exchange.

2. *An Improved Conceptualisation of Relationship Value*

Prior conceptualisations of relationship value have focused on the financial benefits and scarifies offered by a supplier relationship (Menon *et al,* 1997; Homburg and Garbe, 1999). The omission of the softer, more intangible elements of the relationship, offers a partial view of the value a buyer perceives. In the context of business-to-business exchange, this study seeks to strengthen the current conceptualisation of relationship value by including both its tangible and intangible elements.

3. *Links between Quality, Value, Satisfaction and Long-Term Orientation*

In the context of business-to-business exchange relationships, the functional relationship between relationship quality, relationship value, relationship satisfaction and long-term orientation is uncertain. Therefore, it is important to examine these relationships at different levels of abstraction (i.e., the effect of value at the benefit-sacrifice and direct-indirect levels) are examined.

A1.3 RESEARCH AIM AND OBJECTIVES

This study aims to provide a detailed examination of the relationship between relationship quality and relationship value and their impact on relationship satisfaction and long-term orientation in the business-to-business domain. The specific objectives are:

1. Building a theoretically grounded model.
2. Operationalisation of the model constructs.
3. Collection of data.
4. Analysing the acquired data using suitable analytical tools.
5. Putting forward theoretical and managerial suggestions based on the empirical results.

The results of this study are expected to make a number of important contributions to this field. More specifically, this is the first documented effort to:

1. Conceptualise relationship quality in terms of the quality of supplier attributes and behaviours that support the exchange process.
2. Improve the existing conceptualisation of relationship value to include both the tangible and intangible elements of relationship benefits and sacrifices.
3. Examine the pathways between relationship quality and relationship value at both the overall construct and dimension level, and examine the relationship between relationship satisfaction and buyer long-term orientation in the context of business-to-business exchange.

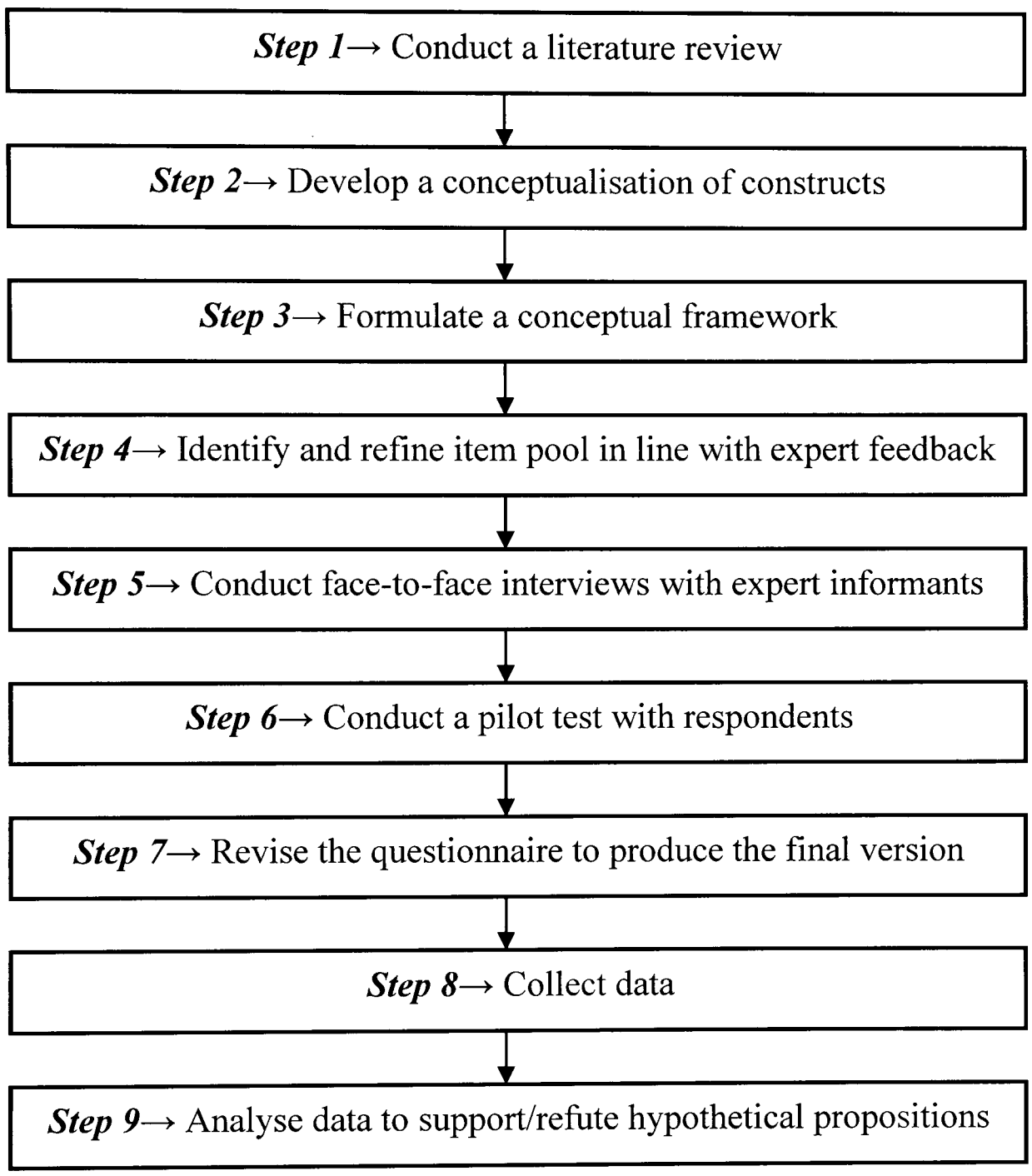
The results of this study are also expected to make important contributions to marketing practice. More specifically, relationship marketing practitioners will benefit from insights offered by the following areas of study:

1. The identification of the components of relationship quality that support exchange. This will offer marketing practitioners guidance on which relationship quality attributes are necessary to sustain effective relational exchange.
2. By ascertaining the tangible and intangible elements of relationship value, marketing practitioners will be better able to maximise customer value. This is achieved by improving customer relationship benefits and minimising the sacrifices they make.
3. By demonstrating that a pathway exists between relationship quality and relationship value, this will guide marketing practitioners' efforts to increase customer value through the improvement of relationship quality.
4. In identifying the relationship between the four research model constructs, (i.e., relationship quality, relationship value, relationship satisfaction and long-term orientation), marketing practitioners will gain insights into the fundamental elements of relational exchange. This knowledge will help guide the maintenance and development of customer relationship in the context of business-to-business exchange.

A1.4 RESEARCH METHODOLOGY

The main phases of the adopted research method broadly follow the research design process proposed by Sekaran (2002). The summary of the research process is outlined below and is also summarised in Figure A1.1

Figure A1.1 Research Design Process



Following an extensive literature review (Step 1), a thorough appreciation of the subject was obtained. The next stage was to develop a conceptualisation of the principal constructs (Step 2), which led to the formation of an initial conceptual framework (Step 3). The next phase involved the identification and validation of multi-item scales which reflected the adopted conceptualisation of the research constructs. Although careful consideration was given to matching the scales context with that of the study, some rephrasing of original scale items was involved to reflect

the particular context of the study (Step 4). At the end of this phase, exploratory research was undertaken using expert informants to refine the proposed scales and determine methodological issues (Step 5). A pilot test of the initial questionnaire was conducted with 20 business-to-business buyers (Step 6). The pilot helped identify the revisions necessary to produce the final version of the questionnaire (Step 7). Using both online and postal surveys, data were collected from senior purchasing managers in the electrical and electronics sector (Step 8). An overall response rate of 19% was recorded, which resulted in 191 usable questionnaires. The software packages SPSS and PLS Graph were used as analytical tools for measurement of reliability and validity and modular pathway confirmation (Step 9).

A1.5 LIMITATIONS OF THE PROPOSED STUDY

Although considerable effort has been made to ensure the robustness of the study, there are a number of limitations remaining that must be highlighted.

[1] The items used in the operationalisation of the research constructs have largely been borrowed from previous relationship marketing studies. Even though they were carefully adapted and checked for reliability and validity, there remains a danger that they may contain inherent shortcomings, especially when applied in a new environment and different context. This limitation is fundamentally related to measuring complex phenomena such as quality and value. Such phenomena are often incomplete and entail an element of supposition (Zaltman *et al.*, 1982).

[2] A logical and evidence based attempt has been made in building and testing a model that deals with key aspects of relationship quality and value in buyer–seller relationships with an emphasis on long-term orientation as an outcome. However, relationships are a processional phenomenon where many factors play important roles. Therefore it is difficult to separate and represent key factors in order to build a theoretical/conceptual model at the necessary level of abstraction. This is particularly so in research where time and parsimony were to be modelling constraints. Although, based on the extant literature, efforts have been made to develop a theoretically grounded framework, the inevitable level of abstraction achieved is considered a limitation.

[3] Describing a social process between two organisations that has many other dimensions and determinants (i.e., culture, ethics and religion) apart from behaviours and attitudes is a demanding task. Therefore the study represents a limited attempt to obtain an insight into a complex real-life phenomenon such as social exchange.

[4] In-depth interviews and qualitative data analysis have been suggested to be the most appropriate for data collection and analysis in complex investigations (Eisenhardt, 1989) such as relationship quality in the context of business-to-business exchange. The proposed research utilises statistical generalisation based on quantitative data analysis methods which can be considered as a limitation.

[5] As the proposed study involves an element of temporal investigation, a more suitable research approach would have been longitudinal rather than cross-sectional (Miller and Friesen, 1982). A longitudinal approach would have afforded a 'dynamic' treatment of time rather than the 'static' treatment offered by a cross-sectional study. However due to research deadlines, time was treated as a proxy variable by considering it in an absolute sense (i.e., length of relationship in years). Furthermore, as the research was conducted within a defined timeframe (November 2006 to February 2007) this only provided a fragment of the relationship from which to draw conclusions. As cross-sectional studies only look at time in terms of past and present but not future and therefore provides only a snap shot of the relationship.

[6] Data were collected from one sector (i.e., electronic and electrical manufactures, distributors and retailers). This represents a small part of the technology sector and an even smaller part of UK industry as a whole. Hence care must be exercised when attempting to generalise the results.

[7] The dual use of postal and online surveys is recognised as a limitation. Efforts were made to mitigate the effects of using two different formats by making the questionnaires identical in word and appearance. The motivation for using the online questionnaire was to improve response rates by offering an alternative to the postal survey. This was done only at the reminder stage of the data collection process.

[8] In spite of recommendations made by Chin (2004) the testing of formative higher-order structures was carried out with the knowledge that the numbers of indicators for each of the constructs were not always equal (Section D2.1.1)

[9] Conceptualisations of relationship quality in a business context are at a relatively early stage of development and as a consequence different views as to what determines a good relationship exist. Hence, it is difficult to operationalise relationship quality at a concrete level due to the variation in what the term means to different customers. Although the current study has gone to great lengths to identify the relationship quality constructs that have attracted most research effort in the past three decades, there may be other important construct not included in this research.

A1.6 STRUCTURE OF THE THESIS

This thesis is divided into five parts (Parts A to E) each of which is subdivided into one or more chapters. The logic and flow of the debate is explained below.

Part A comprises a single chapter (Chapter A1) that defines the study context and explains the reason for the need of the study and sets the parameters of the investigation. In Part B, an extensive debate of the related literature is presented. In Chapter B1 the debate centres on relationship quality and includes discussions relating to its definitions, dimensions, antecedents and outcomes before offering a conclusion on this topic. In Chapter B2 the focus of debate is on relationship value, with a discussion of its definitions, dimensions, antecedents and outcomes. The conclusions in Part B guide the direction of the study.

Part C sets out the theoretical foundations and methodological actions of this research. In Chapter C1, using relevant literature, the research framework is presented as well as the process involved in developing the proposed model. The following three Chapters C2, C3 and C4 deal with the specific issues relating to measurements and measures, and the analytical approach adopted. Part D is devoted to the analysis of the collected data. Chapter D1 debates measurement accuracy related to reliability and validity of the research constructs and Chapter D2 delineates the analytical process, evaluating and reporting on the research and competing models hypothesised functional pathways.

Part E comprises a singe chapter (Chapter E1) which presents a commentary on the results and their relevance to the stated research aim and objectives. In addition, it offers a debate in terms of the results, placing them within the relevant body of

literature. Normative guidelines, the contributions of the research and suggestions/recommendations for further research are also presented.

PART B: LITERATURE REVIEW

This section details the review of the relevant literature and comprises two chapters

Chapter B1: Relationship Quality

Chapter B2: Relationship Value

CHAPTER B1: RELATIONSHIP QUALITY

B1.1 INTRODUCTION

The limitations of the discrete/transaction paradigm in marketing have been recognised and the shift from transaction-based to relationship based marketing (e.g., Möller and Wilson, 1988; Grönroos, 1989) has been well documented in a range of contexts: personal selling and sales management (Crosby *et al.,* 1990; Palmer and Bejou, 1994; Parsons, 2002), business-to-business marketing (Szmigin, 1993; Naudé and Buttle, 2000; Ivens, 2004; Woo and Ennew, 2004), distribution channels (Kumar *et al.,* 1995; Johnson, 1999), export marketing (Lages *et al.,* 2005) and on-line banking (Lang and Colgate, 2003). Smith (1998) argued that relationship quality is a central construct in the relationship marketing literature. This chapter examines the definitions, dimensions, antecedents and outcomes of relationship quality before offering a conclusion on this topic.

B1.2 RELATIONSHIP QUALITY

In business-to-business studies relationship quality has been examined from the perspective of both buyer and seller (Anderson *et al.,* 1995; Yeung *et al.,* 2003). However, the principle perspective in the relationship marketing literature is a buyer's assessment of their supplier relationships. Relationship quality has been described as a metaconstruct, made up of several components that support, reinforce and complement each other (Dwyer *et al.*, 1987). A number of studies (see Table B1.3) adopt this view of relationship quality but no general consensus on its constituent parts has been reached (Naudé and Buttle, 2000; Bove and Johnson, 2001).

The author has identified three approaches to the conceptualisation of relationship quality in the literature. [1] The most dominant of these approaches defines relationship quality as consisting of one or more of the relationship constructs of trust, satisfaction and/or commitment (e.g., Crosby *et al.,* 1990; Henning-Thurau *et al.,* 2001; Ulaga and Eggert, 2006b) and therefore views relationship quality in terms of its outcomes. [2] Adopting a process approach to quality, the Industrial Marketing and Purchasing Group (IMP) conceptualise relationship quality in terms of it process elements (i.e., cooperation, communication quality and adaptation). These are the

relationship elements that support exchange (Håkansson, 1982; Ford, 1984). [3] A further group of studies draw on a concept popular in service quality research (e.g.. Grönroos, 1984) that examines relationship quality in terms of both its process and outcome elements. On the one hand, defining relationship quality in terms of its outcomes identifies what relationship quality is, whereas defining relationship quality in terms of its process elements indicates how it is achieved. Conceptualisations of relationship quality that draw on the service quality literature have argued that each relationship interaction is made up of process elements that are joined with other interactions to produce a relationship, and it is the relationship that consists of outcome components.

Definitions emerging from studies that adopt an outcome approach, define relationship quality in terms of one or more of the relationship elements of trust, satisfaction and/or commitment. For example, Dwyer and Oh (1987, p. 349) describe relationship quality "as reflected in satisfaction with and trust of one's exchange partner and minimum opportunism". Crosby *et al.* (1990) writing in the business-to-consumer domain, is recognised as the seminal study by those adopting the outcome approach. Cited extensively, Crosby *et al.* (1990, p.70) define relationship quality as being "present when the customer is able to rely on the salespersons integrity and have confidence in the sales person's future performance because the level of performance has been consistently satisfactory". This definition indicates that buyer trust and satisfaction must be present for buyer relationship quality to exist.

In the business-to-consumer domain, Hennig-Thurau *et al.* (2002, p.234) defined relationship quality as the sum of its components, arguing that "relationship quality can be regarded as a meta-construct composed of several key components that reflect the overall nature of the relationship between companies and consumers". This implies that relationship quality comprises a number of elements which reflect the overall quality of the relationship. Similarly, Smith (1998, p.78) defined relationship quality as a "higher-order construct comprising of a variety of positive relationship outcomes that reflect the overall strength of the relationship and the extent to which it meets the needs and expectations of the parties based on a history of successful or unsuccessful encounters or events". Defining relationship quality as consisting of trust, satisfaction and commitment, Wulf *et al.* (2001 p. 36) argued that "better-quality relationships are accompanied by greater levels of these three constructs". This

definition uses a similar conceptualisation of relationship quality to the one proposed by the previous studies and implies a causal relationship between better-quality relationships and greater levels of trust, satisfaction and commitment. The meaning of *better-quality relationships* is not clear from the definition.

Other studies have attempted to extend the two or three dimensional structure of relationship quality by including more dimensions. For example, Kumar *et al.* (1995) define relationship quality as being manifest in several distinct, though related constructs, including conflict, trust, commitment, willingness to invest in the relationship and an expectation of continuity. Dorsch *et al.* (1998) emphasise the importance of trust, satisfaction, commitment, minimal opportunism and ethical profile. Lang and Colgate (2003) suggested that relationship quality consists of commitment, trust, satisfaction, social bonding and conflict. Several relationship quality studies have adopted this approach, conceptualising relationship quality as a higher-order construct, however there is limited consensus on the number and nature of the first order constructs. Woo and Ennew (2004) argued that research adopting this approach has placed particular emphasis on the constructs of trust, satisfaction and commitment, which these authors identified have their origins in studies focusing on consumer markets and therefore do not necessarily apply to a business-to-business context.

Adopting a conceptualisation of relationship quality based on the work of the Industrial Marketing and Purchasing (IMP) group, Woo and Ennew (2004) defined relationship quality as a higher-order construct consisting of the elements atmosphere, cooperation and adaptation. This implies that relationship quality is determined by a relationship partner's attitude and behaviour. Although this conceptualisation has broad acceptance in the services quality literature (c.f., Grönroos, 1982; Parasuraman *et al.,* 1988), few relationship quality studies have adopted this approach. In the context of a franchise relationship, Dant *et al.* (1995) defined relationship quality as consisting of contractual, behavioural and relational elements. In the context of a channel relationship, Jap *et al.* (1999) argued that relationship quality is likely to manifest itself through five interpersonal interaction behaviours: friendliness, question asking, disagreements, compliance and time spent talking. Jap *et al.* (1999) focused purely on buyer-seller interaction behaviour, ignoring the attitudinal elements identified by the previous two studies.

In a single conceptualisation, relationship quality has been defined as having both outcome elements and process elements. Holmlund (2008) modelled relationship quality as having both elements, arguing that process elements relate specifically to the interaction and outcome elements relating to the overall relationship. This dichotomous approach to modelling and measuring quality is a common conceptualisation in service quality evaluations. For example, Lehtinen and Lehtinen (1982) refer to physical quality and interactive quality, Grönroos (1984) to technical (what) quality and functional (how) quality, Parasuraman *et al.* (1985) to outcome and process quality, while Holbrook and Corfman (1985) refer to mechanistic quality and humanistic quality. Woo and Ennew (2004) argued that process-related and human-related quality can be collectively labelled relationship quality. However, service quality and relationship quality are very different concepts. For example, service quality has a defined outcome that is an integral part of the service process. In an ongoing business-to business relationship, the quality of the relationship has many outcomes (i.e., buyer long-term orientation, satisfaction, performance, value and word of mouth).

In conclusion, the approach taken to the relationship quality concept in the business-to-business exchange context based on the work of the Industrial Marketing and Purchasing (IMP) group makes an important contribution to our understanding of this construct. This conceptualisation defined relationship quality in terms of its process elements. Whilst the legitimacy of the underlying concept that a process leads to an outcome is undeniable, by placing both process and outcome elements in a single conceptualisation introduces unnecessary complexity. The dominant conceptualisation of relationship quality offers simplicity by defining relationship quality only in terms of its outcomes. However, defining a construct in terms of its outcomes gives limited insight into how the phenomenon is achieved. Therefore, this study adopts a process approach to the conceptualisation of relationship quality because this has the potential for new insights into how relationship quality is delivered.

B1.3 DIMENSIONS OF RELATIONSHIP QUALITY

Dorsch *et al.* (1998, p.129) stated that "there is no consensus on which dimensions make up relationship quality, although considerable overlap exists in the various conceptualisations". Table B1.3 shows relationship quality dimensions examined in

recent conceptual and empirical studies. For ease of reading, the horizontal axis is divided according to whether a paper employs constructs classified as purely output dimensions or process dimension or a combination of both. The vertical axis of the table lists the constructs in alphabetical order within the outcome and process classification. In the following debate only the most often employed constructs in each of the classifications are debated.

B1.3.1 Outcome Based Dimensions

Trust is a well developed construct in the relationship marketing literature, almost to the point that some authors present trust as the only important relationship quality variable (see Sullivan and Peterson, 1982; Crosby *et al.*, 1990; Moorman *et al.*, 1993; Morgan and Hunt , 1994; Ulaga and Eggert, 2006b). While the importance of trust in relationship studies is not disputed, it has been found to mean different things to different people and can therefore be affected by a number of factors (Page *et al*, 1997). For example, Smith and Barclay (1997) argued that trust arises from the action of the trustee. These actions include relationship investment influence acceptance, communication openness, control reduction and forbearance of opportunism. Although Smith and Barclay (1997) found behavioural factors were the principal dimensions of supplier trust, they also found evidence suggesting that some factors leading to trust are cognitive (e.g., size of the supplier). Trust has a pivotal role in business relationships, which means that Smith and Barclay's findings make an important contribution when identifying relationship qualities process dimensions.

Relationship satisfaction represents an overall evaluation, feeling or attitude about the other party or the relationship itself (Selnes, 1998). In the context of business-to-business exchange, relationship satisfaction has been defined as the global evaluation of relationship fulfilment by the firm (Dwyer *et al.*, 1987) or as a positive affective state resulting from appraisal of all aspects of a firm's working relationship with another firm (Frazier *et al.*, 1989; Gaski, 1996: Geyskens *et al.*, 1999). Anderson and Narus (1990) argued that it is the fulfilment of achieving the desired outcomes that leads to satisfaction with a relationship partner. In other words satisfaction is a post purchase, post interaction and post consumption phenomenon therefore an outcome of quality. The studies conducted by Johnson and Raven (1996) and Woo and Ennew (2004) both found satisfaction is an outcome of relationship quality. However,

satisfaction's position in the nomological network of business-to-business relationship models has been unclear. For example, some have suggested satisfaction is a relationship outcome (Selnes, 1998; Sanzo *et al.,* 2003), some an antecedent (Geyskens and Steenkamp, 2000) and others a mediating variable (Patterson and Spreng, 1997). With business-to-business relationship quality studies satisfaction is clearly an outcome.

Relationship commitment is central to relationship marketing (Morgan and Hunt, 1994). Relationship commitment has been defined as an implicit or explicit pledge to maintain a valued relationship into the future (Anderson and Weitz, 1989, 1992; Moorman *et al.,* 1992). Morgan and Hunt (1994) argued that commitment stems from a relationship partner's belief that the importance of the relationship is such that it warrants maximum effort in its maintenance. Mowday *el al.* (1982) suggested that there are two types of commitment, cognitive commitment is evident in buyer long-term orientation and behavioural commitment manifest in a willingness to make short-term sacrifices to realise long-term relationship benefits (Anderson and Weitz, 1992). This implies relationship commitment is related to economic and non-economic value calculation, as supported by the findings of Morgan and Hunt (1994). Both cognitive and behavioural commitment are factors in long-term orientation (Ganasan, 1994), which has be found to be an outcome of relationship quality in a business-to-business setting (Lagace *et al.,* 1991; Hennig-Thurau *et al.,* 2002; Rauyruen and Miller, 2007).

B1.3.2 Process Based Dimensions

Studies that define relationship quality in terms of its process dimensions (Dant *et al.,* 1995; Jap *et al.,* 1999; Woo and Ennew, 2004) conceptualise relationship quality in terms of the relationship elements that support exchange. For example, Woo and Ennew (2004) identify these dimensions as cooperation, adaptation and atmosphere. Cooperation is an important relationship behaviour that has been tested in numerous relationship studies (see Appendix 2). Adaptation has been described as a willingness to make relationship specific investments, which also had been tested in many relationship studies. This would suggest that potential process dimensions of relationship quality can be found in the wider relationship marketing literature. Jap *et al.* (1999) research focuses on the interpersonal dimensions of relationship quality such as customer orientation and ethical profile. An important consideration identified

in this study is the recognition that the level of abstraction of relationship quality constructs used in a multidimensional conceptualisation should be compatible. In the context of franchising relationships, Dant *et al.* (1995) adopt a process approach to relationship quality, which they suggest have three dimensions: contractual. behavioural and relational. In the franchise setting written contract is an important dimension of relationship quality, whereas it has limited importance in the majority of channel relationship settings. In this case context is important, however the remainder of Dant *et al.'s* (1995) dimensions are relevant to both franchise and non-franchise relationship quality studies.

B1.3.3 Outcome and Process Based Dimensions

A third group of studies suggested relationship quality is made up of both outcome and process dimensions (Kempeners, 1995; Lages *et al.,* 2005; Leonidou *et al.,* 2006). Leonidou *et al.* (2006) combine the outcome dimensions of trust, satisfaction and commitment with the process dimensions of communication, cooperation and adaptation to represent relationship quality. Combining two levels of abstraction in a single construct is potentially confusing. However, others have dealt with this issue in a more structured way. For example, Holmlund (1997, 2001, and 2008) and Järvelin and Mittilä (1998) draw on and integrate the work of the Industrial Marketing and Purchasing group (IMP) and service quality theorists from North America and Scandinavia in modelling relationship quality. Adopting a conceptualisation that suggests quality operates in two domains, relationship outcome (what) and relationship process (how), Grönroos (1982) and Parasuraman *et al.* (1988) conceptualised relationship quality as having technical, social and economic dimensions.

The remainder of the debate that relates to the dimensions of relationship quality focuses on the individual dimension identified by the author as important to the current study (see Section C1.2 for the approach adopted to identify the process dimensions of relationship quality). These dimensions are as follows:

Table B1.3 Dimensions of Relationship Quality

	Studies Employing Outcome Dimensions													Process			Both Outcome and Process											
	Crosby *et al.* (1990) [C]	Lagace *et al.* (1991)	Palmer and Bejou (1994)[C]	Bejou *et al.* (1996)[C]	Smith (1998)	Dorsch *et al.* (1998)	Boles *et al.* (2000)	Hewett *et al.* (2002)	Hennig-Thurau *et al.* (2002)	Walter *et al.* (2003)	Farrelly and Quester (2005)	Ulaga and Eggert (2006b)	Sánchez-Garcia *et al.* (2007)[C]	Rauyruen and Miller (2007)	Dant *et al.* (1995) *	Jap *et al.* (1999)	Woo and Ennew (2005)	Holmlund and Kock (1995) *	Kempeners (1995) *	Kumar *et al.* (1995a)	Johnson and Raven (1996)	Järvelin and Mittilä (1998)	Holmlund (2001) *	Lang & Colgate (2003)[C]	Lages *et al.* (2005)	Fynes *et al.* (2005)	Huntley (2006)	Leonidou *et al* (2006)	Holmlund (2008)
Outcome Dimensions																													
Commitment					■	■		■	■	■	■	■	■	■					■	■	■			■		■		■	
Long-term orient'																									■				
Satisfaction	■	■	■	■	■	■	■		■	■	■	■	■	■										■	■			■	
Service Quality														■															
Trust	■	■	■	■	■	■	■	■		■	■	■	■	■					■	■				■		■		■	
Process Dimensions																													
Adaptation																	■									■		■	
Atmosphere																	■											■	
Behavioural															■														
Communication																					■				■	■		■	
Compliance																■													
Conflict																■				■				■					
Contract															■														
Cooperation																	■				■					■		■	
Economic quality																		■				■	■				■		■
Environmental																			■										
Fairness																					■								
Friendliness																■								■					
Functional quality																		■											
Info exchange																									■				
Interdependence																										■			
Organisational																			■										
Personal elements																			■										
Power																				■									
Question asking																■													
Relational															■														
Social quality																						■	■				■		■
Taking time																■													
Technical quality																		■				■	■				■		■
Ultimate quality																						■							

* Indicates a conceptual study
[C] Denotes business-to-consumer study

Information exchange- is the exchange of vital information between relationship partners that has been described as a bilateral expectation that parties will proactively provide information useful to the partner (Heide and John, 1992; Jap and Ganesan, 2000). Easton (2002, p.129) argued that "information is the common currency of

inter-firm relations, all of the other dimensions....operate through the communication of information". Boles *et al.* (2000) suggest that information exchange is the conduit through which all relationship behaviour, attitude and information are communicated between buyer and seller. Therefore effective information sharing is essential for successful collaboration (Monczka *et al.,* 1995).

Power – is use in a relationship by either party to gain compliance from the other (Payan *et al.,* 2005), and has been defined as the capacity to produce intended and foreseen effects on others (Wrong, 1979). Kumar *et al.* (1995a) identifies power as a dimension of relationship quality. They suggest that asymmetric power in a relationship creates a potential for exploitation of the vulnerable partner. Under these conditions the use of power is found to result in fear and uncertainty for the exploited partner (Geyskens and Steenkamp, 2000), which in turn leads to an unwillingness to invest in the relationship (Buchanan, 1992). However, compliance can be achieved either coercively or non-coercively (Brown *et al.,* 1995) and the use of non-coercive power creates an opposite effect. For example, non-coercive power was found to promote cooperation (Sibley and Michie, 1982; Skinner *et al.,* 1992), to reduce conflict (Lusch, 1976; Wilkinson, 1981; Skinner *et al.,* 1992) and positively affect relationship commitment (Kasulis and Spekman, 1980; Brown *et al.,* 1995). The type of power used in a relationship clearly affects the quality of the relationship from the partner perspective.

Conflict – has been described as behaviour that impedes, blocks or frustrates another firm's goal pursuit (Thomas, 1976). Two principle forms of conflict are examined in the marketing literature: these are active conflict which is defined as hostility, frustration and anger towards the other party (Frazier *et al.*, 1989; Brown *et al.,* 1991; Kumar *et al.,* 1995a; Jap *et al.,* 1999) and manifest conflict which is characterised by open expressions of disagreement and/or overt attempts to prevent the relationship partner achieving their goals (Kaufmann and Stern, 1988; Frazier *et al.,* 1989; Anderson and Narus, 1990; Brown *et al.,* 1991; Kumar *et al.,* 1995a; Jap *et al.,* 1999). Jap *et al.* (1999) found that relatively more conflict was indicated in relationships identified as having lower versus higher levels of relationship quality. In a business-to-consumer setting Lang and Colgate (2003) reported that conflict has a significant effect on relationship quality.

Cooperation – has been defined as the extent to which the relationship parties take coordinated actions to attain mutually desirable goals (Sibley and Michie, 1982: Dant *et al.,* 1995). Cooperation implies an attitude characterised by joint effort, team spirit. and mutual collaboration, which is expressed in the form of common action (Frazier, 1983; Childers *et al.,* 1984) and plays a central role in achieving coordination in channel relationships (Anderson and Narus, 1990; Morgan and Hunt, 1994; Cannon and Perreault, 1999). According to Young and Wilkinson (1997, p. 55) define cooperation as "all activity undertaken jointly or in collaboration with others which is directed towards common interests or achieving rewards may be defined as cooperation". In a business-to-business setting, Table B1.3 shows four studies that report cooperation as a significant dimension of relationship quality (see, Johnson and Raven, 1996; Woo and Ennew, 2004; Fynes *et al.,* 2005; Leonidou *et al.,* 2006).

Adaptation- has been defined as the adjustments that "one or other party may make in either the elements exchanged or the process of exchange" (Håkansson, 1982, p. 18). Adaptations are often required in the product, production processes, information dissemination and financial management offered by a supplier. Hallén *et al.* (1991) noted that inter-firm adaptations are important because they bind companies together via relationship specific investments. Relationship specific investments have been described as the resource, effort and attention devoted to a relationship that does not have an outside value and cannot be recovered if the relationship is terminated (Wilson and Mummalaneni, 1988). Relationship specific investments could take the form of training, free issue equipment or assistance with design and development. Smith and Barclay (1997) argued that such actions signal commitment, which motivates the parties to maintain the relationship. In the business-to-business domain two studies, Woo and Ennew (2004) and Leonidou *et al.* (2006) report adaptation as a significant dimension of relationship quality.

B1.4 ANTECEDENTS OF RELATIONSHIP QUALITY

There is limited consensus among researchers as to the antecedents of relationship quality. Three antecedents of relationship quality stand out in Table B1.4 for the number of times they are cited. These are customer orientation, expertise and ethical profile and are the only ones discussed in this section.

As a construct, customer orientation has its roots in the personal selling literature (Saxe and Weitz, 1982; Dunlap *et al.,* 1988; Kelly, 1992). Page *et al.,* (1997, p.937) described this as a supplier's positive orientation toward the customer, which invokes "a feeling of importance" that indicates that the supplier "is committed to our business and is interested in keeping us as satisfied customers". Researchers have suggested that the supplier actions leading to this feeling include listening to customers, being open with their concerns, providing accurate and relevant information and keeping promises (Berry and Parasuraman, 1991; Dorsch *et al.,* 1998; Thakor and Joshi, 2005). In the context of business-to-business exchange, two studies identified in Table B1.4 found a positive a link between customer orientation and relationship quality (Dorsch *et al.* 1998; Bejou *et al.,* 2000).

In the context of business-to-business exchange, expertise has been described as a supplier's measurable technical knowledge, which includes such elements as formal qualifications and membership of a professional body (Swan *et al.,* 1985). Crosby *et al.* (1990) describe this as the possession of the required skill, knowledge and experience to sell a particular product or service. In relational exchange trust has been found to be an essential element of relationship quality. Expertise has been found to be an important determinant of trust, through credibility (Ganesan, 1994; Sirdeshmukh *et al.,* 2002), and the reduction of buyer uncertainty (Crosby *et al.*, 1990; Lagace *et al.*, 1991; Bejou *et al.*, 1996; Boles *et al.,* 2000). Expertise has been reported as having a positive effect on relationship quality in a business-to-business setting (Lagace *et al.*, 1991; Boles *et al.,* 2000).

Ethical profile has been defined as the corporate philosophy that guides decisions requiring ethical criteria (Victor and Cullen, 1988). Page *et al.* (1997) argued that in business, the subject of ethics is not considered a separate issue but intertwined with elements such as trust and credibility. The relationship construct 'shared values' identified by Morgan and Hunt (1994) as an antecedent of trust has fundamental

similarities with the ethical profile construct which implies an important relationship with trust. Page *et al.* (1997) noted that some industries operate more ethically than others, depending on the requirement of the law and participants within the industry. In a business-to-business setting Lagace *et al.* (1991) found the ethical profile had a positive impact on relationship quality and Dorsch *et al.* (1998) found partial support for the pathway between ethical profile and relationship quality. In the business-to-consumer domain Palmer and Bejou (1994) and Bejou *et al.* (1996) reported that ethical profile is a significant antecedent of relationship quality.

Table B1.4 Antecedents of Relationship Quality

	Crosby *et al.* (1990)[C]	Lagace *et al.* (1991)	Palmer and Bejou (1994)[C]	Bejou *et al.* (1996)[C]	Dant *et al.* (1995) *	Kumar *et al.* (1995a)	Dorsch *et al.* (1998)	Boles *et al.* (2000)	Hennig-Thurau *et al.* (2002)	Huntley (2006)	Leonidou *et al* (2006)	Ulaga and Eggert (2006b)	Sánchez-Garcia *et al.* (2007)[C]
Commitment										■			
Confidence benefits									■				
Conflict					■						■		
Cooperation					■					■			
Customer orientation	■		■	■			■	■					
Distance											■		
Duration		■		■									
Ethical profile		■	■	■			■						
Expertise	■	■	■	■	■	■		■					
Fairness					■			■					
Flexibility					■								
Frequency		■											
Information exchange					■								
Opportunism							■						
Power					■								
Relational focus					■								
Relationship value												■	■
Selling orientation			■	■									
Similarity	■							■					
Social benefits									■				
Special treatment benefits									■				
Trust										■			
Uncertainty											■		

* Indicates a conceptual study
[C] Denotes business-to-consumer study

B1.5 OUTCOMES OF RELATIONSHIP QUALITY

Three of the ten outcomes of relationship quality identified in Table B1.5 are measures of loyalty. These are the outcome repurchasing intention, long-term orientation and the closely related construct of intention to remain (leave) the relationship. Reichheld (1996, p.57) suggested that "long-standing customers are worth so much that in some industries, reducing customer defections by as little as five percentage points- from say 15% to 10% per year–can double profits". Loyalty can be measured in a number of ways. For example, repurchase intentions is a measure of loyalty, this has been examined in two relationship quality studies (see Table B1.5). However the results for this type of loyalty as an outcome of relationship quality are mixed. Woo and Ennew (2004) for example, found no significant pathway between relationship quality and purchase intentions, whereas Rauyruen and Miller (2007) found only partial support.

Loyalty can be measured as long-term orientation, repurchase intention and intention to leave. Rauyruen and Miller's (2007) study report that the pathway between relationship quality and long-term orientation is significant. Long-term orientation has been described as "the desire and utility of an economic actor of having a long-term relationship with a specific exchange partner" (Ganesan, 1994, p.3). Others have defined long-term orientation as a relationship partner's willingness to prolong their collaboration for an indefinite period into the future (Heide and John, 1990; Anderson and Weitz, 1992; Hammond *et al.,* 1996). In addition to the Rauyruen and Miller (2007) study, three others Lagace *et al.* (1991), Boles *et al.* (2000) and Hennig-Thurau *et al.* (2002) report a significant effect between long-term orientation and relationship quality. Two business-to-consumer relationship quality studies, Crosby *et al.* (1990) and Bejou *et al.* (1996) also found this relationship to be significant.

The performance outcome, sales effectiveness has produced different results when tested. For example, in the context of business-to-consumer exchange Crosby *et al.* (1990) found relationship quality had no significant effect on sales effectiveness. However, Boles *et al.* (2000) in a business-to-business setting found this relationship to be significant. Boles *et al.* (2000) attributes this difference in outcome to the closer working relationship necessary in business-to-business exchange. Huntley (2006)

report no significant relationship between sales effectiveness and relationship quality in her study which is set in a business-to business context.

Table B1.5 Outcomes of Relationship Quality

	Crosby *et al.* (1990)[C]	Lagace *et al.* (1991)	Bejou *et al.* (1996)[C]	Dant *et al.* (1995) *	Johnson and Raven (1996)	Boles *et al.* (2000)	Hennig-Thurau *et al.* (2002)	Woo and Ennew (2004)	Huntley (2006)	Ulaga and Eggert (2006b)	Rauyruen and Miller (2007)	Harmon & Griffiths (2008)*
Expansion of relationship										■		
Intention to leave relationship										■		
Long-term orientation	■	■	■			■	■				■	
Performance					■							
Relationship Value												■
Repurchase intentions								■			■	
Sales effectiveness	■					■			■			
Satisfaction					■			■				
Service quality				■				■				
Willingness to recommend							■		■			

* Indicates a conceptual study
[C] Denotes business-to-consumer studies

Relationship satisfaction has been examined in two studies in a business-to-business setting. Woo and Ennew (2004) report no significant relationship between relationship quality and satisfaction and Johnson and Raven (1996) found partial support for a pathway between relationship quality and satisfaction. Relationship quality needs to be associated with a benefit to the customer before satisfaction can be achieved. This is because satisfaction is assessed post action i.e., post choice, post purchase and post consumption (Woodside *et al.,* 1989).

Two studies identify service quality as an outcome of relationship quality. Dant *et al.* (1995) argued that in a franchise relationship, service quality is a direct function of relationship quality. Adopting a similar logic, Woo and Ennew (2004) argued that the interpersonal process element of a relationship can be collectively labelled relationship quality and this leads to service quality, which their results supported.

B1.6 CONCLUSIONS

Despite agreement that it is a multi-dimensional (or higher order) construct. examination of definitions of relationship quality reveals limited consensus in extant literature (Section B1.2). Nevertheless, the review presented in Section B.1.3 indicates that researchers adopt conceptualisations founded on outcomes, processes or combination of outcomes and processes. Furthermore, analysis indicates that the most widely adopted conceptualisation of relationship quality as comprising one or more of trust, satisfaction and/or commitment. This author posits that the above described dominant conceptualisation of relationship quality has confounding effects because processes and outcomes operate at different levels of attribution. Examination of the proposed antecedents of relationship quality (see Section B1.4) endorses the above expressed concerns regarding extant conceptualisations of relationship quality. Specifically, a number of the proposed outcome dimensions of relationship quality (e.g., commitment, trust etc.) are also treated as antecedents. Grounded on service quality literature it is advocated that relationship quality should be conceptualised as a multi-dimensional construct comprising exclusively process dimensions.

In addition, there are concerns regarding conceptualisations of some outcomes of relationship quality. For example, long-term orientation is treated as both a dimension and an outcome of relationship quality. Although such treatment does not take place within the same study the logical inconsistency of the above is apparent. The position of this author is that outcome dimensions represent consequences rather than dimensions of relationship quality.

To conclude, relationship quality is considered to be a multi-dimensional construct of process related dimensions. In addition, given the importance of value to exchange and the significant relationship between quality and value found by the related service quality literature, there is urgent need for the effect of relationship quality on relationship value to be examined.

CHAPTER B2: RELATIONSHIP VALUE

B2.1 INTRODUCTION

The exchange view of marketing is based upon the concept of value (Bagozzi, 1975; Hunt, 1991). Market exchanges take place because all parties expect to be better off after exchange has taken place. Within the exchange view of marketing, value has been investigated from two main perspectives. Research on 'value to the customer' focuses on the net value a customer receives from market exchange and 'value of the customer' captures the seller's perspective of net value realised from customer through exchange. The current study investigates relationship value from a buyer's perspective but makes a contribution to knowledge from both buyer and seller points of view. The focus of 'value to the customer' research has moved in the past decade from product and service value to what Parasuraman and Grewal (2000) described as the neglected area of relationship value. This chapter reviews the emerging relationship value literature through an examination of the concepts, definitions, dimensions, antecedent and outcomes before presenting conclusions.

B2.2 RELATIONSHIP VALUE

Anderson *et al.* (1993, p.5) defined relationship value in business markets as "the perceived worth in monetary units of the set of economic, social, technical and service benefits received by a customer firm in exchange for the price paid for the product offered, taking into consideration the available alternative suppliers' offerings and prices". This represents one of the first attempts to define relationship value. Identified here are some important relational dimensions (i.e., economic, social, technical and service) which capture the elements of relationship value in a business setting. However the authors presented a narrow view of customer sacrifices, which identified price as the only sacrifice and neglected to consider non-monetary scarifies (i.e., time, effort and psychic cost). In a more recent study Anderson *et al.* (2000) adopted a similar conceptualisation to their earlier study but added some non-monetary sacrifices such as acquisition cost and other off-invoice costs.

Ravald and Grönroos (1996) proposed that customer value is not derived solely from the core product and supporting service but is also derived from the effect of a relationship. Conceptualising relationship value as a trade-off between relationship benefits and sacrifices, these authors also suggest that buyer value assessments are not restricted to the single episode

but are developed over time. Elsewhere, Grönroos (1997 p.412) defines customer value as "core solution plus additional services divided by price and relationship cost or core plus/minus added value". According to Tzokas and Saren (1999, p.54) the contribution made by this conceptualisation is "bringing into the picture the costs and benefits associated with the relationship itself as determinants of the overall value perceived by the customer". Focusing on the value of the relationship itself is the concept adopted by Wilson and Jantrania (1995) in their conceptual paper that looks at relationship value in a strategic alliance. These authors identified three specific benefit dimensions of a long-term exchange relationship: economic, strategic and behavioural but offer no sacrifices.

Hogan (2001, p.341) introduces the concept of expected relationship value (ERV), which he defined "as the perceived net worth of tangible benefits to be derived over the lifetime of the relationship". Taking a project based approach to value creation, Hogan identifies benefit dimensions specific to each project (i.e., process efficiency, materials savings) and trades them off against equally specific sacrifice dimensions (i.e., management time, engineering time). Focusing on the importance of collaboration and the generation over time, this study offers a very practical perspective of relationship value. Harmon and Griffiths (2008) examine relationship value in a franchise setting. The authors focused on relationship value derived from the behaviour of the franchisor. This they viewed as relationship benefits which are directly related to franchise behavioural outcomes (e.g., loyalty, satisfaction and commitment). These authors hypothesised that franchisor relationship behaviour leads to relationship value, which is consistent with the quality to value findings of the service quality literature (Cronin *et al.,* 2000).

Menon *et al.,* (2005, p.5) conceptualised relationship value as "a business customer's overall assessment of the utility of a relationship with a vendor based on perceptions of benefits received and sacrifices made". Menon *et al.,* (2005) defined relationship value as a trade-off between product and relationship benefits against price and relationship costs. Likewise Ulaga and Eggert (2003, 2006b) conceptualised relationship value as the customer's assessment of the trade-off between product, service and relationship benefits against price and the additional cost of conducting a relationship. Ulaga and Eggert (2006b) argued that product value is an important element of the decision when selecting a supplier but has lower importance as the relationship developed.

Defining relationship value as comprised of benefits only, Beatty *et al.* (1996) and Gwinner *et al.* (1998) identified relationship benefits as falling into two primary categories: functional benefits and social benefits. Sweeney and Webb (2002, p.78) argued that relationship benefits "exist when value is added to what is received beyond the basic product, resulting in perceived positive consequences for the recipient". Christy *et al.* (1996) suggested that in maintaining a buyer-supplier relationship there are two main categories of incentives. the tangible benefits (e.g., money, extra product/service features etc.) and the intangible benefits (e.g., enhanced social status and self-esteem). Similarly, Gwinner *et al.* (1998, p.102) defined relationship value as "those benefits customers receive from long-term relationships above and beyond the core service performance".

The above debate reveals that in the context of business-to-business exchange, there are two distinct conceptualisations of relationship value. There is the conceptualisation that suggests relationship value is a trade-off between relationship benefits and sacrifices. For example, Anderson *et al.* (1993) argued that relationship value is the benefits of the interpersonal relationship plus product benefits less the price. Grönroos (1997) argued it is the core solution plus additional services divided by the price plus relationship costs, This conceptualisation is also adopted by Menon *et al* (2005) and Ulaga and Eggert (2003, 2006b). The other conceptualisation views relationship value as an aggregation of the relationship benefits that can be directly attributed to the relationship itself (i.e., not the product being exchanged) and no consideration of the sacrifices. This conceptualisation of relationship value has been adopted by Beatty *et al.* (1996), Gwinner *et al.* (1998) and Sweeny and Webb (2002).

B2.3 RELATIONSHIP BENEFIT DIMENSIONS

In a business-to-business setting relationship value has been conceptualised as a multi-dimensional construct (Sweeny and Webb 2002; Menon *et al.* 2005). However there is limited consensus among authors as to which dimensions make up the benefit components of relationship value. Relationship benefits have been discussed in a number of conceptual and empirical papers. Table B2.3 shows these studies and identifies the benefit components examined.

Table B2.3 Relationship Benefit Dimensions

	Anderson *et al.*, (1993)	Wilson & Jantrania (1995)*	Beatty *et al.* (1996)	Ravald & Grönroos (1996)*	Grönroos (1997)*	Gwinner *et al.* (1998)	Reynolds & Beatty (1999)	Anderson & Narus (1999)	Anderson *e t al.* (2000)	Lapierre (2000)	Hogan (2001)	Sweeney & Webb (2002)	Ulaga & Eggert (2003)	Ulaga & Eggert (2005)	Menon *et al.* (2005)	Ulaga & Eggert (2006a)	Harmon & Griffiths (2008)*
Behavioural benefits		■															
Core benefits					■											■	
Customisation benefits												■					
Economic benefits	■	■				■		■	■			■					
Emotional benefits						■	■					■					
Episode benefits				■													
Functional benefits			■				■										
Knowledge benefits													■	■			
Operation benefits												■				■	
Product benefits										■			■	■	■		■
Project benefits											■						
Relationship benefits				■						■					■		
Service benefits	■				■			■	■	■			■	■	■		■
Social benefits	■		■			■	■	■	■			■	■	■			
Sourcing benefits																■	
Strategic benefits		■															
Symbiotic benefits												■					
Technical benefits	■							■	■								
Time-to-market benefits													■	■			

* Indicates a conceptual study

The social benefits and economic benefits of a relationship are identified most often in Table B2.3. These represent both the tangible and intangible elements of an exchange relationship. According to Granovetter (1985, p.490) economic action in modern industrial society is embedded in "concrete personal relations and structures (or networks) of such relations". Although business relationships are established between organisations, the fact is that people make relationships work or fail (Wilson and Jantrania, 1994). Social interaction in buyer-seller relationships is an important aspect of relational exchange (Dwyer *et al.*, 1987; Dwyer and Tanner, 1999). Both Gwinner *et al.* (1998) and Ulaga and Eggert (2005) reported that social benefits (e.g., friendship and gaining access to a supplier's network) are an important dimension of relationship value. In addition, Hennig-Thurau *et al.* (2002) reported social benefits as also having a positive relationship with buyer long-term orientation. Economic

benefits on the other hand, have been defined by Gwinner *et al.* (1998) in both monetary and non-monetary terms. The authors attributed these benefits to the special treatment, prices and discounts a buyer receives for being in a long-term relationship with a supplier. Sweeny and Webb (2002) argued that economic benefits can be derived from direct economic gain, such as price concessions, or through indirect means, such as cost savings.

The knowledge benefits and emotional benefits associated with an exchange relationship are discussed in the literature. Dwyer (1993) argued that the overall goal of establishing a business relationship is to secure resources and technologies from selected suppliers. Knowledge has been identified as just such an inter-organisational resource (Jap, 1999; Hogan and Armstrong, 2001) which offers significant knowledge benefits that were found to lead to relationship value (Ulaga and Eggert, 2005). Kalwani and Narayandas (1995) argued that gaining access to a supplier's knowledge is an important driver of buyer long-term orientation. The emotional benefits of a relationship Gwinner *et al.* (1998, p. 104) described as the psychological benefits that offer the buyer "...a feeling of reduced anxiety, trust and confidence in the provider". Reducing buyer anxiety in business-to-business exchange relationships promotes trust and confidence in the supplier (Moorman *et al.*, 1992; Ganesan, 1994; Morgan and Hunt, 1994). In addition it reduces buyer perceived risk and uncertainty and was found to be important outcomes of a service provider relationship (Berry, 1995).

From a buyer's perspective the functional benefits of a supplier relationship relate to how well they perform. Examples of functional relationship benefits might be: delivering on time, delivering the products ordered or making no invoicing errors. Although in the context of business-to-business exchange no studies were found that include functional relationship benefits, two business-to-consumer studies discuss functional benefits. Sánchez-Garcia *et al.* (2007) defined functional benefits as those arising from the functional value of both the product and the professionalism of the contact personnel. Reynolds and Beatty (1999) took the view that functional benefits include time savings, convenience, advice and help with decision making. Although Sánchez-Garcia *et al.* (2007) include the functional benefits of products both this study and the Reynolds and Beatty (1999) study acknowledge and include the functional benefits of the relationship itself.

B2.4 RELATIONSHIP SACRIFICES

Relationship sacrifices have been conceptualised as the price paid and the additional costs associated with the exchange of a product (Lapierre, 2000; Menon *et al.*, 2005). The additional cost over the price of the product is incurred in the internal processes of acquisition and operations that are related to the purchasing process (Ravald and Grönroos, 1996: Claycomb and Frankwick, 1997; Grönroos, 1997; Dahlstrom and Nygaard, 1999). Price is identified by ten of the thirteen studies in Table B2.4. A number of authors defined price as the principle sacrifice made in return for the multiple benefits received by a customer (Lyons *et al.* 1990; Cannon and Homburg, 2001; Ulaga and Eggert, 2005). Menon *et al.* (2005) described price as the actual price charged by the supplier for the product at the time of transactional exchange. This links price to a product but the concept of price cannot easily be associated with relationship sacrifice in the context of business-to-business change. However there are sacrifices that can be attributed to the relationship itself. These include the time and effort involved in the administration of the relationship.

In the context of business-to-business exchange, time is often thought of in terms of its equivalent financial cost. Becker (1965) argued that an organisation views time as equal to its opportunity cost, typically in business this is equates to wage costs. However, Babin *et al.* (1994) argued that our perspective on time is dependent on situation. They suggest that no cost is attributed to time, if the time spent is pleasurable (i.e., going out to lunch with a supplier), whereas activities viewed as work are assigned a cost. Research has found that buyers attribute more value to saving time than they do to savings in the purchase price (Schary, 1971; Kotler, 1972; Caruthers and Adams, 1991). In the context of buyer-supplier relationships, time is a cost and therefore a sacrifice dimension of relationship value.

Effort is a similar concept to time in as much as it is associated with the cost of time. It is defined in the New Penguin English Dictionary as a conscious exertion of physical or mental power, and as something produced by exertion or trying. For a buyer there is effort involved in administering exchange (i.e., ordering, monitoring and coordinating). If administration takes more effort with one supplier than another, there is a cost attributed to that additional effort. The additional effort required by the buyer administration is a function of the effectiveness of the supplier's internal and external processes (Crosby, 1980; Cannon and Homburg, 2001). Bolton and Drew (1991) found buyer perceptions of customer value were enhanced by suppliers that are easy to do business with.

Table B2.4 Relationship Sacrifices Dimensions

	Ravald & Grönroos (1996)*	Grönroos (1997)*	Anderson & Narus (1999)	Lapierre *et al.* (1999)	Lapierre (2000)	Anderson *et al.* (2000)	Cannon & Homburg (2001)	Hogan (2001)	Ulaga & Eggert (2003)	Ulaga & Eggert (2005)	Menon *et al.* (2005)	Ulaga & Eggert (2006a)	Harmon & Griffiths (2008)*
Acquisition costs							■				■	■	
Direct costs												■	
Effort				■									■
Episode costs	■												
Operation costs					■		■				■	■	
Price		■	■	■	■	■	■		■	■	■		■
Process costs									■	■			
Project costs								■					
Relationship costs	■	■											
Time				■									■

*Indicates a conceptual study

Operations and acquisition costs have been identified as relationship sacrifices. Menon *et al.* (2005) argued that operations cost refers to the cost incurred in the day-to-day running of the buyers business. These costs include the expenditure for research and development, manufacturing, internal coordination and costs associated with down time. Gyrna (1988) writing in the cost accounting literature, argued that firms can influence the cost of operations by managing their supplier relationships. This, he suggested, could be achieved by cooperation to improve the quality of the incoming raw materials and component parts, thereby reducing the need for reworking and thus operations cost. Acquisition cost, on the other hand, is the cost a customer incurs when acquiring and storing the products involved in exchange (Ellram, 1993; Cannon and Homburg, 2001). These costs relate to ordering, storing, monitoring, coordinating and communicating with the supplier to facilitate the exchange. Menon *et al.* (2005) argued that inconsistent product quality can increase acquisition cost, citing high inspection cost, lower customer stockholding, more frequent recording and the cost of returning sub standard product.

B2.5 ANTECEDENTS OF RELATIONSHIP VALUE

A review of the literature revealed two studies that have examined antecedents of relationship value (see Table B2.5). In the context of franchise relationships, Harmon and Griffiths (2008) identify relationship quality as an antecedent of relationship value. Although Harmon and Griffiths (2008) conceptual study is the only examination of the relationship between relationship quality and relationship value, there are numerous examples of service quality studies that have examined this relationship between quality and value (c.f., Wakefield and Barnes, 1996; Cronin et al., 1997; Ennew and Binks, 1999; Sweeny *et al.,* 1999).

Table B2.5 Antecedents of Relationship Value

	Menon *et al.* (2005)	Harmon & Griffiths (2008)*
Commitment	■	
Flexibility	■	
Joint Working	■	
Product Quality	■	
Relationship Quality		■
Service Quality	■	
Trust	■	

*Indicates conceptual study

Menon *et al.* (2005) suggested that product quality was critical for delivering relationship value because the quality of a supplier's product has a critical impact on their customer's own product outputs. However, Menon *et al.* (2005) found product quality had no significant effect on buyer perceptions of customer value. Menon *et al.* (2005) argued that service quality was becoming an integral part of buying a product. They suggested that industrial buyers are moving away from purchasing individual products, in favour of buying a package of both tangible goods and accompanying services. Menon *et al. 's* (2005) study however, did not find that service quality had a significant effect on buyer perceptions of relationship value.

Menon *et al.* (2005) found trust in the product had a significant effect on buyer perceptions of value but relationship trust had no significant effect on buyer perceptions of value. Menon *et al.* (2005) argued that joint working reduces relationship monitoring costs and the probability of opportunistic behaviour. This was found to have a significant effect on buyer perceptions value through reduced internal costs and increased relationship benefits. Menon *et al.* (2005) argued that while many suppliers offer quality goods and services, a supplier who is willing to accommodate a customer and their unique business needs makes life easier for the customer. Menon *et al.* (2005) labelled this antecedent flexibility and found it had a significant effect on buyer perception value through reduced costs and increased relationship benefits.

The two studies shown in Table B2.5 both argued that quality leads to value. Harmon and Griffiths (2008) suggested relationship quality leads to relationship value, whereas Menon *et al.* (2005) indicated that product, service and relationship quality leads to relationship value. Harmon and Griffiths (2008) relied on the literature for support for the relationship between relationship quality and relationship value, whereas Menon *et al.'s* (2005) on the other hand found empirical support for each of the hypothesised relationships between relationship value and the components they chose to represent relationship quality (i.e., trust, joint working, flexibility and commitment).

B2.6 OUTCOMES OF RELATIONSHIP VALUE

In the context of business-to-business exchange, outcomes of relationship value have been discussed in two studies. Both studies identified in Table B2.6 have examined the relationship value outcome satisfaction. There has been a debate in the literature as to whether satisfaction and value are conceptually different constructs. While value is perceived at different stages of the purchasing process, including the pre-purchase stage (c.f., Woodruff, 1997), it is universally accepted that satisfaction is a post-purchase/post-consumption evaluation (Hunt, 1977; Oliver, 1981). As a consequence, value perceptions can be generated without a product/service being bought or used, whereas satisfaction depends entirely on experience of having used the product/services (Sweeney and Soutar, 2001).

Table B2.6 Outcomes of Relationship Value

	Harmon & Griffiths (2008)*	Ulaga & Eggert (2006b)
Relationship Satisfaction	■	■
Performance	■	
Trust		■
Commitment		■

* Indicates a Conceptual Study

According to the disconfirmation paradigm, satisfaction is a comparison between performance and expectations (Hunt, 1977; Oliver, 1981). This has been expressed as a comparison between the expectation of value (pre-purchase) and the perceived value received (post-purchase) (Ravald and Grönroos, 1996; Parasuraman, 1997). Therefore, satisfaction is an outcome or summary variable that compares achieved value with expected value (Anderson *et al.,* 1994; McDougall and Levesque, 1994; Parasuraman, 1997; Patterson and Spreng, 1997; Durvasula *et al.,* 2004) and thus an antecedent of value. Ulaga and Eggert (2006b) reported that the relationship between relationship value and relationship satisfaction is significant. In their conceptual study, Harmon and Griffiths (2008) suggested that performance is an outcome of relationship value but offer no support for this assertion.

B2.7 CONCLUSION

The debate in Section B2.2 indicates broad support for the conceptualisation of relationship value as a trade-off between the get/benefits and give/benefits components. In other words, relationship value is defined as the buyer's overall assessment of the utility of a business relationship with a supplier based on perceptions of the benefits received and sacrifices made. However, despite the above consensus there is lack of agreement as to whether relationship value should be measured as a suppliers' "total" proposition (i.e., product value, service value and relationship value; Ravald and Grönroos, 1996; Lapierre, 2000; Ulaga and Eggert, 2003) or as the value derived exclusively from the relationship itself (Beatty *et al.*, 1996; Gwinner

et al., 1998; Sweeney and Webb, 2002). Furthermore, a number of related studies employ simplistic measures of relationship value; specifically operationalise value as a trade-off between quality and price. These studies ignore two important ideas that relate specifically to the personal nature of long-term relationships between buyer and seller, (a) although the financial implications of business relationships are acknowledged, unlike product and service value, relationship value has no direct monitory value (i.e., price), and (b) while it is logical to assume that economic benefits are fundamental to business relationships, this author argues that a number of additional buyer relationship benefits are inherent in good supplier relationships (e.g., knowledge, social and emotional benefits).

Extending the above logic, and on the basis of information presented in Section B2.3, this author concludes that the benefit component of relationship value is multi-dimensional in nature and that most of the studies under consideration employ incomplete conceptualisations (and consequently operationalisations). It is argued that operationalisations of the benefit component should account for four types of benefits, 'hard' or core offering related benefits, financial benefits (these could be included under reduced sacrifices), benefits derived from support activities (e.g., delivery, information etc.) and personal or social benefits. Having reviewed the evidence this author concludes that the benefit component of relationship value is also a multidimensional construct (see Section B2.4). However, extant research is dominated with financial aspects of the get component and fails to account for the whole domain of the construct.

On the other hand, the landscape related to antecedents and outcomes of relationship value is well defined. Nevertheless, the information presented in Sections B2.5 demonstrates that quality (in the form of core offering, support activities and inter-personal interactions) is the dominant determinant of relationship value. As for outcomes, from Section B2.6 we can see that these are both economic and affective (i.e., satisfaction, trust and commitment.).

To conclude, relationship value is considered to represent a trade-off between benefits and sacrifices. Both these components represent multi-dimensional constructs that comprise both intrinsic and extrinsic dimensions. Despite evidence that relationship value is predominantly derived from the various facets of quality and impact on satisfaction further research in needed to support these conclusions.

PART C: RESEARCH DESIGN

This section commences with a detailed debate of the proposed conceptual framework and proceeds to present the various methodological components. The research design comprises four chapters

Chapter C1: Research Framework

Chapter C2: Research Methodology (I)

Chapter C3: Research Methodology (II)

Chapter C4: Research Methodology (III)

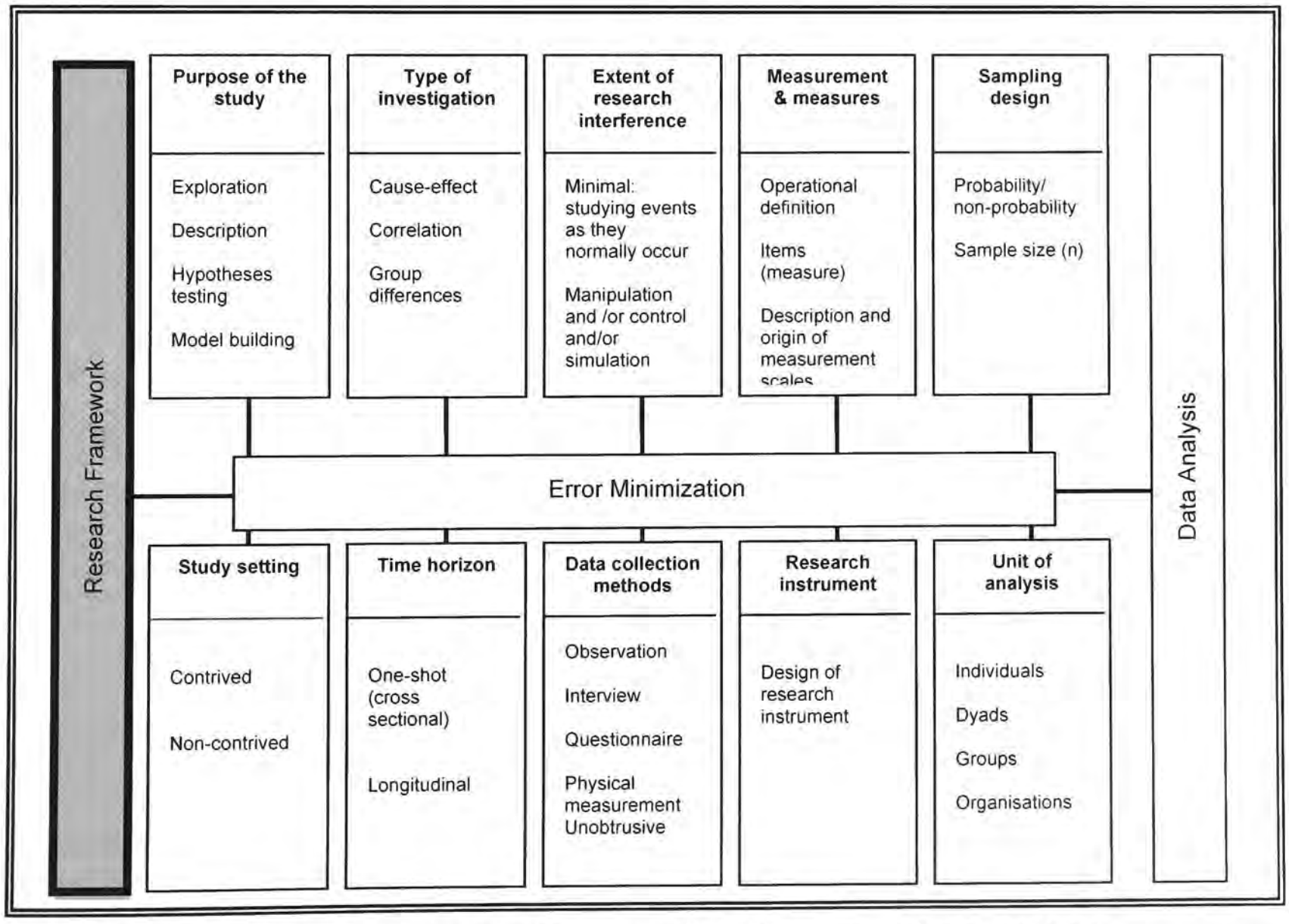
CHAPTER C1: RESEARCH FRAMEWORK

C1.1 INTRODUCTION

Part C has four chapters and follows the research design framework suggested by Sekaran (2003) which is illustrated in Figure C1.1. The adoption of a research design framework ensures that the methodological considerations and decisions will be relevant to the research problem, and that economical procedures will be employed in fulfilling the research aim and objectives (Churchill, 1979).

Each cell of the framework represents a discrete, but not mutually exclusive, set of actions designed to ensure the robustness of the research. Cells identify alternative research methodologies and the text offers rationale and operational explanation for adopting a particular alternative. The shaded cells depict the component of the research process dealt with in the specific chapter. For example, this chapter deals with the development and justification of the research framework.

Figure C1.1 The Research Design



Adapted from: Sekaran, U. (2003) "*Research Methods for Business: A Skill Building Approach*", 4th ed.. New York: John Wiley and Sons Inc. (p.118)

The purpose of this chapter is the development and justification of the research framework. Section C1.2 presents an overview of the reasons leading to the conceptualisation of relationship quality and selection of its dimensions. Section C1.3 presents an overview of relationship value, offering an improved conceptualisation of this construct. Section C1.4 presents an overview of relationship satisfaction. Section C1.5 identifies the consequences of the research model. Section C1.6 offers an overview of the research model and associated hypotheses. Section C1.7 describes the competing models and their associated hypotheses. This chapter concludes with Section C1.8, which presents the philosophical foundations of this research.

C1.2 RESEARCH AIM

From the debate in Section A1.2 it is apparent that relationship quality, relationship value, relationship satisfaction and long-term orientation are important constructs in business relationship studies. A review of the relationship quality literature presented in Chapter B1 reveals consensus among authors that relationship quality is conceptualised as a higher-order construct that comprises a number of component parts (Dwyer *et al.,* 1987; Crosby *et al.,* 1990; Ulaga and Eggert, 2006b). However, there is limited agreement on the composition of these components. For example, several authors suggest that relationship quality consists of components based on relationship outcomes such as trust, satisfaction and commitment (Section B1.3.1). Others suggest that relationship quality is made up of components that determine these outcomes, in other words the process that leads to relationship quality (Section B1.3.1) and other researchers identify both outcome and process based dimensions as measures of relationship quality (Section B1.3.3).

In contrast to the pervasive use of product and service quality as instruments of quality improvement, the relationship quality concept has received only limited practical application. The lack of dimensional clarity is a factor in practitioner reluctance to adopt the relationship quality concept. Therefore, there is a need for a relationship quality conceptualisation that addresses the issue of dimensional clarity, which would support the needs of academics and practitioners alike. Lang and Colgate (2003) argued that measuring relationship quality by its determinants allows for a more detailed explanation of the construct. Expressing relationship quality in terms of its determinants also has the benefit of identifying the processes by which practitioners may achieve relationship quality. Therefore, the identification of

relationship quality's process based dimensions will be an important first stage of an improved conceptualisation.

A review of the relationship value literature presented in Chapter B2 indicates that there is consensus among researchers for the notion that relationship value is a trade-off between relationship benefits and sacrifices (Section B2.2). However, there less clarity for what constitutes relationship value. For example, some authors suggest that in the context of buyer-seller relationships, relationship value includes not only the value derived from the interaction between buyer and seller but also the value associated with the products and services supplied. Adopting the concept that relationship value is derived only from the interaction between buyer and seller, the current study seeks to strengthen the prior conceptualisations. The literature identifies a number of relationship benefits dimensions (Section B2.3) and relationship sacrifices dimensions (Section B2.4) that have been examined in prior research. Drawing on these dimensions as a basis for an improved conceptualisation of relationship value, this study examines this constructs tangible and intangible elements.

The importance of relationship quality and relationship value to business-to-business relationships has been discussed (Section A1.2). The effect of these phenomena on other relationship constructs is also important. Bagozzi (1994) argues that concepts only have meaning when they are related to a larger network of concepts that is used for the purpose of understanding, explaining or predicting a given phenomenon. Thus, relationship quality and relationship value are placed within a wider nomological network that allows the investigation of the effect of their structural relationships. The following sections deal with the conceptual framework for relationship quality, relationship value before discussing the development of the research model.

C1.3 CONCEPTUAL FRAMEWORK - RELATIONSHIP QUALITY

Attempts to conceptualise relationship quality as a process have focused on a service quality approach that identifies three principle dimensions, technical, social and economic. This conceptualisation presents problems, because the economic dimension confuses service quality with service value. The technical and social dimensions on the other hand, do relate to relationship quality process dimension and are considered along with other potential relationship quality dimensions which have been drawn

from the wider relationship marketing literature. These dimensions have been categorised as being either behavioral or cognitive (see Appendix 1). The behavioural dimensions being those behaviours a supplier adopts when interacting with a customer in the process of exchange and the cognitive dimensions being the attributes of the supplier and/or the organisations personnel that contribute toward supporting the exchange process. A comprehensive list of the most frequently cited relationship quality constructs was compiled. From this pool, four cognitive and nine behavioural dimensions of relationship quality were identified and these are shown in Tables C1.3.1 and C1.3.2 respectively.

The basis on which these dimensions were considered for inclusion in the proposed relationship quality model is as follows:

1. The number and quality of references related to the dimension (i.e., times cited and journal ranking).
2. The dimensions had been conceptualised and operationalised in buyer-seller relationship studies.
3. Dimensions that demonstrated operational reliability and validity in a related relationship context.
4. The construct's association with other important relationship variables, such as value, satisfaction and long-term orientation.
5. Studies in which the respondent was the major supplier.

Cognitive dimensions conforming to the selection criteria were credibility, information exchange, expertise and relationship investment.

Table C1.2.2 Cognitive Dimensions of Relationship Quality

Study and Journal	Antecedent	Consequence	*Citations
Ganesan (1994) *(Journal of Marketing)*	Credibility (Cognitive Trust)	Long-term Orientation	4
Heide and John (1992) *(Journal of Marketing)*	Information Exchange	Long-term Orientation	13
Doney and Cannon (1997) *(Journal of Marketing)*	Expertise	Anticipated Future Intentions	4
Anderson and Weitz (1992) *(Journal of Marketing Research)*	Relationship Investment	Positive Perception of Commitment	13

*citations based on a total of 27 relationship marketing papers (refer to table in Appendix 1)

Consequently cognitive relationship quality is conceptualised as comprising the above dimensions. Furthermore, using guidelines suggested by MacKenzie *et al.* (2005), the structure of the cognitive RQ construct is proposed as formative because of lack of

expectation of co-variation with other components in the structure and the fact that the dimensions are not interchangeable and represent different unique aspects of cognitive RQ (see debate in Section C3.1.2 regarding formative and reflective latent variables).

H_1: Cognitive RQ is a formative second-order construct comprising of credibility, information exchange, expertise and relationship investment

Identical to the selection approach adopted for the cognitive dimensions in Section C1.3.1, the behavioural dimensions selected had five or more citations (see Table C1.3.2). The following nine behavioural dimensions were selected: benevolence, customer orientation, flexibility, cooperation, opportunism, ethical profile, coercive power, referent power and conflict.

Table C1.3.2 Behavioural Dimensions of Relationship Quality

Study and Journal	Dimension	Consequence	*Citations
Ganesan (1994) *(Journal of Marketing)*	Benevolence	Long-term Orientation	5
Thakor and Joshi (2005) *(Journal of Business Research)*	Customer Orientation	Customer Orientation	7
Bonner and Calantone (2005) *(Industrial Marketing Management)*	Flexibility	Favourable Customer Purchasing Behaviour	6
Cannon and Perreault (1999) *(Journal of Marketing Research)*	Cooperation	Evaluation of Supplier Performance	10
Morgan and Hunt (1994) *(Journal of Marketing)*	Opportunism	Prosperity to Leave	5
Victor and Cullen (1988) *(Administrative Science Quarterly)*	Ethical Profile	Long-term Orientation (Employee)	5
Brown , Lusch and Nicholson (1995) *(Journal of Retailing)*	Coercive Power	Customer Performance	6
Brown , Lusch and Nicholson (1995) *(Journal of Retailing)*	Referent Power	Customer Performance	6
Menon, Jaworski and Kohli (1997) *(Journal of the Academy of Marketing Science)*	Conflict	Product Quality	7

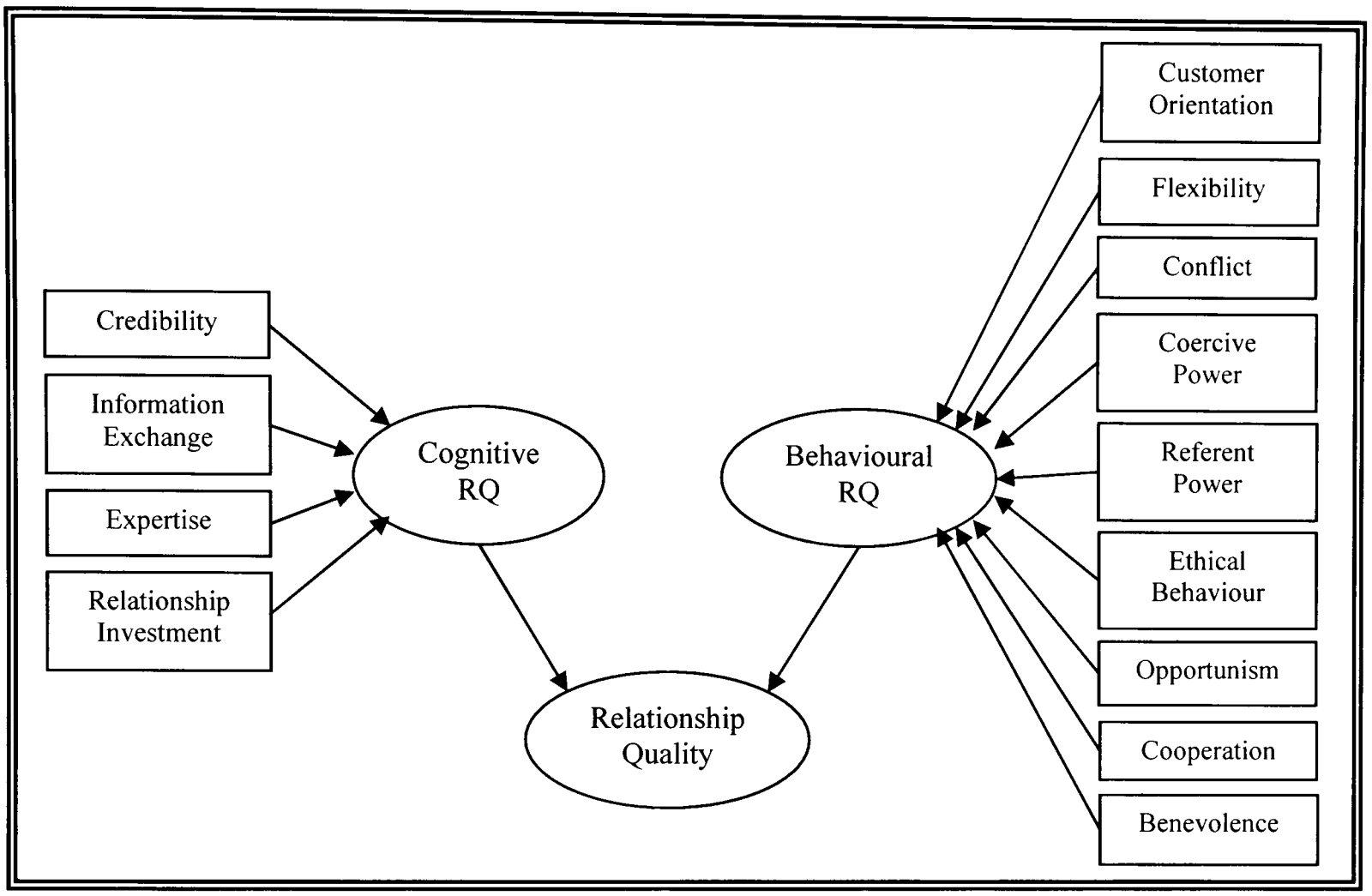
*citations based on a total of 41 relational exchange papers (refer to table in Appendix 1)

Using the same logic in the conceptualisation of behavioural RQ as was applied to the conceptualisation of cognitive RQ above. The following hypothesis is presented:

H_2: Behavioural RQ is a formative second- order construct comprising of customer orientation, flexibility, conflict, coercive power, referent power, ethical behaviour, opportunism, cooperation and benevolence

The framework and the hypothetical links that are to be investigated and apply to a buyer's perception of relationship quality with their major supplier are presented in Figure C1.2.

Figure C1.2 Model of Relationship Quality



Adopting the same rational as was used in the conceptualisation of cognitive RQ and behavioural RQ, regarding their formative nature, is also applied to relationship quality.

H_3: Relationship quality is a formative third-order construct comprising cognitive RQ and behavioural RQ

C1.4 CONCEPTUAL FRAMEWORK - RELATIONSHIP VALUE

Value has traditionally been equated with utility or desirability. In this regard, the theory of utility provides the conceptual underpinning of the value concept (Sánchez and Iniesta, 2007). This theory holds that buyers derive value according to the difference between the utility provided by the attributes of the product and the sacrifice represented by the price paid. Therefore, price is usually understood to mean monetary value of a product, however a fuller appreciation of the concept in the business-to-business domain should also include consideration of buyer time, effort

and the search involved in the procurement process. The present study contends that value has greater complexity than a mere rational assessment of utility. Thus value is a broader and richer construct than merely the trade-off between utility and price (Monroe, 1990; Zeithaml, 1988).

Value researchers have more recently advanced from this uni-dimensional approach to a concept of value that has multiple dimensions that work both separately and simultaneously (e.g., Sheth *et al.,* 1991; Babin *et al.,* 1994; Holbrook, 1994; Mathwick *et al.,* 2001; Sweeney and Soutar, 2001). A review of the literature revealed two wide ranging, multi-dimensional conceptualisations of customer value. Holbrook's (1994) typology captures consumer value in terms of its economic, social, hedonistic and altruistic dimension, but was considered to be too biased towards personal consumption values, whereas Sheth *et al.'s* (1991) conceptualisation has dimensions that could be adapted to a business-to-business exchange relationship context. Sheth *et al's* (1991) approach has therefore been adopted in the current study.

Sheth *et al.*'s (1991) conceptual framework has five dimensions, with the exception of conditional value the other dimensions have been adopted by the current study. Economic considerations in business-to-business interaction are paramount; therefore an economic dimension has been added to Sheth *et al.'s* (1991) original concept. The current study unlike Sheth *et al.'s* (1991) have adopted classical utility theory and introduced a sacrifices dimension to the value conceptualisation. Relationship value is modelled in the current study as relationship benefits, which include economic, functional, social, and emotional and knowledge dimensions, and these are traded-off against relationship sacrifices consisting of time and effort and relationship costs.

Based on the conceptualisation described above, five relationship benefit dimensions were identified using the previously stated selection criteria and appear in Table C1.3.1 below.

Table C1.3.1 Relationship Benefits Dimensions

Study and Journal	Dimension	Study Consequence
Gwinner *et al.* (1998) *(Journal of the Academy of Marketing Science)*	Economic	
Ulaga and Eggert (2006) *(Journal of Marketing)*	Functional	Long-term Orientation
Ulaga and Eggert (2005) *(Journal of Business-to-Business Marketing)*	Social (friendship)	
Baxter and Matear (2004) *(Industrial Marketing Management)*	Social (association)	
Ulaga and Eggert (2006) *(Journal of Marketing)*	Emotional	Long-term Orientation
Ulaga and Eggert (2006) *(Journal of Marketing)*	Knowledge (Innovation)	Long-term Orientation
Baxter and Matear (2004) *(Industrial Marketing Management)*	Knowledge (IP)	

Using guidelines suggested by MacKenzie *et al.* (2005), the structure of the relationship benefits dimension is proposed as formative because of a lack of expectation of co-variation between the seven dimensions, and the fact that the dimensions are not interchangeable and represent different unique aspects of relationship benefits (see debate in Section C3.1.2 regarding formative and reflective latent variables). Therefore, following hypothesis is offered:

H_4: Relationship benefits is a formative second-order construct comprising of functional, social (friendship), social (association), emotional, knowledge (innovation), knowledge (IP) and economic benefits

The relationship sacrifices arising from a business-to-business relationship context are the time and effort involved in negotiating and administering exchange and includes the cost of ordering, delivery and warehousing.

Using the selection approach adopted for relationship quality dimensions, the relationship sacrifices dimensions selected appear in Table C1.3.2 below.

Table C1.3.2 Relationship Sacrifices Dimensions

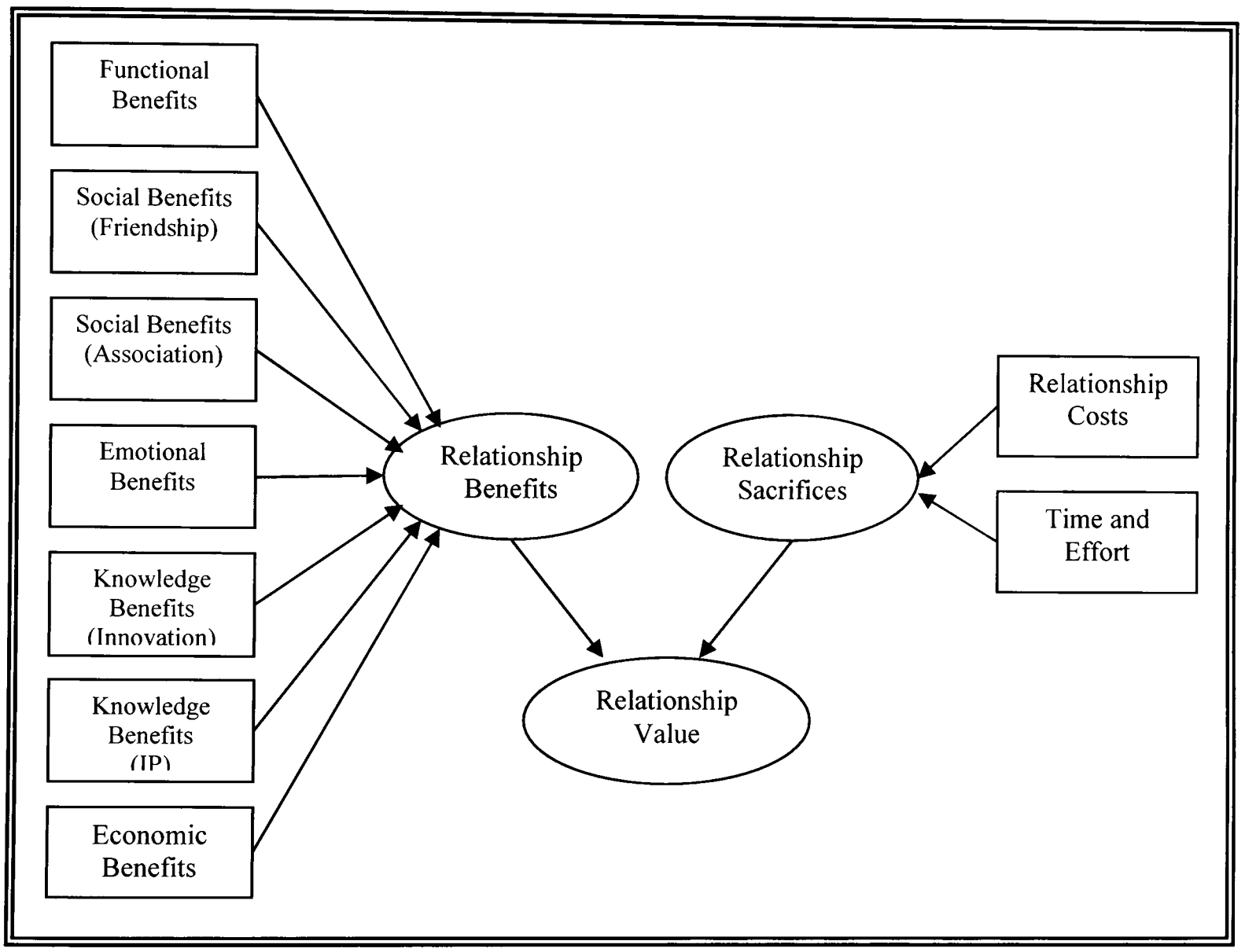
Study and Journal	Sacrifice	Study Consequence
Lapierre (2000) *(Journal of Business and Industrial Marketing)*	Time and Effort	
Ulaga and Eggert (2006) *(Journal of Marketing)*	Relationship Cost	Long-term Orientation

Using the approach adopted in the conceptualisation of cognitive RQ, behaviours RQ and relationship benefits in respect of the formative nature of the relationship sacrifices construct, the following hypothesis is offered:

H_5: Relationship sacrifices is a formative second-order construct comprising relationship costs and time and effort

By putting together the selected relationship benefit and sacrifice dimensions of relationship value, the resulting framework is shown in Figure C.1.3

Figure C1.3 Model of Relationship Value



For the same reasons as identified earlier, relationship value is also considered to be a formative construct and gives rise to the following hypothesis.

H_6: Relationship value is a formative third-order construct comprising relationship benefit and relationship sacrifice components

Figure C1.3 shows the hypothetical links that are to be investigated and apply to buyer perceptions of the relationship value offered by their major supplier.

C1.5 CONCEPTUAL FOUNDATION - RESEARCH MODEL

A review of the literature identifies a number of outcomes of relationship quality that have been empirically tested in recent studies (see Table B1.5), one study examines relationship value. The service quality and product quality literatures, have on the other hand established the relationship between quality and value in a number of studies. Drawing on these studies (Dodds *et al.,* 1991; Brady and Robertson, 1999; Corinne *et al.,* 2000; Agarwal and Teas, 2001; Choi *et al.,* 2004; Chen and Dubinsky, 2003) and the specific relationship value research conducted by Harmon and Griffiths (2008) the following hypothesis is proposed.

H_7: Relationship quality has a positive effect on relationship value.

Drawing on the general value literature, prior studies confirm the impact of value on satisfaction (Patterson and Spreng, 1997: Eggert and Ulaga, 2002; Spiteri and Dion, 2004) and the specific studies by Ulaga and Eggert (2006b) and Harmon and Griffiths (2008) the following hypothesis is proposed.

H_8: Relationship value has a positive effect on relationship satisfaction

Long-term orientation is an important outcome of business-to-business relationships. It has been defined by Ganesan (1994, p.3) as "the desire and utility of an economic actor of having a long-term relationship with a specific exchange partner". Its importance in business-to-business relationships is predicated on the notion that supplier's loyal customers produce a revenue stream that is more efficient than finding new customers. In the relationship value literature the relationship between value and behavioural intentions remains unresolved.

Drawing on the general value literature, prior studies confirm the impact of value on behavioural intentions (Patterson and Spreng, 1997: Eggert and Ulaga, 2002; Choi *et al.,* 2004; Lam *et al.,* 2004) and loyalty (Lam *et al.,* 2004; Spiteri and Dion, 2004). However, the link between relationship value and relationship intentions remains unresolved, particularly in relation to whether value leads directly or indirectly to intentions, or is mediated by satisfaction. A number of studies provide empirical support to a direct relationship (see Zeithaml, 1988; Bolton and Drew, 1991; Brady and Robertson, 1999; Sweeney *et al,* 1999) giving rise to the proposed hypothesis.

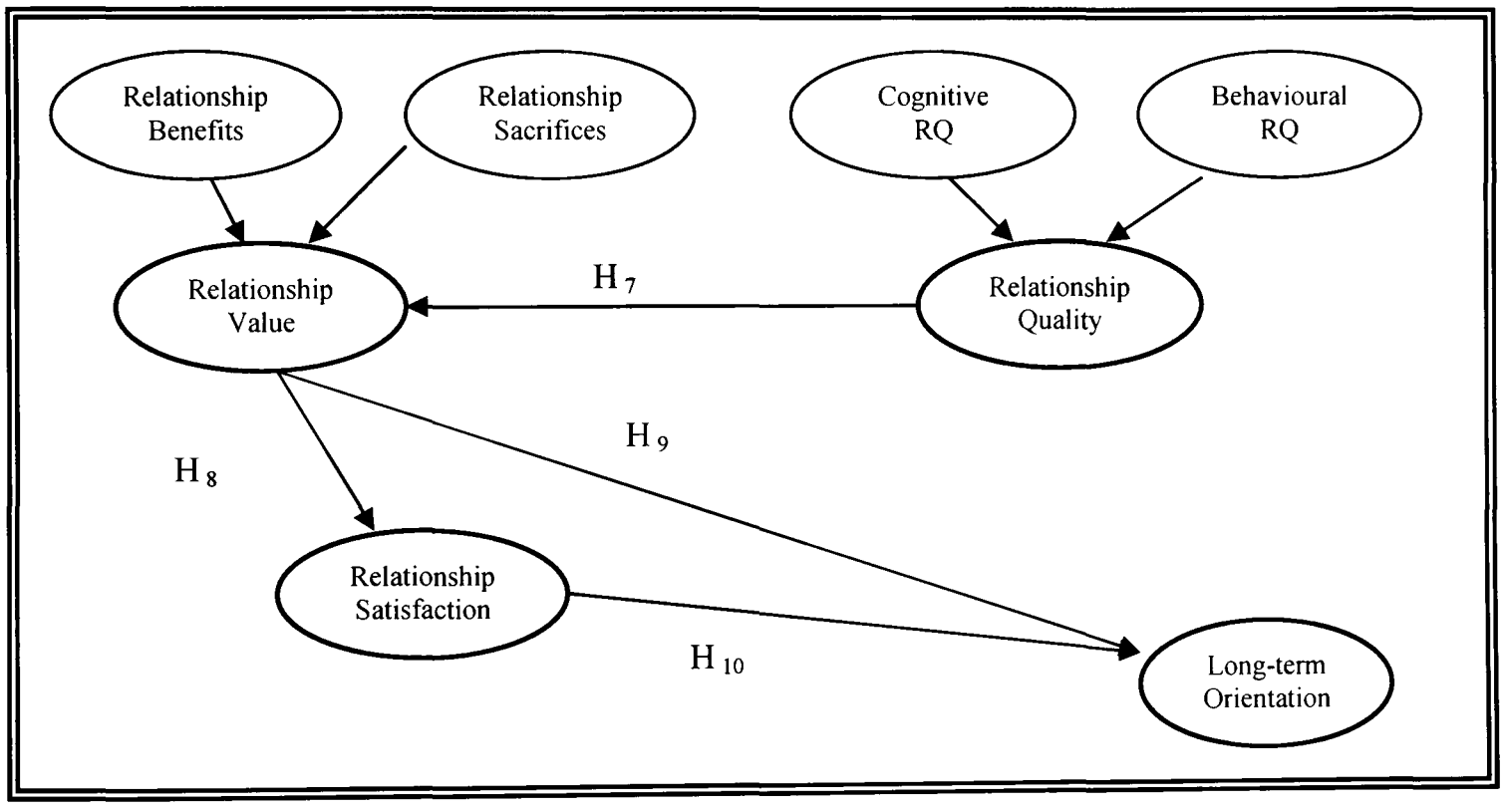
H_9: Relationship value has a positive effect on long-term orientation

Again drawing on the general value literature studies found value has an effect on intentions only through satisfaction (Patterson and Spreng, 1997: Eggert and Ulaga, 2002) and informs the proposed hypothesis.

H_{10}: Relationship satisfaction has a positive effect on long-term orientation

In the context of this study both a direct link between relationship value and long-term orientation, and an indirect link mediated by satisfaction to long-term orientation is included. The pathways relationship value to relationship satisfaction and long-term intention relationship and the relationship satisfaction to long-term orientation are all expected to have a positive effect. In compiling the conceptualisations presented earlier, the following model has been developed.

Figure C1.5 Research Model



C1.6 COMPETING MODEL 1 AND 2

There is general agreement that when examining multiple structural relationships (as presented by the current research), the researcher should compare rival or competing models rather than testing a single model (Bollen & Long, 1992). In order to address the purpose of the study three models are tested. The Research Model (see Figure C1.5) in which both relationship quality and relationship value are treated as composite higher-order constructs differs from Competing Model 1 (see Figure C1.6) in that the two relationship value components (i.e., benefits and sacrifices) are modelled as separate constructs and in Competing Model 2 (see Figure C1.7) both

relationship value and relationship quality are separated into their individual components. For example, relationship value into its separate components relationship benefits and relationship sacrifices, and relationship quality into its separate components behavioural RQ and cognitive RQ. Figure C1.6 and C1.7 shows the anticipated direction of the pathways between the constructs and the sign indicates whether the pathway is considered to have a positive or negative relationship.

The need to test for different levels of aggregation is consistent with the possibility that [a] in formative latent variables it is possible that the dimensions of the latent variable exhibit differential patterns of functional relationships with antecedents and consequences (MacKenzie *et al.*, 2005), and [b] reflects Edwards (2001) who challenges the use of higher-order constructs.

Figure C1.6 Competing Model 1

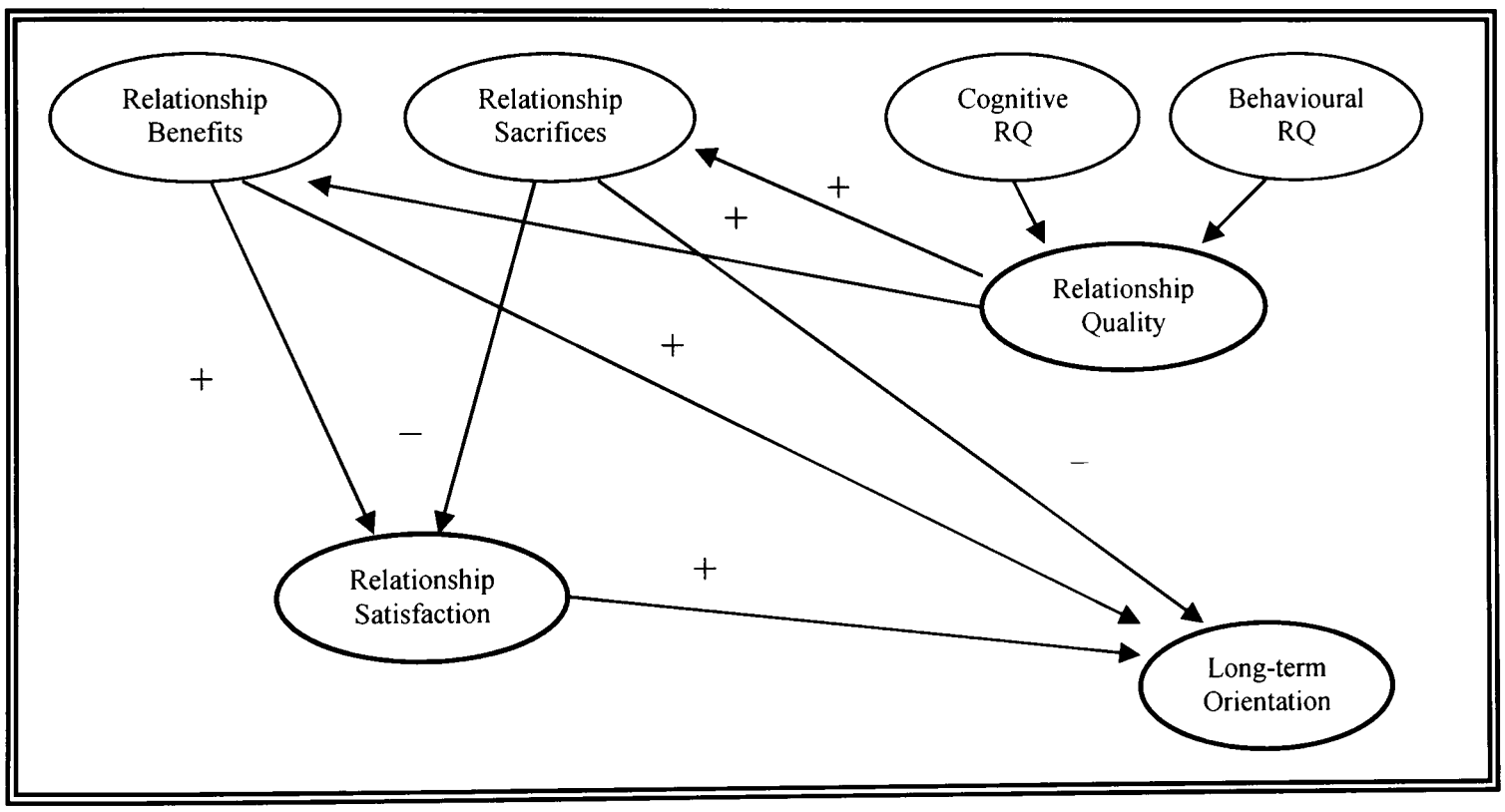
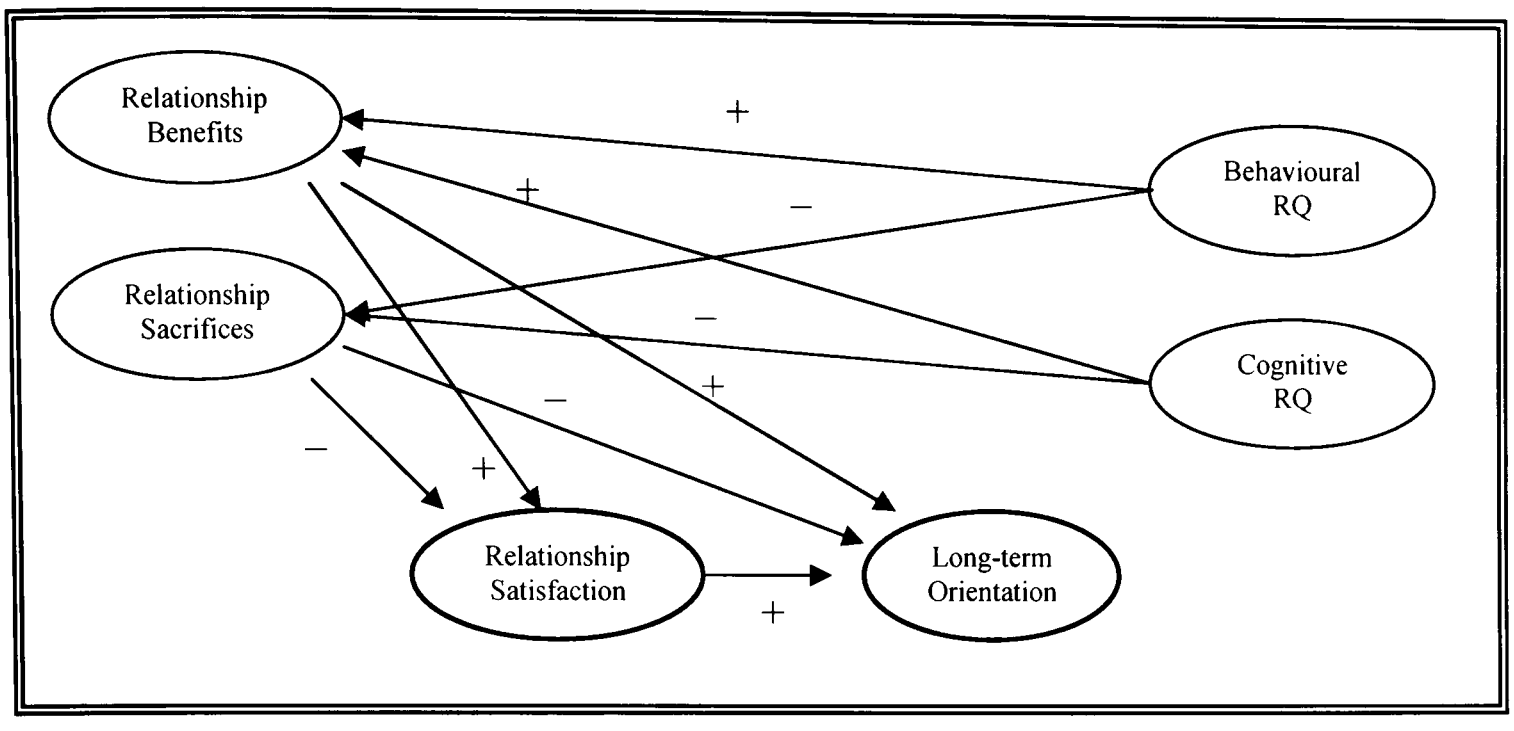


Figure C1.7 Competing Model 2



C1.7 PHILOSOPHICAL FOUNDATIONS

The philosophical foundations of this research are located within empiricism. Empirical research is frequently associated with positivism, but can be either positivist or phenomenological in nature. Phenomenology has been defined as a theoretical point of view that advocates the study of direct experience taken at face value and one which sees behaviour as determined by the phenomena of experience, rather than by external, objective and physically described reality (Cohen and Manion, 2000). Positivist research takes an objective analysis and interpretation of a tangible social reality, with the underlying assumption that the social world exists externally and that its properties should be measured through objective methods (Easterby-Smith *et al.*, 2001). The positive researcher takes the view that all data can be classified and measured and, consequently, should be collected through quantitative methods, as compared to the qualitative means of data collection that leads to phenomenological or constructivist orientation (Easterby-Smith *et al.*, 2001). Table C1.9 below illustrates the key features of the positivist and phenomenological paradigms.

Table C1.9 Key Features of Positivist and Phenomenological Paradigms

	Positive Paradigm	Phenomenological Paradigm
Basic research:	world external and objective observer is independent science is value-free	world is socially constructed and subjective observer is part of what is observed science is driven by human interest
Researcher should :	focus on facts look for causality and fundamental laws reduce phenomena to simplest elements formulate and test hypothesis	focus on meanings try to understand what is happening look at totality through induction from evidence
Preferred methods:	operationalise concepts so they can be measured take large samples use multiple methods to establish different views of phenomena	small sample investigated in depth or over time

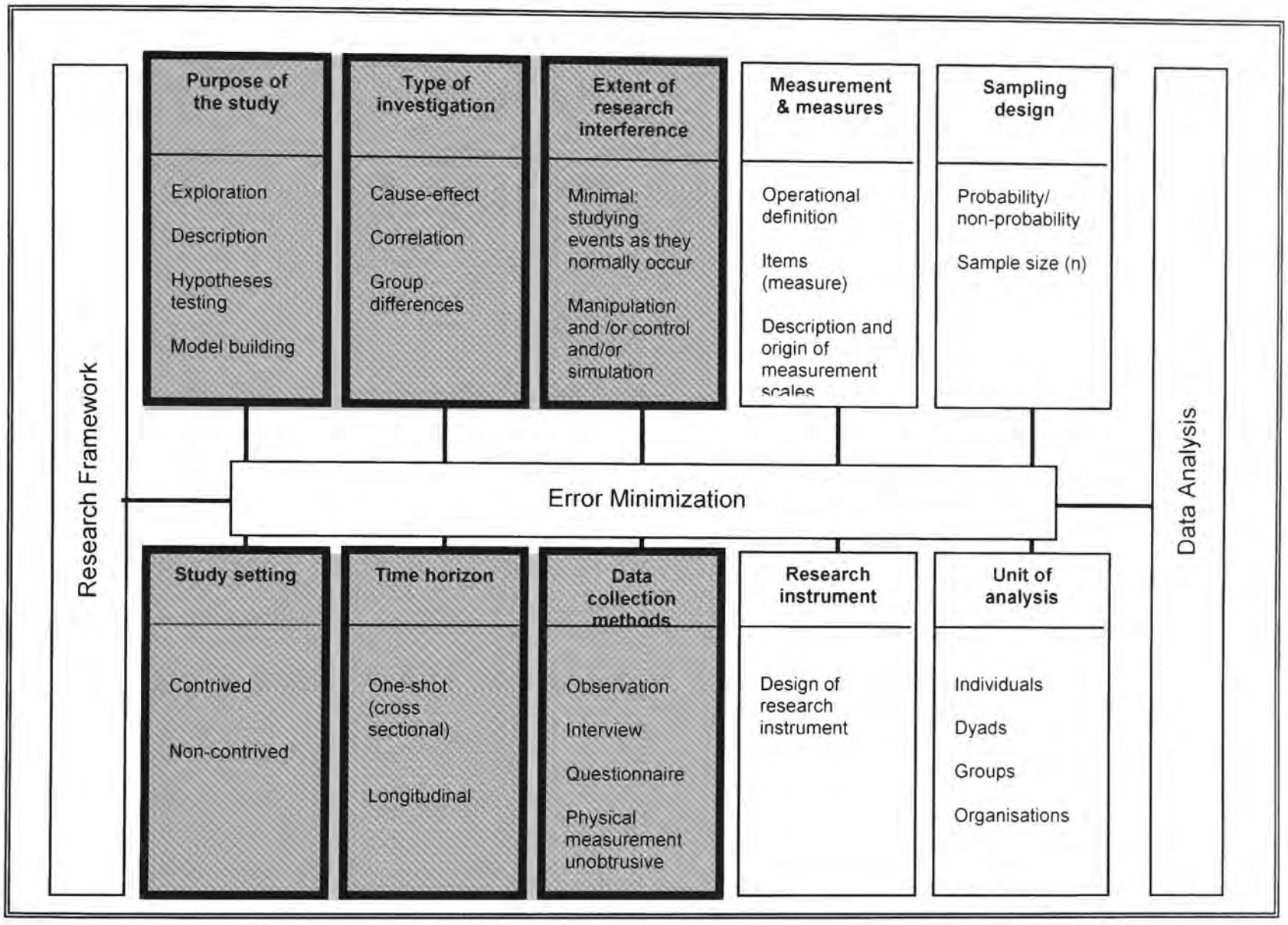
Source: Remenyi, D., Williams, B., Money, A. and Swartz, E. (1998) *Doing Research in Business and Management. An introduction to Process and Method,* London. Sage Publications Limited (p. 104).

The adopted methodology taken by the current study is reflected in the process followed. The process starts with a theoretical framework, which is followed by the development of a research model and then empirical research and data analysis and finally, concluding with logical deductions based on the results of this study. Consequently this study adopts a hypothetico-deductive method of research that has been set out by the research design (Figure C1.1).

CHAPTER C2: RESEARCH METHODOLOGY (I)

The methodological considerations designed to provide the operational framework for this study are divided into three chapters. The first of these chapters debates the six shaded sections of Sekaran's (2003) research design framework depicted in Figure C2.1.

Figure C2.1 The Research Design



Adapted from: Sekaran, U. (2003) "*Research Methods for Business: A Skill Building Approach*", 4th edn, New York: John Wiley and Sons Inc. (p. 118)

C2.1 PURPOSE OF THE STUDY

Four types of research have been employed to investigate marketing phenomena (Churchill and Iacobucci, 2005; Malhotra and Birks, 2006). These are: exploratory research, descriptive research, hypothesis testing and model building.

C2.1.1 Exploratory Research

Prior to the main field study, exploratory research was undertaken, designed to shape the direction, structure and operationalisation of the main study (Churchill and

Iacobucci 2005). This involved a thorough review of extant literature, desk research and in-depth personal interviews. McDaniel and Gates (2005) identify some of the exploratory research techniques employed in this study. The following offers a brief description of each the techniques used:

Situation analysis- is the analysis of the decision making environment within which the research will take place. Examples of this type of analysis conducted for this study included: [1] who is the person in the organisation responsible for the day to day running of the main supplier relationship, [2] who in the organisation influences decisions relating to the main supplier and [3] what are the principle drivers for decisions relating to the principle supplier (i.e., value for money, technological advantage and/or stability in a highly volatile market). Contextual insights such as these provide an important foundation for future study.

Case analysis- is a review of similar constructs and environment as those of the current study. This analysis was conducted through an extensive review of the literature relating to studies of relationship quality, relationship value, relationship satisfaction and long-term orientation in a business-to-business buyer-supplier relationship context. Prior studies of particular importance to this review were those seeking to understand the relationship between each of these relationship constructs. This review supported the development of the research model.

Experience surveys- are discussions with knowledgeable individuals, both practitioners and academics, who may provide insights into the problem. The decision to seek information from experts is in line with Dalebout and Wierenga's (1997) assertions on the importance of soliciting expert opinions and perceptions about complex marketing knowledge. In addition, using experts during the exploratory phase has been recognised by scholars as a valid way of obtaining consensus and developing a holistic appreciation of the relevant issues (Winkler, 1981). Winkler (1981) also points out those academic experts may have conducted and/or been involved in studies related to the issues under examination. Experience surveys were used to assess respondent understanding and the readability of questions modified in consideration of the current research context (see Appendix 3 for scale modification).

Pilot study- this was conducted prior to embarking on the full data collection. This is a survey using a limited number of respondents and often employs less rigorous

sampling techniques than those used in the survey for the full study. Testing the research instrument on a small sample is considered an essential part of the research process because it helps to identify problems relating to meaning, understanding and relevance of research questions and gives the researcher an opportunity to refine and amend the final survey document.

C2.1.2 Hypothesis Testing

The examination of relationships between the research constructs forms a central part of this study (see Chapters D1 and D2). Given the development of related hypotheses, we can conclude that this research follows a hypothetico-deductive approach.

C2.1.3 Model Building

Using the results of the investigation defined above, a comprehensive (though not exhaustive) model has been developed (see Chapter C1) to investigate the relationships between the variables of relationship quality, relationship value, relationship satisfaction and long-term orientation. In addition, alternative or competing models were developed in an attempt to demonstrate that there is not a better fitting model than the model hypothesised. This is particularly relevant in structural equation modelling because a model can be shown only to have an acceptable fit. However, acceptable fit alone does not guarantee that another model will not have a better fit or fit equally as well (Hair *et al.*, 2006). In this study, the competing models are tested.

C2.2 TYPE OF INVESTIGATION

Authors such as Sekaran (2003) and Bryman and Bell (2003) posit that a researcher should determine whether a causal or a noncausal study is needed to answer the research question(s). Causal investigations are employed when the aim is to establish a 'cause-effect' relationship, while in cases where the purpose is to identify associations between relevant factors/constructs a correlation investigation is employed. Although an element of this investigation is the examination of cause-effect relationships, due to the lack of control over events, we cannot be certain that the relationships to be uncovered are "true" relationships. Instead the independent

variables are viewed as affording plausible explanations of the dependent variable. In this respect this investigation is classified as an *ex post* factor research (Sekaran. 2003; Bryman and Bell, 2003).

C2.3 EXTENT OF INTERFERENCE AND STUDY SETTING

The research was carried out across the electrical and electronics manufacturing, distributing and retail sectors of the U.K. economy. Since no manipulation of the exogenous constructs was involved, it took place within a non-contrived setting and given that the researcher could not influence information transfer and management decisions and did not manipulate events, the events were tested as they normally occur (i.e., there has been no interference).

C2.4 TIME HORIZON

Studies can be either cross-sectional or longitudinal. The former is when the data represent a 'snapshot' at a single point in time, whereas the latter occurs when data are collected at two or more points in time (Sekaran, 2003). Adopting a longitudinal research method has the advantage of higher research accuracy (Malhotra, 2003) and also facilitates a dynamic view of time (i.e., past, present and future of a relationship). However the inherent limitations of this study (see Section A1.5) prohibited the execution of a longitudinal study. Therefore a cross-sectional approach has been adopted for this study.

C2.5 DATA COLLECTION METHODS

Data collection is the collection or obtaining of data (de Vaus, 2002; McDaniel and Gates, 2006). Data can be collected from primary or secondary sources. Primary data refers to data collected by the researcher on the variables of interest specifically for the purpose of the study, whereas secondary data refers to data collected from sources that already exist, such as company records or Government publications. In this study data have been collected from buyers in the electrical and electronics sector as the primary source. Data are collected as part of the survey methodology undertaken in this study. In the first instance, qualitative data were collected from the interviews

with buyers and academics and quantitative data were collected using a survey methodology.

The research process necessitates that in order to present a clear explanation of the data collection methods, this section is divided into debating [1] the approaches adopted to undertake exploratory research (see Section C2.5.1), and [2] the methods employed for the field research/data collection (see Section C2.5.2).

C2.5.1 Exploratory Research

The exploratory stage of the research process consisted of a thorough review of extant academic literature and an examination of other forms of published material. Face-to-face interviews with business and academic experts were conducted helping to explore, clarify and elaborate on a variety of issues relating to the proposed research.

According to Sekaran (2002), face-to-face depth interviews are suitable in situations where complex issues need to be explored and understood. They are a useful tool to bring difficult ideas to the surface and then discuss them in further depth. Therefore, selection of face-to-face depth interview method for the exploratory stage of this study was based on its appropriateness in uncovering the beliefs and attitudes concerning the quality and value of relationships. The interviews took the form of informal discussions and focused on the nature of relationship quality and relationship value from the buyer's perspective.

The outcome of the in-depth interviews have been incorporated throughout this study and have helped to more precisely formulate research problems, develop hypotheses, establish priorities for research, eliminate impractical ideas and clarify concepts prior to and in the process of developing the survey instrument.

C2.5.2 Field Research

According to Churchill and Iacobucci (2005) there are three components that need to be considered in field research: the primary data collection method(s); the determination of the administration of the adopted method(s); and the communication of the method(s).

C2.5.2.1 Data Collection Method

The three primary data collection methods used most often in quantitative marketing research are survey, observation and experimentation (Churchill and Iacobucci. 2005; McDaniel and Gates, 2006). The survey method includes a questionnaire given to a sample of the chosen population and is designed to elicit the required information. The observation method involves recording the behavioural patterns of people, objects or occurrences without direct interaction, such as questioning or communicating with them. Finally, the experimentation method involves the manipulation of one or more independent factors by the experimenter who then measures the effects on one or more dependent factors (Churchill and Iacobucci, 2005; Malhotra and Birks, 2005: McDaniel and Gates, 2006). Of these, the survey method was considered to be the most suitable method for this study. The reasons that lead to this decision are as follows:

- *Comparatively low cost:* Given the geographical dispersion of the targeted companies within the UK, the financial economies associated with the use of a survey made this the preferred method.
- *Economical use of time:* Use of the survey method meant that data collection could be managed within a 2-3 month period.
- *Ease of administration:* As the data to be collected involved respondents' attitudes, opinions and behaviours, the use of a survey was considered to represent an appropriate means of obtaining such information without the use of field force (Churchill and Iacobucci, 2005; McDaniel and Gates, 2006).
- *Ethical and co-operational problems:* The survey method allows respondents to decide whether or not to reveal information.
- *Diversity:* A wide variety of questions could be designed in order to elicit respondents' underlying thinking processes. In contrast, by using the observation method, issues such as underlying motives, beliefs, attitudes and intentions could not be understood (Churchill and Iacobucci, 2005; Malhotra and Birks, 2005; McDaniel and Gates, 2006).
- *Relationship marketing domain:* Finally this method of data collection has dominated studies investigating similar subject matter (see, among others,

Brown *et al.*, 1995; Smith and Barclay, 1997; Dorsch *et al.*, 1998; Cannon and Perreault, 1999; Ulaga and Eggert, 2005).

Although surveys offer a number of benefits, they are also subject to some drawbacks. For example:

- *Measurement bias:* As surveys contain a list of written questions (irrespective of whether these questions are pre-coded or open-ended), there is the potential of bias which can take the forms of measurement instrument bias, response bias, etc. (de Vaus, 2002, McDaniel and Gates, 2006; Malhotra and Birks, 2005). These biases were minimised by using a careful research methodology based on a pilot study prior to the final data collection (see Section C3.5).
- *Response bias:* Although surveys can be used to examine respondents' behaviours and their intentions, participants may not give truthful/accurate answers to the survey. That is, there may be discrepancies between provided answers and actual behaviour (i.e., response bias). Therefore, the accuracy provided by measurements obtained from surveys is not always as high as that of experimentation. In order to decrease the probability of such a circumstance, methods such as incentives and promised confidentiality have been utilised (see Section C4.2).

C2.5.2.2 Mode Administration

Four basic modes of survey administration have been identified by Churchill and Iacobucci (2005) and Malhotra and Birks (2005). These are personal interviews, phone interviews, postal surveys and electronic surveys. The survey is considered to represent the best method for the collection of sensitive questions (Aaker *et al.*, 2004; Churchill and Iacobucci, 2005; Malhotra and Birks, 2005). Due to the need to collect information on a number of potentially sensitive issues such as the use of power and ethical behaviour in supplier relationships, a survey was deemed to be the most appropriate option.

Postal and electronic surveys represent a cost-efficient means of accessing geographically dispersed respondents, which was the principle reason for choosing

these modes of administration for this study. A number of criteria were considered in the selection of the most appropriate mode of survey administration. They are as follows:

- *Interviewer bias:* Electronic and postal surveys require less field resource involvement, such as participation of interviewers and supervisors, which reduces both cost and interviewer bias (Kent and Lee, 1999; Malhotra and Birks, 2005; Aaker *et al.*, 2004). In addition, as there is no immediate pressure to take action with an electronic or postal survey, respondents can give more thought to the questionnaire before completing it at their convenience.

- *Cost effective:* Once a reliable sampling frame has been obtained, a postal or electronic survey represents a cost-efficient means of accessing geographically dispersed respondents (Kent and Lee, 1999; Aaker *et al.*, 2004; Churchill and Iacobucci, 2005; Malhotra and Birks, 2005). Although savings are made using a postal survey, Grant *et al.* (2005) and Deutskens *et al.* (2006) identify the additional cost advantages of using electronic surveys. These authors argued that apart from the cost of postage, envelopes and printing, postal surveys require more manpower to stuff envelopes and enter data.

Despite its advantages, postal and electronic surveys have been associated with some drawbacks. For example, the response rate of postal surveys has been found to be low in comparison to face-to-face and telephone surveys (Malhotra and Birks, 2005; Churchill and Iacobucci, 2004).

- *Limited control*: Postal and electronic surveys offer little control over who completes the questionnaire. In spite of survey documents being addressed to a named respondent, it is possible that the questionnaire is passed to another member of staff with only limited understanding of the questions being posed.

- *Handling complexity:* Postal and electronic surveys are inappropriate when complex questions are involved (Churchill and Iacobucci, 2004; McDaniel and Gates, 2006; Malhotra and Birks, 2005). Without the aid of explanation, it is possible that respondents might have had difficulties in

understanding specific questions. However, this issue has been minimised through research awareness of the problem at the piloting stage of the questionnaire development.

Postal and electronic surveys represent a cost-efficient means of accessing geographically dispersed respondents, which was the principle reason for choosing these modes of administration for this study. The postal survey was used as the main data collection method (i.e., each of the 1000 respondents received a questionnaire and covering letter by post) and only non-respondents were offered the electronic version of the survey. This was done in a reminder letter sent out 14 days after the postal survey. The reminder letter offered three different options for responding [1] use the original questionnaire [2] the choice of telephone or e-mail communication to order a replacement questionnaire, and [3] respondents were asked to follow the link provided to the electronic version. Consideration was given to the introduction of bias using this approach. Non-response bias was analysed and no significant differences were found between early and late respondents (see Table C4.6) and as all electronic responses were part of the non-response group no significant bias was introduced.

C2.5.2.3 Communication Method

The postal and electronic versions of the survey were administered using a structured-undisguised communication method. The reasons are as follows:

- *Degree of structure:* This refers to the degree of standardisation imposed on the questionnaire (Churchill and Iacobucci, 2004). Using a highly structured method, the questions to be asked and the permitted responses are strictly predefined. The questionnaire followed a strict sequence and relied primarily on closed-ended, scaled response (7-point Likert scale) questions.

- *Amount of disguise:* This involves the extent to which the respondent is aware of the underlying purpose of the research (McDaniel and Gates, 2006). Despite the existence of some questions that could potentially be perceived as sensitive, there was no compelling reason to disguise the research purpose. On the contrary, it was considered that by stating the purpose of the research at the outset, the respondents would be in a better position to provide accurate and relevant answers. Consequently, the respondents were informed in the cover

letter accompanying the questionnaire of the purpose and legitimacy of the study before completing the questions (see Appendix 4).

- *Respondent targeting:* The name of the intended respondent was included as part of the postal address. Directing the questionnaire to a named respondent helps increase/improve the response rate, as it is most likely that the questionnaire will reach the person in the best position to complete it (Dillman, 2000). All the addresses were laser-printed for legibility and for professional appearance (Greer and Lohtia, 1994).

- *University Letterhead:* A Kingston Business School letterhead was used for the cover letter to give the questionnaire package a professional appearance (Taylor and Lynn, 1998). The cover letter was laser printed and restricted to one page for visual impact. It explained the purpose of the survey, provided brief instructions on how to complete the questionnaire and underlined the importance of the respondent's reply. It also assured the respondent of complete confidentiality (Faria and Dickinson, 1996). Each letter was signed as an act of personal attention towards each of the respondents (Churchill and Iacobucci, 2004).

- *Identifying the questionnaire:* Each questionnaire had a 'Questionnaire Identification Number' for record-keeping purposes. This number was unique to each questionnaire so that completion by respondents could be tracked. Tracking of response is important for the administration of reminder letters and separation of respondents from non-respondents. The questionnaire identification number was placed in full view at the top right-hand corner of the front cover of the questionnaire and could be cut off without affecting the remainder of the document, should the respondent wish to have complete anonymity.

- *Incentives:* Drawing on the experience of the pilot survey, and in particular the reluctance of respondents to complete such a lengthy questionnaire (i.e., 96 questions), it was decided that incentives should play an important part in obtaining the 170 replies required. Material incentives, for example small gifts, have proven to be an effective means to increase the response rate of mail surveys (Church, 1993). Although the reported results are not always

consistent, there is a general consensus that, pre-notification, identity of survey sponsor, repeated contact (i.e., reminder letters and cards), return postage envelope (Dillman, 2000) the offer of a survey summary report (Powers and Alderman, 1982), and non-monetary incentives (Church, 1993) should be used to increase response rates. For each completed questionnaire the non-monetary incentive was the offer of a chance to win one of three iPods in a prize draw.

- *Posting of the questionnaire:* In an effort to maximise response rate, questionnaires were mailed using first-class postage (Yammarino *et al.*, 1991). A telephone call prior to mailing the questionnaire confirmed the respondent as the organisation's principle buyer. Questionnaires were sent out in batches between Monday and Friday as telephone confirmation of the buyers name was completed. A task that continued between November 2006 and January 2007.

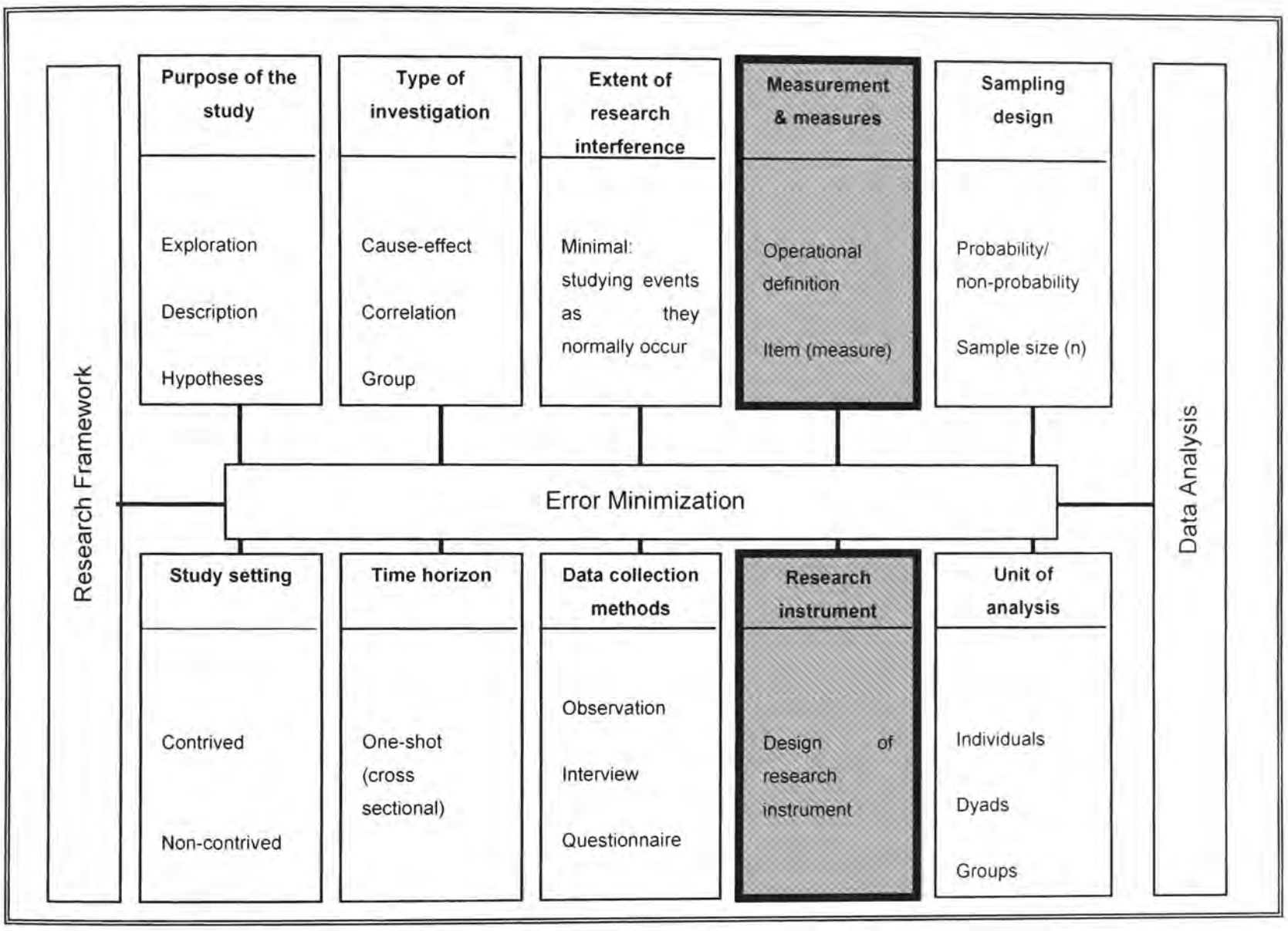
- *Questionnaire return-envelopes:* Pre-addressed to Kingston Business School postage-paid envelopes were enclosed as a part of the questionnaire pack. The absence of return envelopes has been reported to have a negative effect on the response rate (Dillman, 2000).

- *Follow-up mailing:* One thousand questionnaires were sent out between November 2006 and February 2007. When the completed questionnaires were returned the date and respondents questionnaire identification number were logged. In a comparison of postal, fax and electronic based surveys Cobanoglu *et al.* (2001) found response time for postal surveys was 16.46 days, fax was 4.0 days and electronic 5.97 days. Therefore, it was decided that those who had not responded within 20 days would be sent a single reminder letter (See Appendix 6).

CHAPTER C3: RESEARCH METHODOLOGY (II)

This chapter discusses measurement, measures and issues related to the development of the questionnaire. The topics covered by this chapter are shown in the shaded area of Figure C3.1 below.

Figure C3.1 The Research Process



Adapted from: Sekaran, U. (2003) "*Research Methods for Business: A Skill Building Approach*", 4th ed., New York: John Wiley and Sons Inc. (p. 118)

C3.1 MEASURES AND MEASUREMENTS

This section debates the adopted measures and their measurement. The structure of this debate starts with a discussion on measurement in relation to formative and reflective latent variables.

C3.1.2 Types of Latent Variables

The misspecification of latent variables and its effect on theory development and testing is of particular interest to modular studies. The debate focuses on issues relating to reflective versus formative conceptualisations of latent variables (Cohen *et al.*, 1990; Diamantopoulos 1999; Diamantopoulos and Winkhofer, 2001). Given that all the constructs in this study are in the form of latent variables, it is considered important to explain the meaning of such conceptualisation and define the clarification of the research latent variables.

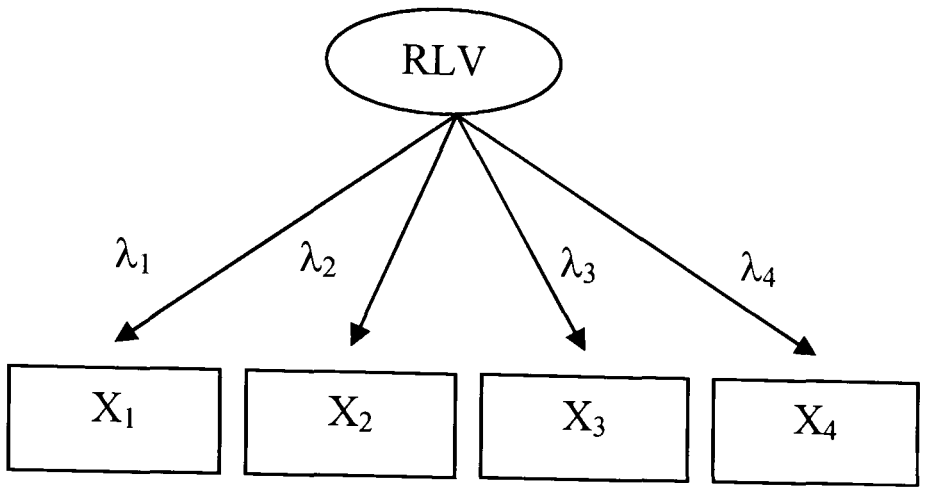
C3.1.2.1 Reflective Latent Variables

Reflective latent variables (or *molecular* according to Bagozzi, 1988) are cases where the indicators are considered to be influenced or affected by the underlying latent variable. The key feature of such latent variables is that '[...] a change in the latent variable will be reflected in a change in all indicators' (Diamantopoulos, 1999, p. 445).

The above imply that there is a one-to-one correspondence between the latent variable and its indicators (i.e., the indicators are seen as empirical surrogates for a latent variable). The underlying assumption is that the latent variable exists, rather than being constructed, and is measured by its indicators or by other first order factors/ latent variables. Such latent variables have their origins in the classical domain-sampling model (Nunnally and Bernstein, 1994) which assumes that the indicators are partially or entirely inter-correlated because of their underlying common latent variable.

It consequently follows that under such a perspective a comparison of the *loadings* (λ_i) would be an indicator of the relative importance of each indicator (i.e. X_1 to X_4) in reflecting the overall latent variable. An illustration of a reflective latent variable is provided in Figure C3.2 below.

Figure C3.2 Illustration of a Reflective Latent Variable (RLV)



The following points help identify a reflective construct:

- Direction of causality is from the construct to the measure
- Measures are expected to be correlated
- Removing an indicator from the measurement model *does not* alter the meaning of the construct
- Measurement error is taken into account at the *item* level

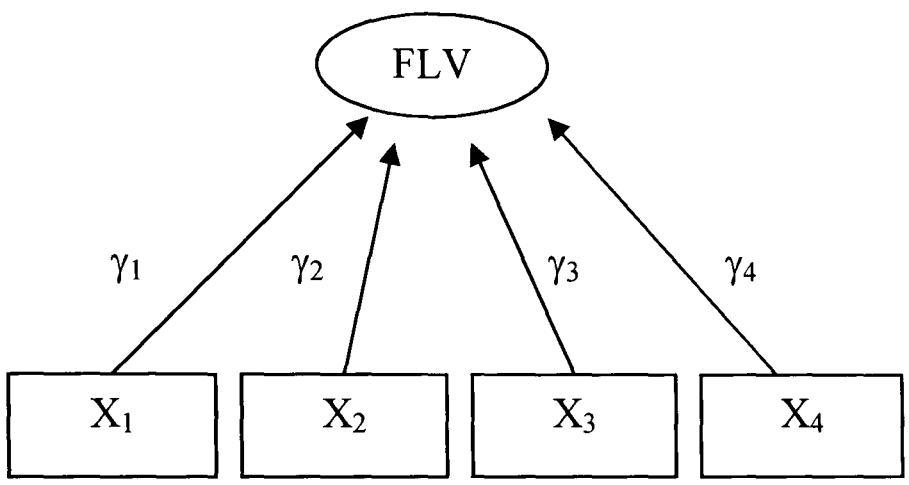
C3.1.2.2 Formative Latent Variables

Formative latent variables on the other hand represent variables whose indicators are viewed as causing rather than being caused by the underlying latent variable. Under such conditions '[...] a change in the latent variable is not necessarily accompanied by a change in all its indicators but rather if any one of the indicators changes, then the latent variable would also change' (Diamantopoulos, 1999, p. 446). In other words formative latent variables represent *emergent constructs* that are formed from a set of indicators or first order factors.

We can extend this debate by stating that unlike reflective latent variables, there is no theoretical reason to examine interdependencies (i.e., correlations) among the indicators. It follows that, since the indicators are not necessarily correlated but they can occur independently, it is their relative weights (γ_i) that are used to construct the formative latent variable and these indicate the relative importance of each indicator (i.e. X_1 to X_4).

It is clear from the above that formative latent variables do not conform to the classical test theory of factor analysis models that treat indicators as effects of a construct (Bollen and Lennox, 1991). An illustrative example is provided in Figure C3.3.

Figure C3.3 Illustration of a Formative Latent Variable (FLV)



The following points help identify a formative construct:

- Direction of causality is from the *measure* to the construct;
- There is no reason to expect that the measures are correlated
- Removing an indicator from the measurement model *may* alter the meaning of the construct
- Measurement error is taken into account at the *construct* level.

Each of the latent variables in the research model has been identified as either reflective or formative.

C3.2 MEASURES

This section discusses the measurement scales employed in the research model. Each scale used has been borrowed from an already published scale which has been shown to have good psychometric properties.

C3.2.1 Borrowed Scales

Caution and care must be taken when borrowing scales from other studies, otherwise discrepancies are likely to occur in their psychometric performance. The proposed research involves considerable borrowing of scales, hence it was imperative that potential problems linked to scale borrowing were identified, understood and

eliminated or at least reduced. Engelland *et al.* (2001) framework for selecting and adapting scales was utilised as a benchmark to assess the fitness of the borrowed scales for use in the proposed study. An abbreviated form of Engelland *et al.* (2001) framework is shown in Figure C3.4

Figure C3.4 Framework for Selecting and Adapting Scales

Selection of Scales to Borrow

Step One-Develop a precise and detailed conception of the target construct and its theoretical context:

- To precisely delineate the domain of a construct, four questions should be answered

⇩

Assess Performance of Scales

Step Two-Consider these issues:

- Examine recent studies for validation of performance

⇩

Examination of the Content and Phrasing of the Borrowed Items

Step Three-Examine the content and phrasing of the scale items for:

- Relevance to the construct

⇩

Appropriateness of Additional Items

Step Four-Considerations for additional and modified items:

- Evaluate item compatibility e.g., time frame, research domain and wording

Source: Engelland, B.T., Alford, B.L. and Taylor, R.D. (2001) Caution and Precaution on the Use of 'Borrowed' Scales in Marketing Research, In: Slater, T.A. (Ed), Marketing Advances in Pedagogy, Process and Philosophy: Society of Marketing Advances, New Orleans 152-153.

Step One- Selection of Borrowed Scales: The development of a precise conceptualisation of the research construct and their theoretical context (Clark and Watson, 1995). This was realized by taking the following actions. A review of the relationship quality, relationship value, satisfaction and long-term orientation papers, textbooks and examination of other relevant information sources (e.g., newspapers, business press, magazines, electronic publications and discussions with expert informants) was carried out. As a result of this action an initial pool of scales were selected (see Appendix 2 for a list of scales). Each domain of the construct was considered on the basis of its breadth and scope in relation to the present study. The level of abstraction demonstrated by the construct and its relationship to other constructs being measured was also a consideration.

Step two- Assessing Performance of Scales: The borrowed scales were from papers published in the last fifteen years. Engelland *et al.* (2001) suggested that the initial reported validation of measures that were developed more than fifteen years ago should be discounted in favour of more recent studies which offer a better indication of performance. The measures were also considered on the bases of their reliability and validity performance.

Step three- Examination of the content and phrasing of the borrowed items: The effectiveness of measurement scales in conveying the meaning of the intended variable in a clear and concise manner was tested in expert informant meetings (see Section C2.5.1). Changes relating to jargon, similarity, duplication and phrasing of items were discussed and relevant suggestions were considered in the development of each scale.

Step four- Appropriateness of additional items: All additional and modified items were evaluated for compatibility with the proposed research domain and time frame. In addition, Engelland *et al.* (2001) suggested that item wording should be simple and appropriate to the reading age of the intended respondent. Items were reworded to reflect this study's time frame and domain.

C3.2.2 Description and Origin of Scales

This section identifies each of the scales used in the quantitative research model. The proposed model includes the constructs relationship quality, relationship value, and relationship satisfaction and buyer long-term orientation. Relationship quality is conceptualised in this study as higher-order construct, made up of cognitive and behavioural dimensions. Relationship value has also been conceptualised as higher-order construct, which is made up of relationship benefit and sacrifice dimensions. Relationship satisfaction and buyer long-term orientation are both conceptualised as uni-dimensional construct.

For each construct the origin of the adopted scale is specified using the criteria listed in C3.1.2.1 and C3.1.2.2. A decision is made whether, irrespective of the initial conceptualisation, the scale should be treated as reflective or formative. In the case of reflective latent variables indications of reliability are presented.

C3.2.3 Relationship Quality- Cognitive Dimensions

Scales that best measure the cognitive dimensions of relationship quality are identified in the current section. Refer to Appendix 2 for a list of cognitive relationship quality scales.

C3.2.3.1 Credibility

Within the business relationship domain at least two studies have tested credibility (Ganesan, 1994; McAllister, 1995), others have tested similar constructs modelled on cognitive based trust (Kumar, 1995b: Sirdeshmukh *et al.,* 2002). Of the studies that test credibility, McAllister's (1995) research focuses on affective and cognitive based trust in the interpersonal relationship domain. Ganesan (1994) is an important relationship study researching in the same domain and similar area as the current study. In addition, this scale exhibits validity and acceptable psychometric properties. Ganesan (1994) 7-item scale specified as reflective with a Cronbach's $\alpha = 0.90$.

C3.2.3.2 Information Exchange

Information exchange should reflect the concept of two way communication between buyer and supplier. Therefore scales that reflect supplier communication quality alone do not adequately describe this construct. Of the information exchange scales tested in the buyer-supplier relationship domain two measure the quality of communication between buyer and supplier. Cannon and Perreault's (1999) was borrowed from Heide

and John's (1992) which is representative of the conceptualisation of information exchange adopted by the current study. Although Heide and John's (1992) seminal study falls outside the fifteen years cut-off for publication recommended by Engelland *et al.* (2001), it was decided to use the original Heide and John (1992) measure. The scale was adopted because it has validity and adequate psychometric properties.

Heide and John (1992) 4-item scale specified as reflective with a Cronbach's $\alpha = 0.84$.

C3.2.3.3 Expertise

In buyer-seller relationship studies the expertise and competence constructs have similar conceptual foundations. Crosby *et al.* (1990) and Doney and Cannon (1997) used scales that measure buyer perceptions of salesperson's expertise. Crosby *et al.'s* (1990) study is in business-to-consumer domain whereas Doney and Cannon (1997) research is in the business-to-business domain. Therefore it was decided to adopt the Doney and Cannon (1997) scale because the domain is similar to the present study. The measure has validity and exhibits adequate psychometric properties.

Doney and Cannon (1997) 3-item scale specified as a reflective construct with a Cronbach's $\alpha = 0.79$.

C3.2.3.4 Relationship Investment

Relationship investment is the extent to which a supplier has made idiosyncratic investments or adaptations in the relationship. Anderson and Weitz (1992), Smith and Barclay (1997) and Cannon and Perreault (1999) each measure relationship investment in a similar business-to-business domain as the current study. The Anderson and Weitz (1992) scale required mirror phrasing modifications for use in the current study. Therefore the Anderson and Weitz (1992) scale was selected.

Anderson and Weitz (1992) specified relationship investment as a reflective 5-item scale with a Cronbach's $\alpha = 0.80$.

However, examination of the scale items indicates that there is no reason to expect that they should be correlated. For example, it is possible that a high rating is given to scale item 1 "This supplier has gone out of its way to link us with their product line" (see Appendix 3, page 3 of 19 for the complete original 'relationship investment' scale) and a lower rating to scale item 4 "This supplier does a lot to help us become a more effective distributor, such as providing management training". In addition, it is argued that the removal of any of the scale items will seriously compromise the

content validity of the scale since its indicators account for a different facet of the relationship investment construct. Therefore unlike Anderson and Weitz's (1992) original specification of the relationship investment construct as a reflective latent variable, the current study specifies relationship investment as a formative latent variable.

C3.2.4 Relationship Quality - Behavioural Dimensions

Scales that best measure the behavioural dimensions of relationship quality are identified in the current section. See Appendix 2 for a list of behavioural relationship quality scales.

C3.2.4.1 Benevolence

Benevolence is described by Ganesan (1994) as behavioural trust by McAllister (1995) as affect-based trust and Kumar *et al.* (1995b) as trust in partner's benevolence. In the buyer-supplier domain Ganesan (1994) and Kumar *et al.* (1995b) use scales that reflect the current study's conceptualisation of benevolence. Although validity and reliability were confirmed for both scales, Ganesan (1994) scale was selected on the grounds that Kumar *et al.*'s (1995b) data were collected from franchisees. Franchise relationships are contractually tied and therefore exhibit different behaviours from those of a relationship in which both parties can walk away.

Ganesan (1994) specified as a reflective 5-item scale with a Cronbach's $\alpha = 0.88$

C3.2.4.2 Customer Orientation

Saxe and Weitz (1982) developed a scale to measure the Selling Orientation – Customer Orientation (SOCO) of salespeople. The SOCO scale consists of 24 items and measures a number of relationship phenomenon that make-up selling orientation and customer orientation. Although SOCO has been used in full by a number of authors (Dunlap *et al.,* 1988; Kelly, 1992; Dorsch *et al.,* 1998), there is a great deal of conceptual overlap with other dimensions selected for the current study. Deshpande *et al.* (1993), Bonner and Calantone (2005) and Thakor and Joshi (2005) have use parts of the SOCO scale relevant to their particular studies. Of these studies Thakor and Joshi (2005) identify 5-items of the SOCO scale that focus purely on customer orientation in a buyer-supplier relationship. As this coincides with the particular area of interest in the current study, this scale was selected. This scale exhibits good psychometric properties.

Thakor and Joshi (2005) specified as a reflective 5-item scale with a Cronbach's α = 0.88

C3.2.4.3 Flexibility

Flexibility is the degree to which a supplier is willing and able to respond to changing circumstances in the relationship with the buyer. Macneil (1980) identified flexibility as an important relational norm that has since been tested in a number of relationship studies (Heide and John, 1992; Dahlstrom *et al.*, 1996; Lusch and Brown, 1996). Heide and John (1992) and Bonner and Calantone (2005) have a contextual fit with the current study and both exhibit adequate psychometric properties. Because Bonner and Calantone (2005) has a 4-item scale and Heide and John (1992) has a 3 item scale. The Bonner and Calantone (2005) scale was adopted on the grounds of greater measurement integrated if an item needs to be removed in the purification process.

Bonner and Calantone (2005) specified as a reflective 4-item scale with a Cronbach's α = 0.80

C3.2.4.4 Cooperation

A supplier demonstrates cooperation through taking joint action with the buyer to improve relationship benefits for both parties. Cannon and Perreault (1999) and Joshi and Stump (1999b) test cooperation in the buyer–supplier relationship domain. However, Joshi and Stump (1999b) model cooperation as an outcome of relationship quality. Cannon and Perreault (1999) on the other hand model cooperation as an antecedent of relationship satisfaction and performance, which identifies Cannon and Perreault (1999) more closely with the current study. Their scale exhibits adequate psychometric properties and was therefore selected as this study's measure of cooperation.

Cannon and Perreault (1999) specified as a reflective 6-item scale with a Cronbach's α =0.81

C3.2.4.5 Opportunism

Opportunism has been identified as an important relationship quality. In the business-to-business domain Smith and Barclay (1997) and Morgan and Hunt (1994) have scales to measure opportunism. Smith and Barclay (1997) specify their scale as reflective whereas Morgan and Hunt (1994) specify their scale as formative. The

Morgan and Hunt (1994) scale was chosen because the phrasing reflected the conceptualisation of opportunism adopted by the current study (see Section B1.4).

Morgan and Hunt (1994) specified as a formative 3-item scale. Using the same logic as outlined in Section C3.2.3.4 the formative nature of this scale is accepted.

C3.2.4.6 Ethical Behaviour

Dorsch *et al.* (1998) and Lagace *et al.* (1991) tested ethical behaviour scales in the buyer-seller relationship domain. Each scale is extensive, for example Lagace *et al.* (1991) has 15 items and Dorsch *et al.* (1998) has 26 items. Dorsch *et al.* (1998) borrowed from Victor and Cullen (1988) ethical climate scale which measures ethical climate over five dimensions. One dimension, called instrumental, was considered relevant to the current study and its conceptualisation of ethical behaviour. This 7-item scale was therefore adopted in favour of the Lagace *et al.* (1991) scale. This was because it measures *selfish disregard,* an important area of ethical behaviour.

Dorsch *et al.* (1998) specified as a reflective 7-item scale with a Cronbach's α =0.71

C3.2.4.7 Coercive Power

Power in a relationship is getting the other party to do what you want rather than what they want. It can be displayed as either coercive or non-coercive power. Coercive power has been summed up in the phrase 'do it or else', while non-coercive forms of power are achieved by example. A number of studies have researched the use of supplier power in marketing channels (Skinner *et al.*, 1992; Brown *et al.*, 1995; Doney and Cannon, 1997; Wren *et al.*, 2005). The Skinner *et al.* (1992) and Brown *et al.* (1995) studies have a similar context and conceptualisation of coercive power as that presented by the current study. Although both scales exhibit excellent psychometric properties the Brown *et al.* (1995) scale is phrased to reflect the organisation to organisation relationship and better represent the current study. The Brown *et al.* (1995) scale was therefore adopted.

Brown *et al.* (1995) specified as a reflective 4-item scale with a Cronbach's $\alpha = 0.84$

C3.2.4.8 Referent Power

John (1984) identifies three forms of non-coercive power which occur in channel relationships (i.e., expert, legitimate and referent). Referent power is the concept of non-coercive power which is most relevant to relationship quality. It is the power a buyer cedes to a supplier through their admiration and desire to associate. In the

business-to-business domain, both John (1984) and Brown *et al.* (1995) have scales for referent power. However the Brown *et al.* (1995) scale is more recent and with item phrasing ideally suited to the current study because it also has acceptable psychometric properties, this scale was adopted.

Brown *et al.* (1995) specified as a reflective 4-item scale with a Cronbach's α =0.68.

C3.2.4.9 Conflict

Kumar's (1995b) 2-item scale of manifest conflict reflects the degree of conflict and tension a buying organisation may experience in the relationship with their supplier. Taken from an original scale developed by Frazier *et al.* (1989), this measure of conflict has a good conceptual fit with the current study and requires no modification. However, a scale must have a minimum of three items to assess reliability (Hair *et al.*, 2007) therefore Menon *et al.'s* (1997) measure of interdepartmental conflict was selected. Although not in the buyer-seller domain, this reflective scale has good psychometric properties and could be easily modified to suit a different research context.

Menon *et al.* (1997) specified as a reflective 7-item scale with a Cronbach's α = 0.87.

C3.2.5 Relationship Value – Benefit Dimensions

This section identifies and discusses the merits of scales to measure relationship benefits. Refer to Appendix 2 for a list of relationship value scales.

C3.2.5.1 Economic Benefits

The economic benefits of a relationship are those that can be attributed to the special treatment, prices and discounts a buyer receives for being in a relationship with a supplier. Gwinner *et al.* (1998) and Hennig-Thurau *et al.* (2002) both test scales that measure economic benefits in the services domain. Although both scales are similar, the phrasing of Gwinner *et al.'s* (1998) scale is more readily adapted to the current research context. Therefore the Gwinner *et al.* (1998) scale was adopted. The psychometric properties of this scale are adequate but his study used students as substitutes for service respondents therefore the use of these scales will be treated with caution.

Gwinner *et al.* (1998) specified as a reflective 5-item scale with a Cronbach's α = 0.88.

C3.2.5.2 Social Benefits (Friendship)

Friendship, familiarity and personal contact are some of the elements associated with the social benefits of a relationship. Reynolds and Beatty (1999) and Ulaga and Eggert (2005) test scales that measure the friendship aspect of social benefits. Both studies are in the buyer-seller relationship domain and the scales exhibit adequate psychometric properties. The organisation to organisation context identifies Ulaga and Eggert's (2005) scale as closer contextually to the current study, therefore this scale was selected.

Ulaga and Eggert (2005) specified as a reflective 5-item scale with a Cronbach's α = 0.84.

C3.2.5.3 Social Benefits (Association)

The benefit of a close relationship with a supplier is made more apparent when the buyer is allowed access to the supplier's network. Baxter and Matear's (2004) study captures this aspect of a buyer-seller relationship. Displaying acceptable psychometric properties, this scale was adopted.

Baxter and Matear (2004) specified as a reflective 4-item scale with a Cronbach's α = 0.84.

C3.2.5.4 Knowledge Benefits (Innovation)

A buyer benefits from a supplier's knowledge through the transfer of technical and market knowledge. Suppliers that are able and willing to transfer such knowledge help the buying organisation to innovate. Ulaga and Eggert's (2005, 2006a, 2006b) studies have scales that capture the knowledge transfer aspect of a supplier relationship and fit the context of the current study. Therefore the Ulaga and Eggert's (2006a) scale was adopted. The scales show adequate psychometric properties.

Ulaga and Eggert (2006a) specified as a reflective 5-item scale with a Cronbach's α = 0.92.

C3.2.5.5 Knowledge Benefits (Intellectual Property)

Buyers benefit from the use of a supplier's intellectual property. In the buyer-seller relationship domain, Baxter and Matear's (2004) study identifies three intellectual properties that benefit buyers. Their scale shows good psychometric properties in an area of relationship value research not previously tested.

Baxter and Matear (2004) specified as a reflective 5-item scale with a Cronbach's α = 0.78.

C3.2.5.6 Functional Benefits

The principle functional benefit of a buyer-seller relationship is the ability of the seller to fulfil a promised delivery. Ulaga and Eggert (2006a) and Reynolds and Beatty (1999) offer scales that measure functional benefits. Each of these scales exhibit adequate psychometric properties, however Reynolds and Beatty's (1999) research focuses on the relationship between a salesperson and buyer. Therefore Ulaga and Eggert's (2006a) scale was selected because their research was conducted at the organisational level.

Ulaga and Eggert (2006a) a 3-item scale specified as reflective with a Cronbach's α = 0.96.

C3.2.5.7 Emotional Benefits

Emotional benefits are organisational or individual feelings of trust or confidence in the other party that result in a perceived reduction in hassle, anxiety and stress, and an increased peace of mind and self confidence (Sweeney and Webb, 2002). Ulaga and Eggert (2006), Hennig-Thurau *et al.* (2002) and Gwinner *et al.* (1998) each have scales with excellent psychometric properties that adequately measure the emotional benefit dimension. Ulaga and Eggert's (2006a) scale (Personal Interaction) was chosen because their item phrasing has a superior contextual fit with the current study.

Ulaga and Eggert's (2006a) a 7-item scale specified as reflective with a Cronbach's α = 0.97.

C3.2.6 Relationship Value Sacrifice Dimensions

This section identifies and discusses the scales for measuring the dimensions of relationship sacrifice. Refer to Appendix 2 for a list of relationship value scales.

C3.2.6.1 Relationship Cost

Price is an important sacrifice when buying a product or service. However, when considering the value of a relationship the term price is not the best description of this sacrifice. This study uses the term cost to describe this sacrifice. Price measures have been used in a number of studies (Sweeny *et al.*, 1999; Lapierre, 2000; Menon *et al.*, 2005; Ulaga and Eggert, 2001, 2005, 2006a). Menon *et al.* (2005) and Ulaga and

Eggert (2006a) measure product price and the costs of acquisition but the Ulaga and Eggert (2006a) scale was adopted because of ease of adaptation to the current study. Ulaga and Eggert (2006a) specified as a formative 7-item scale. Using the same logic as outlined in Section C3.2.3.4 the formative nature of this scale is accepted.

C3.2.6.2 Time and Effort

Becker (1965) argues that organisations view time as equal to its opportunity cost, which typically equates to wage costs. Viewed from this perspective, the time and effort a purchasing manager expends in dealing with a supplier amount to this equivalent cost to the organisation. Ulaga and Eggert (2005) and Lapierre (2000) have tested scales for time and effort in the buyer-seller relationship domain. Ulaga and Eggert's (2005) scale has only two items and was therefore considered to have inadequate psychometric properties. Lapierre's (2000) scale was selected on the basis that its items better represent the current study's conceptualisation of 'time and effort'. Therefore, Lapierre's (2000) scale was selected for use in the current study.

Lapierre (2000) specified as reflective a 5-item scale in the original study with a Cronbach's $\alpha = 0.84$.

Lapierre (2000) specifies this scale as reflective. However there is no reason to expect that the scale items are correlated. Using the logic advanced for arguing that the 'relationship investment' scale is formative, it is suggested that it is possible that a high rating is given to scale item 2 "The bargaining effort with the supplier's staff in reaching an agreement" and a lower rating to scale item 4 "Your time and effort spent developing a working business relationship with your major IT supplier" (see Appendix 3 for the complete original scale). In addition, it is argued that the removal of any of the scale items will seriously compromise the content validity of the scale since its indicators account of a different facet of the time and effort construct. Therefore unlike Lapierre's (2000) original specification of the time and effort construct as a reflective latent variable, the current study specifies time and effort as a formative latent variable.

C3.2.7 Relationship Satisfaction

Relationship satisfaction is generally considered as an overall affective state (Anderson and Narus, 1990; Andaleeb, 1996; Ganesan, 1994; Smith and Barclay, 1997). The definition proposed by Anderson and Narus (1990, p.66) which states that

"satisfaction is a positive affect state resulting from the appraisal of all aspects of a firm's working relationship with another firm" was used in identifying scales for consideration. Scales by Smith and Barclay (1997) and Cannon and Perreault's (1999) on the other hand assess overall relationship satisfaction, thereby minimising this potential problem. However, Smith and Barclay (1997) measure relationship satisfaction at an individual to individual level, whereas Cannon and Perreault (1999) measure at the organisation to organisation level. The Cannon and Perreault (1999) scale was adopted because it has the same level of analysis as the current study and shows adequate psychometric properties.

Cannon and Perreault (1999) a 5-item scale specified as reflective with a Cronbach's $\alpha = 0.84$.

C3.2.8 Long-Term Orientation

Buyer long-term orientation is distinct from how long the relationship has been in existence. While relationship duration is likely to affect buyer long-term orientation, relationship length in itself is not sufficient to capture this phenomenon (Kelley, 1983). In the context of buyer-supplier relationships, buyer long-term orientation is best measured through buyer expectations of relationship continuity. This has been examined and the scale developed in a number of empirical studies (Anderson and Weitz, 1989; Noordewier *et al.,* 1990; Heide and Miner, 1992; Ganesan, 1994; Lusch and Brown, 1996; Kim, 2000). These scales have been tested in the context of buyer-seller relationships and exhibit excellent psychometric properties. However, Ganesan's (1994) scale was chosen due to the item phrasing having the best fit with the domain of the current study.

Ganesan (1994) a 6-item scale specified as reflective with a Cronbach's $\alpha = 0.94$.

C3.2.9 Higher-Order Constructs

This section identifies the structure of the higher-order constructs used in the research model. The research model has two higher-order constructs, relationship quality and relationship value.

C3.2.9.1 Relationship Quality

Relationship quality is specified as a formative higher order construct consisting of the dimensions cognitive relationship quality and behavioural relationship quality. Section

C3.2.3 identifies the items that make up the cognitive relationship quality dimension and Section C3.2.4 identifies the items that make up the behavioural relationship quality dimension.

C3.2.9.2 Relationship Value

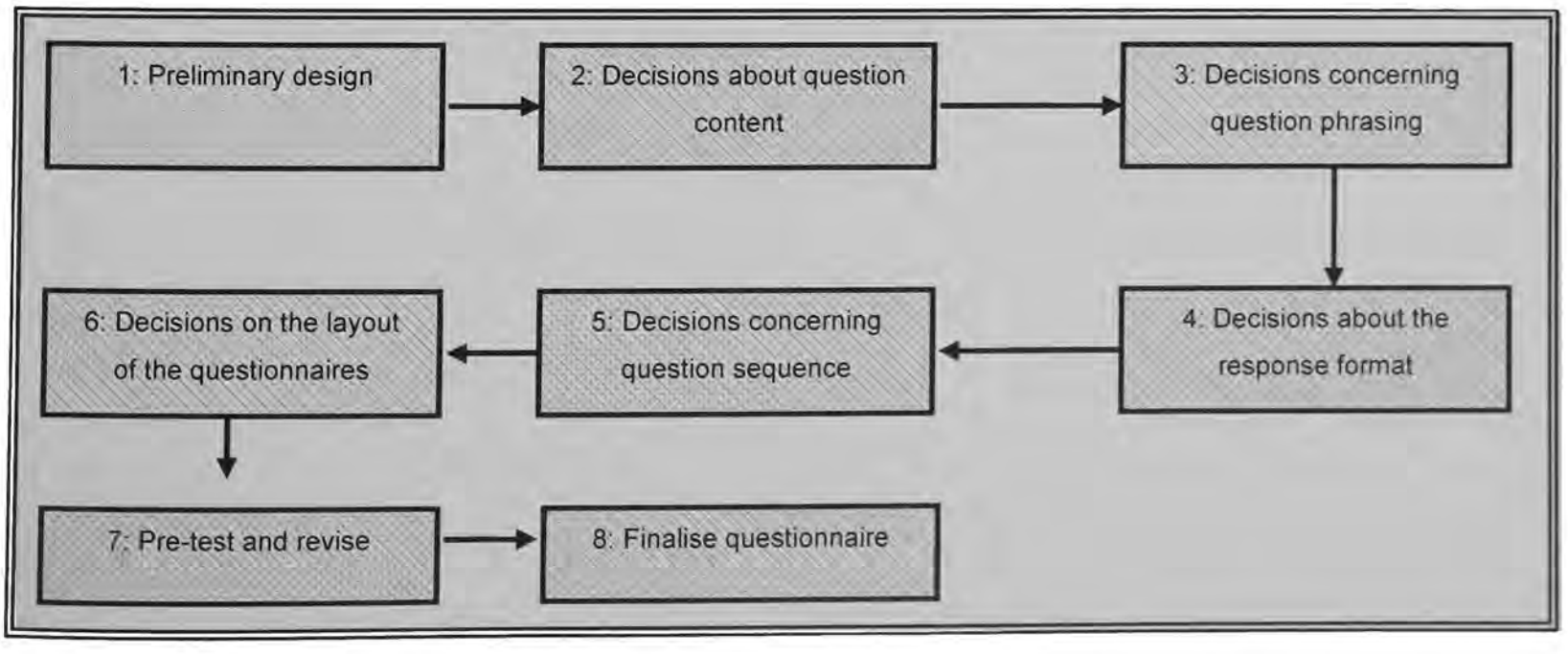
Relationship value is specified as a formative higher order construct, consisting of two dimensions relationship benefits and relationship sacrifices. Section C3.2.5 identifies the items that make up the relationship benefit dimension and Section C3.2.6 identifies the items that make up relationship sacrifice dimension.

Face-to-face interviews were conducted to clarify measurement issues both before and through the pilot stage of survey development. At each interview adjustments were applied until scales were fit for their intended purpose. A record of the changes made to the original scales is shown in Appendix 3.

C3.3 DESIGN OF THE RESEARCH INSTRUMENT

The design of the research instrument has followed good practice processes outlined by, among others Oppenheim (1992), Churchill and Iacobucci (2005), Malhotra and Birks (2005), McDaniel and Gates (2006). Figure C3.4 illustrates the various issues under consideration which, although depicted as sequential, are interrelated and should be viewed as a guide or checklist.

Figure C3.4: Research Instrument Construction Decisions



Source: Churchill, G. A., Jr. and Iacobucci, D. (2004): *Marketing Research: Methodological Foundations*, 9th edition: South-Western Thomson Learning

Each of the decisions is discussed in turn.

Preliminary design: Prior to the construction of the actual research instrument, decisions regarding the exact type of information sought from different respondents had to be considered in conjunction with the data collection method to be employed. For example, every effort was made to keep the number of survey question to a minimum but at the same time capturing the required data.

Decisions about questions content: Once the topics were decided, due consideration was given to the question content, i.e. the general nature of the research instrument and the information that it was designed to obtain. Question content was thoroughly verified during expert informant interviews and the pilot stage and corrected and improved where necessary.

Decisions concerning questions phrasing: Due consideration was given to ensuring that the questions were phrased in such a way that they would be clearly understood by the respondents. Particular attention was placed on issues such as avoiding the use of jargon, ensuring the clarity of meaning, avoiding leading, double, or bias questions and ensuring the instrument clearly defined the research context.

Decisions about response format: A unified approach in the presentation of measurements was employed. The response format selected was based on a 7-point Likert scale. The only exceptions were the items referring to length of the relationship, supplier size and own organisation size, which were open ended and ordinal respectively.

Decisions concerning the sequence of questions: The questions were placed in an order that made it easy for the respondent to complete the questionnaire. Easy to complete 'tick-the-box' questions were placed at the beginning of the questionnaire, with more complex questions placed towards the end. This allowed time for the respondent to settle down and feel at ease with the questionnaire.

Decisions on the layout of the research instruments: The physical characteristics of the research instruments have been found to affect not only the accuracy of the replies, but also the manner in which respondents react and the ease with which the replies can be processed (see for example, Sanchez, 1992). Therefore particular

attention was given to the questionnaire layout in the design process. In particular respondents were asked to comment on the layout of the questionnaire and the clarity of instructions during the pilot stage. As a result of the feedback, the questionnaire was professionally printed in eight page book format with the Kingston University logo clearly displayed on each page. Furthermore, it was divided into eight sections and each headed with a descriptive title (e.g., the benefits of doing business with your major supplier) making the questionnaire easier to follow and complete.

Pre-test and revision: Consensus exists within literature that pre-testing is an integral part of the research instrument development process. There is a clear message that no survey should be undertaken without conducting a pre-test (e.g. Reynolds and Diamantopoulos, 1998; Churchill and Iacobucci, 2005; McDaniel and Gates, 2006). The importance of pre-testing in the research development process is underscored by Churchill and Iacobucci (2005, p.351) who state that "[...] the researcher who avoids a questionnaire pre-test [...] is either naive or a fool. The pre-test is the most inexpensive insurance the researcher can buy to ensure the success of the questionnaire and the research project."

Pre-testing has been defined as the "activity related to the development of the questionnaire to be used in a survey or experiment" (Green *et al.*, 1988, p.295). The purpose of pre-testing is "[...] to ensure that the expectations of the researcher in terms of the information that will be obtained from the questionnaire are met" (Aaker *et al.*, 2004, p.57). Furthermore, as language is basically ambiguous and words can have different meanings to different people (Bradburn and Sudman, 1991), it is important to ensure that the words used in the questions have the meaning to the respondents that the researcher intended them to have (Kinnear and Taylor, 1996).

To ensure that potential problems associated with the research instrument and its administration was fully dealt with, the researcher undertook a pre-test of the instrument. Twenty four business-to-business buyers were approached and asked to complete the questionnaire. The respondents were drawn from different industrial sectors which included manufacturing, distribution and retailing. As a result of the request to complete a questionnaire, twenty complete pre-test data sets were collected. As part of the pre-test the respondents were asked to comment on the original pool of questions and suggest any additions or modifications that might be made to the questionnaire. Reliability tests (item-to-total and Cronbach's Alpha) were performed

on the collected data and as a result the majority of scales were deemed acceptable. Appropriate actions were taken with those scales not meeting the pre-defined criteria i.e., scale redesign through modifications and deletions, to rectify the highlighted problems. The results of the pilot are reported in Section C3.4, together with a discussion of the scale purification process adopted. The final version of the research instrument shown in Appendix 5 reflects the improvements made during the pilot stage.

C3.4 PILOT SURVEY

Malhotra and Birks (2006) suggested that following each significant revision of the questionnaire a pilot-test should be conducted until the issues related to the research instrument and its administration are fully dealt with. On considering the results of the pilot-test it was decided that a further pilot-test was unnecessary. As part of the pilot-test the respondents were asked to comment on the original pool of questions and suggest any additions or modifications that might be made to the questionnaire.

In an effort to keep the questionnaire to a length that respondents would complete, it was decided that with the exception of the sacrifice component cost that all scales were kept to a maximum four items. This reduced the number questions to 96. Twenty four business-to-business buyers were approached and asked to complete the questionnaire. The respondents were drawn from different industrial sectors that included manufacturing, distribution and retailing. As a result of the request to complete a questionnaire, twenty were collected.

Reliability tests (item-to-total and Cronbach's Alpha) were performed on the collected data. The current study adopts the recommendation of Nunnally (1978) and Churchill (1979) and sets the cut-off value for coefficient α at 0.7. If the Cronbach's coefficient α indices was less than 0.7, scale purification was conducted that involved removing items that would increase the coefficient α of the scale until 0.7 was achieved. The acceptable benchmark level for item-to-total correlation was set at 0.3, i.e., any item that exhibited an item-to-total correlation lower than this value was removed. The process continued until both α value and all item-to-total correlations were acceptable.

The pilot findings are reported and discussed in the following sections.

C3.4.1 Relationship Quality Dimensions

The results of three dimensions of the cognitive component of relationship quality are shown in Table C3.4.1 below. The fourth dimension relationship investment was conceptualised as a formative latent variable and therefore not tested. A Cronbach's Alpha reliability test was carried out on the three cognitive dimensions of relationship quality. Information exchange did not meet the levels of significance required 0.7 and the item-to-total did not meet the 0.3 level. Item 4 was removed and the remaining three items met the significance level set for the current study.

Table C3.4.1 Cronbach's Alpha Test of Relationship Quality (Cognitive) Components

Dimension and Items	**Initial Test**		**First Purification**	
	Item-total correlation	Cronbach's Alpha	Item-total correlation	Cronbach's Alpha
Credibility		0.863		
1	0.837			
2	0.755			
3	0.433			
4	0.883			
Information Exchange		0.658		0.725
1	0.541		0.485	
2	0.514		0.574	
3	0.557		0.645	
4	0.210*		----	
Expertise		0.817		
1	0.726			
2	0.596			
3	0.787			

Items Deleted *

The results of testing the nine behavioural component of relationship quality are shown in the Table C3.4.2 below. All nine components meet the required 0.7 benchmark recommended by Hair *et al.* (2005).

Table C3.4.2 Cronbach's Alpha Test of Relationship Quality (Behavioural) Components

Dimension and Items	Initial Test		First Purification	
	Item-total correlation	Cronbach's Alpha	Item-total correlation	Cronbach's Alpha
Customer Orientation		0.773		
1	0.747			
2	0.418			
3	0.739			
4	0.482			
Flexibility		0.848		
1	0.705			
2	0.727			
3	0.858			
Conflict		0.895		
1	0.803			
2	0.737			
3	0.921			
4	0.816			
Coercive Power		0.714		0.818
1	0.149*		----	
2	0.713		0.598	
3	0.655		0.772	
4	0.569		0.678	
Referent Power		0.786		
1	0.551			
2	0.791			
3	0.631			
4	0.432			
Ethical Behaviour		0.860		
1	0.518			
2	0.814			
3	0.709			
4	0.821			
Opportunism		0.935		
1	0.873			
2	0.837			
3	0.911			
Cooperation		0.793		
1	0.708			
2	0.462			
3	0.691			
4	0.673			
Benevolence		0.902		
1	0.665			
2	0.787			
3	0.840			
4	0.862			

Items Deleted *

C3.4.2 Relationship Value Dimensions

The results of the Cronbach's coefficient α test carried out on seven relationship benefit component shown in the Table C3.4.3 below, all met the 0.7 benchmark for this test.

Table C3.4.3 Cronbach's Alpha Test of Relationship Benefit Components

Dimension and Items	Initial Test	
	Item-total correlation	Cronbach's Alpha
Functional		0.924
1	0.892	
2	0.863	
3	0.896	
4	0.669	
Social (friendship)		0.898
1	0.800	
2	0.873	
3	0.731	
Social (association)		0.923
1	0.894	
2	0.751	
3	0.761	
4	0.888	
Emotional		0.900
1	0.771	
2	0.859	
3	0.829	
4	0.691	
Knowledge (innovation)		0.779
1	0.452	
2	0.704	
3	0.556	
4	0.659	
Knowledge (intellectual)		0.809
1	0.608	
2	0.602	
3	0.791	
Economic		0.861
1	0.706	
2	0.769	
3	0.681	
4	0.677	

C3.4.3 Relationship Satisfaction and Long-term Orientation Dimensions

The results of the Cronbach's coefficient α tests for the relationship satisfaction and long-term orientation dimension are shown in the Table C3.4.4. The results for these

two dimensions met the 0.7 benchmark set and therefore no further action was necessary.

Table C3.4.4 Cronbach's Alpha Test of Relationship Satisfaction and Long-term Orientation Dimensions

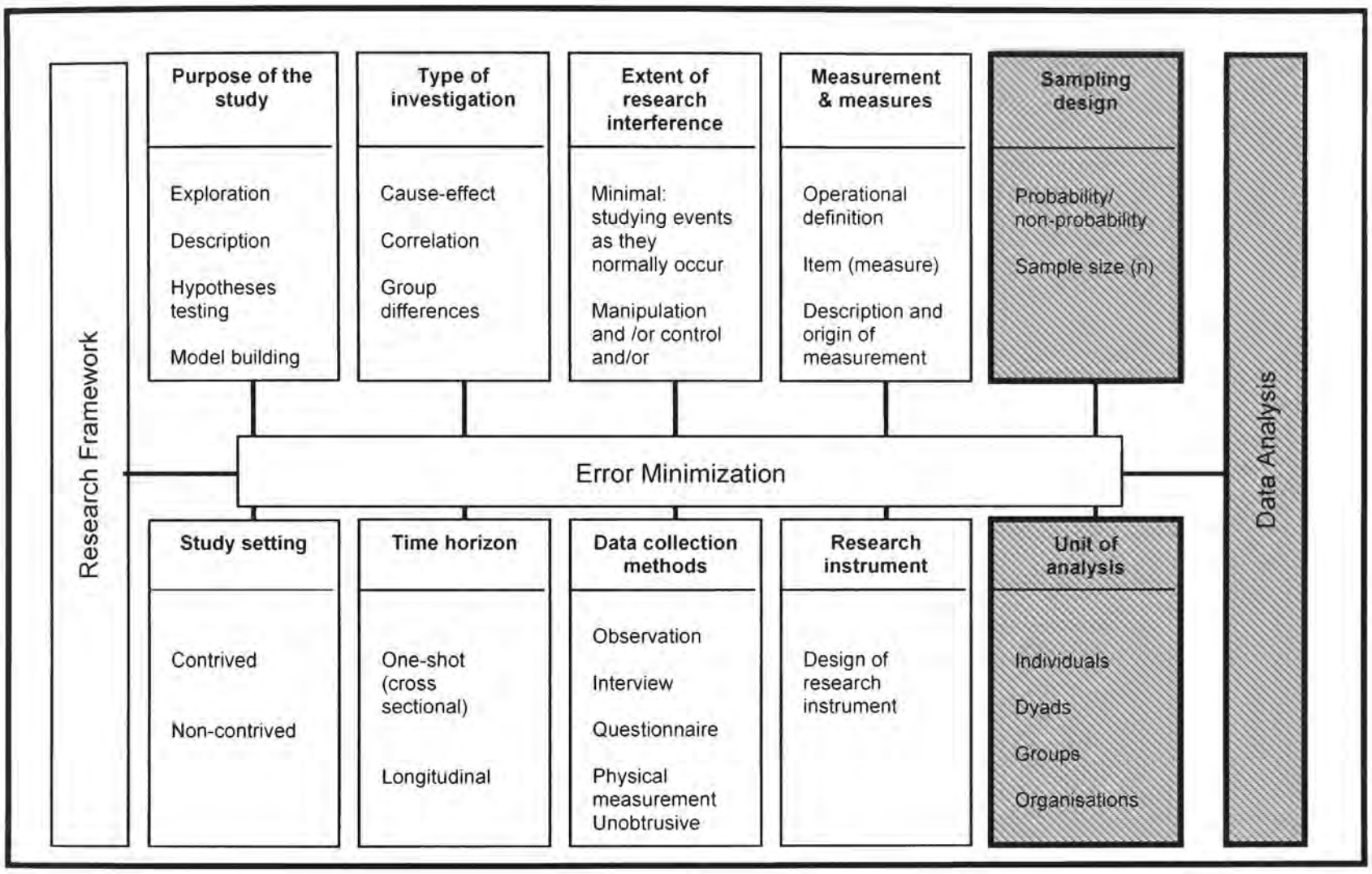
Dimension and Items	Initial Test	
	Item-total correlation	Cronbach's Alpha
Relationship Satisfaction		0.896
	0.760	
	0.930	
	0.710	
	0.887	
Long-term Orientation		0.764
	0.850	
	0.409	
	0.693	
	0.533	

Following the pilot stage, the two components information exchange and coercive power that did not meet the 0.7 level for Cronbach's coefficient α were not subjected to the purification identified because the difference in result was considered marginal. Therefore the full scale was used in the final questionnaire. Improvements were made to the presentation of the questionnaire which offered greater clarity and ease of completion for the respondent. Thanks were given at the end of the questionnaire to the respondents for taking part in the study.

CHAPTER C4: RESEARCH METHODOLOGY (III)

This chapter discusses sample design and issues related to the unit of analysis. The topics covered by this chapter are shown in the shaded area of Figure C4.1 below.

Figure C4.1 The Research Design

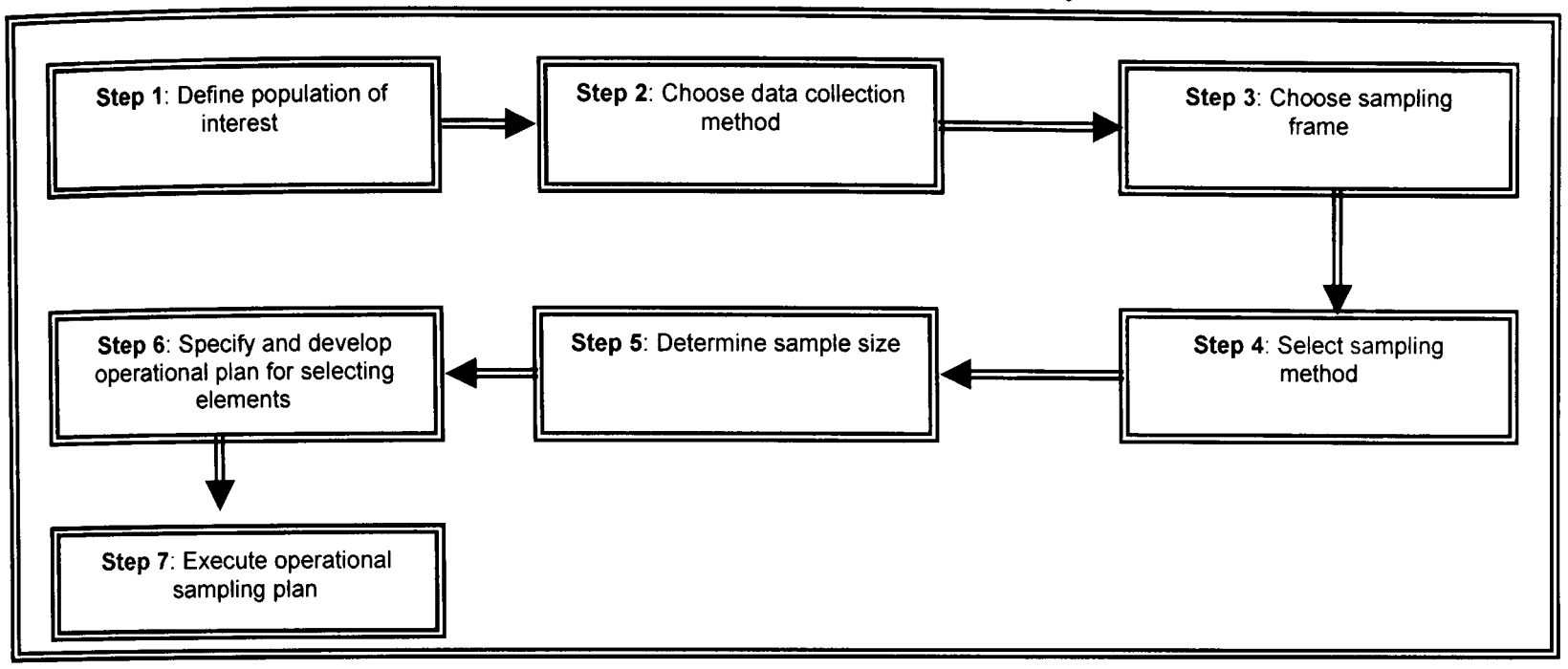


Adapted from: Sekaran, U. (2003) "*Research Methods for Business: A Skill Building Approach*", 4th ed., New York: John Wiley and Sons Inc. (p. 118)

C4.1 SAMPLING DESIGN AND UNIT OF ANALYSIS

Using the framework suggested by McDaniel and Gates (2006), the seven-step process for developing an operational sampling plan (shown in Figure C4.2) was employed. Although each of the steps is dealt with in turn, it must be appreciated that, like most other methodological considerations, decisions taken at each stage are contingent on other aspects of the research process (e.g., communication method) and determine subsequent decisions (e.g., permissible type(s) of analysis).

Figure C4.2 Sample Design Analysis



Source: McDaniel, C. and Gates R. (2006), *Marketing Research: Essentials,* 5th ed. New Jersey: John Wiley & Sons

C4.1.1 Step1: Defining the Population of Interest

This step involved the definition of the population from which information was to be collected in order to meet the objectives of the research. The focus of the research is buyer perceptions of relationship quality and its relationship with relationship value in the process of business-to-business exchange. It was decided to confine the study to UK-based companies but no other sampling restrictions were considered necessary.

Consequently, the research setting and the target population have been defined as follows:

> **Element:** Highest-ranking executives with significant influence over purchasing decisions (i.e., Purchasing Managers/Directors, Buyers, Logistics Managers/Directors, Managing Directors, Owner Managers)
>
> **Sampling Unit**: Firms involved in the electrical and electronic industrial sector, which include manufacturing, distribution and retailing companies
>
> **Extent:** Based in the UK
>
> **Time:** November 2006 – February 2007

The reason for selecting the electrical and electronics industry as a research setting was that the prevalence of product specialisation that evoke long-term business-to-business relationships between buyers and sellers was present in these sectors. In addition, the phenomena under examination, business-to-business buyer-supplier

relationships has been studied successfully using the electrical and electronics industries as a sample frame (See Sharif, 2003).

The significant role played by the highest–ranking executives with purchasing authority for the main supplier relationship was considered to be the most appropriate respondent for this study. Such a position would be instrumental in initiating and developing firm-to-firm relationships (Zaheer *et al.,* 1998b). Therefore these executives are in a better position than most in the organisation to asses the quality and value of their main supplier relationship.

C4.1.2 Step 2: Choice of Data Collection Method

Due consideration was needed in order to ensure the congruence of the adopted sampling and data collection methods. For example, the need for specific information about a firm's current status with regard to relationship quality and relationship value in a business-to-business relationship setting was required. This was achieved in face-to-face interviews with senior executives in the target population, followed by a pilot mail survey and final data collection by mail and online survey.

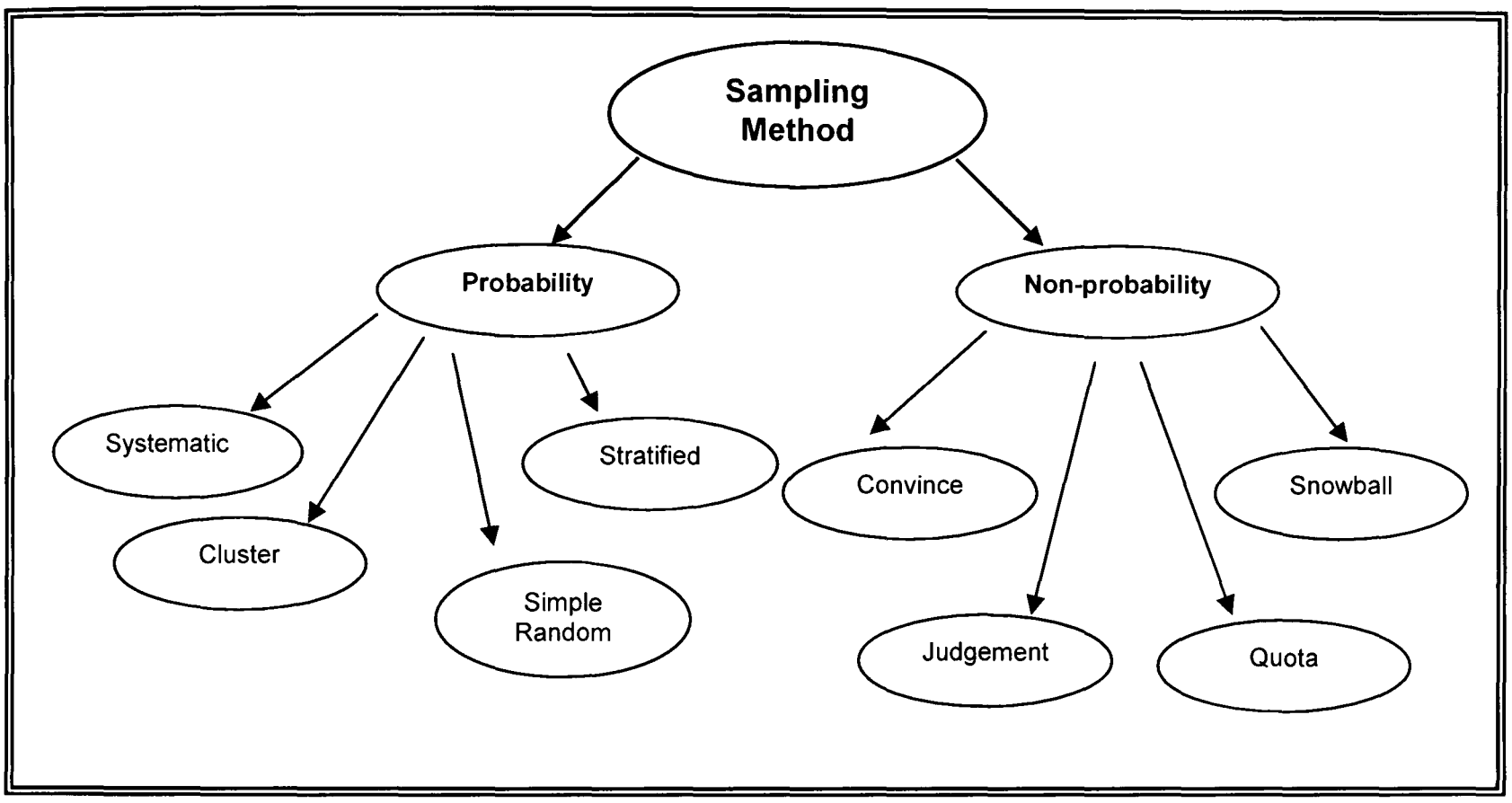
C4.1.3 Step 3: Choice of Sampling Frame

Once a target population had been determined, an appropriate sampling frame needs to be defined. Initial extensive searches on the Internet, Kingston University Resource Centre and Bracknell Public Library were conducted to identify data sources that satisfied the information needs of the proposed study. After reviewing a number of data sources (e.g., Yell.com, Kelly's Trade Directory 2005-2006, Yell Business Directory 2005, Dun and Bradstreet Industrial Database 2005-2006). *The Electronics and Electrical Buyers Guide 2003/2004* published by CMP Information Ltd was chosen as a suitable sample source. Selection was on the basis that the guide contained in excess of 5000 entries and included the company name, telephone and fax numbers and products sold, and in addition some 50% of these also had e-mail address, size of turnover, VAT registration number and the name of the managing director and key personnel). Published in 2003/2004 this was the latest revision of *The Electronics and Electrical Buyers Guide,* which meant that some of the companies entered would have moved or ceased trading.

C4.1.4 Step 4: Selection of Sampling Method

As illustrated in Figure C4.3, the two main types of sampling are probability and non-probability. The relative merits and disadvantages of these sampling methods are well documented (for a detailed discussion of sampling methods see among others: Sudman, 1976; Kinnear and Taylor, 1996; Malhotra and Birks, 2005; McDaniel and Gates, 2006) and consequently are not debated here.

Figure C4.3 Sampling Methods



Source: McDaniel, C. and Gates R. (2006), *Marketing Research: Essentials,* 5th edn. New Jersey: John Wiley & Sons

From the 5000 names listed in *The Electronics and Electrical Buyers Guide 2003/2004* a sample of 1000 respondents was identified using a random number generator. A questionnaire was mailed to each of the 1000 companies that appeared on this list.

C4.1.5 Step 5: Determination of Sample Size

Scholars have identified a number of factors that influence sample size, namely: a) the need or not to examine sub-samples or populations, b) nature of population, c) proposed analytical technique(s), d) the method of survey administration, e) the cost of additional information, and f) variation in the variables measured (see for example, Sudman, 1976; Churchill and Iacobucci, 2004; Malhotra and Birks, 2006; McDaniel and Gates, 2006; Hair *et al.,* 2006).

Given that PLS is used, Chin (1998b, p.311) points out that "in general, one simply has to look at the arrow scheme and find the largest of two possibilities: (a) the block with the largest number of formative indicators or (b) the dependent LV with the largest number of independent LV's impacting it". Using Chin's (1998) recommended regression heuristic of 10. The two higher-order formative constructs of relationship quality and relationship value have respectively 49 and 36 indicators. The construct *behavioural relationship quality* has the largest number of parameters to be estimated (see Figure C1.2) with nine formative indicators, therefore the minimum useable cases required as 90. Using the same recommended regression heuristic of 10 times, the dependent variable with the largest number of determinants is *long-term orientation* with 5 independent variables, giving a minimum number of cases of 50. Applying Chin's (1998) recommendations for the number cases required for analysis by PLS Graph (version 3) on competing model 2 will be 90. Projecting on a response rate of 15%-20% produced in similar studies, it was considered sufficient to utilise a sample frame of 1000 respondents which is above the minimum requirements.

C4.1.6 Steps 6&7: Selecting Sample Elements and Operational Sampling Plan

Once the above decisions were made this author carried out the actions necessary to identify 1000 potential respondents.

C4.2 MINIMISATION OF ERRORS AND BIASES

Examination for the presence and minimisation of errors and biases is a necessary condition for empirical validation of models and hypothesis testing (Churchill and Iacobucci, 2004). As identified by Malhotra and Birks (2006), McDaniel and Gates (2006) and Churchill and Iacobucci (2004) any effort to obtain information from a sample is bound to include bias and error. Consequently, a number of error and bias minimisation techniques were implemented.

An observed measure encompasses a true mean value and an error value, termed "total error". According to Malhotra and Birks (2006), the total error is the variation between the true mean value in the population of the variable of interest and the observed mean value obtained in the research. The ideology of a measure value is illustrated by the "True Score Model", where a mathematical expression is provided for the understanding of accuracy of a measure. The observed measure

$\mathbf{X_O}$ represents the sum of a number of values (see Malhotra and Birks, 2006; Churchill and Iacobucci, 2004).

$$\mathbf{X_O} = \mathbf{X_T} + \text{Total Error}$$

$$\text{Total Error} = (\mathbf{X_R} + \mathbf{X_S})$$

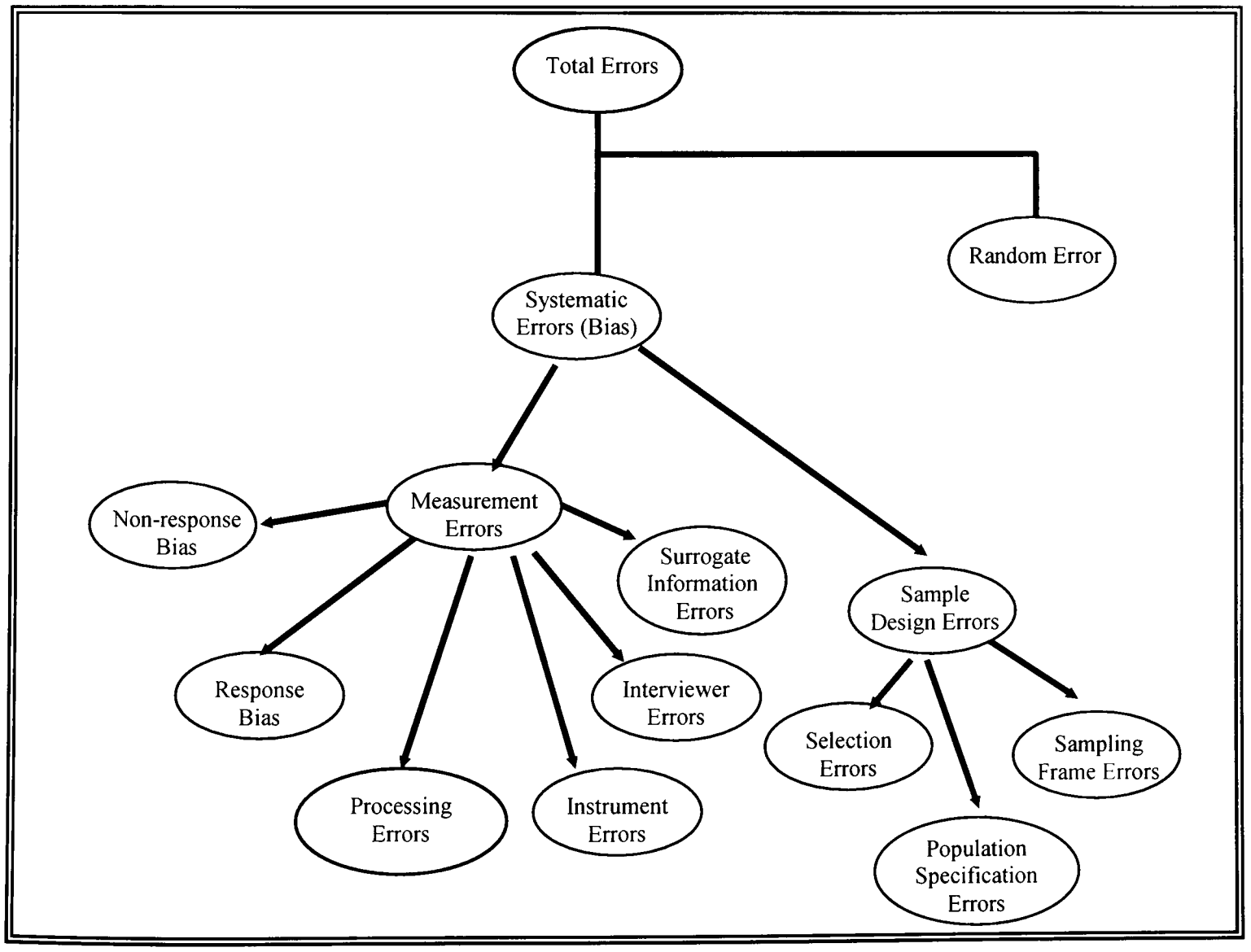
Where: $\mathbf{X_T}$ represents the true mean value of the characteristic being measured;

$\mathbf{X_R}$ represents the random error; and

$\mathbf{X_S}$ represents systematic error;

In addition to depicting the relationship between a measured value, a true mean value and an error value, the True Score Model also expounds two components within a total error value, i.e. random error and systematic error value (also known as bias). For the purpose of a systematic debate on these two types of errors, the classification of the components of the total error synthesised by McDaniel and Gates (2006) is adapted and depicted in Figure C4.4, where we can see that the two basic components of total error are divided into a number of constituent errors.

Figure C4.4: Total Survey Error



Source: Adapted from McDaniel, C., Jr. and R. Gates (2006), *Marketing Research: Essentials*, 5th edn, New Jersey: Wiley &Sons

C4.2.1 Systematic Errors (Bias)

Systematic errors affect the measurements in a constant way and are consequently also known as 'constant errors' or 'constant bias' (Malhotra and Birks, 2006; Churchill and Iacobucci, 2004). Such errors result from the research design execution of the research process (McDaniel and Gates, 2006). Efforts were made to eliminate systematic errors by ensuring that the information obtained by the measurement technique(s) was a true reflection of a respondent's views and thus provided a reliable platform for subsequent data analysis. Systematic errors can be further grouped into measurement errors and sample design errors. These types of systematic errors are dealt with individually and the safeguards are debated below.

C4.2.1.1 Measurement Errors

Measurement errors result in variation between the information desired and the information observed during the measurement process (McDaniel and Gates, 2006; Malhotra and Birks, 2006). Such errors are further categorised under the following headings:

Surrogate information errors: These errors occur when there is discrepancy between the information actually required to solve a problem and the information being sought by the researcher. This problem is mainly related to how well the researcher defines the research problem (McDaniel and Gates, 2006). Through an extensive review of the relevant literature and input by field experts, this type of error has been minimised.

Interviewer errors: These errors result from the interviewer influencing a respondent – consciously or unconsciously – to give untrue or inaccurate answers. During the exploratory stage of the study, the author was the interviewer and is familiar with the topic and research process. Furthermore, since the instrument in this study was a self-administered questionnaire and posted to the respondents, interviewer errors were not considered an issue.

Instrument errors: Sometimes referred to as *questionnaire bias*, this error is the result of problems associated with the research instrument or questionnaire. For example, unclear instructions, confusing terms, irrelevant questions and biased words or phrases (McDaniel and Gates, 2006). Instrument errors were tested in face-to-face

interviews with key-informants and academic supervisors at the pilot stages of questionnaire development.

Office processing errors: are errors that arise when editing, coding, tabulating or analysing the data (Churchill and Iacobucci, 2004; McDaniel and Gates, 2006). Care was taken during the processing of the data to minimise the possibility of these errors. For example, on completion of the data entry process to SPSS, 20 questionnaires were randomly selected and checked by an independent person for data entry errors. As no errors were found in this sample no further action was taken.

Prior notification: Telephone pre-notification was found by Mitchell and Nugent (1991) to have a significant effect on response rates. Respondent companies were telephoned prior to a questionnaire being sent. The purpose of the call was to establish the name of the principle buying executive in the organisation. Once a name had been identified a questionnaires was sent.

Motivating respondents: The covering letter was designed to have egoistic appeal (i.e., emphasising the respondents's expert knowledge of the topic under study). Although study findings are inconsistent regarding the positive effect of egoistic appeal on response rates, Diamantopoulos and Schlegelmilch (1996) and Tyagi (1989) identify that appealing to the respondent's ego results in an increased level of response. The questionnaire and coving letter clearly identified Kingston University as the sponsor. Identifying the sponsor of the survey as a university rather than a firm has positive effect on the response rate (Faria and Dickinson, 1996; Greer and Lohtia, 1994). In addition, the covering letter gave an assurance to the respondent that confidentiality would be maintained and how it would be achieved.

Incentives: A summary of the survey results was offered as an incentive to participate. Although Kalafatis and Tsogas (1994) and Greer *et al.* (2000) suggest the offer of a summary of the survey results has little effect on the respondent's likely participation in the survey. In addition to a summary of the survey results the respondents were offered the opportunity to be entered for a prize draw to win one of three iPods.

Questionnaire design and administration: Appearance of questionnaires is perceived as a form of cost the recipients use to evaluate against perceived benefits (Dillman, 2000). Childers and Skinner (1996) suggest that appearance factors may project an

image of professionalism that could result in greater trust on the part of the recipient. Therefore, in order to capture the response advantage that the appearance of a well presented questionnaire would offer, it was designed and printed professionally. The covering letter was written in a persuasive manner and printed on Kingston University headed paper following the recommendations of Dillman (2000). (See covering letters in Appendix 4). The survey pack included a 'freepost' return envelope for the completed questionnaire, marked with the researchers name and addressed to Kingston University.

Follow-ups: Non-respondents were sent a follow-up letter approximately 14 days after the questionnaire was mailed (See Appendix 6 for Sample Letter). This letter was a reminder of the importance of the study and urged them to complete and return the questionnaire. Respondents were offered a choice of response methods, [1] they could use the original questionnaire if they had retained it [2] if not, they were given a telephone number and an email address to request a replacement, [3] or if they preferred to complete the questionnaire online, a link was give to the site.

Response bias: These errors occur due to the respondents providing inaccurate information (intentionally or unintentionally). According to Aaker *et al.* (2004) such bias can be attributed to respondent fatigue and boredom with a lengthy questionnaire or refusing to answer questions associated with sensitive information. In the present study response bias was kept to a minimum by reducing the number of questions to a minimum without compromising the research, presenting the questionnaire as an interesting and easily completed document, avoiding sensitive or embarrassing questions and giving the respondent an assurance that information given would be treated in confidence. Accordingly, no serious problems were deemed to be present.

Non-response bias: is a serious bias in terms of replies obtained from respondents and views held by non-respondents (Malhotra and Birks, 2006). Mail surveys are associated with relatively poor response rates, which in turn increase the possibility of non-response bias (Kinnear and Taylor, 1996). Therefore potential non-response bias may have existed and it was considered necessary to test for possible non-response bias. Using the approach suggested by Armstrong and Overton (1977), it was decided to treat late respondents as behaving similarly to non-respondents and to test for possible differences between early and late respondents. In the event of a non-

significant difference, this was taken to indicate an absence of non-response error (Maltz, 1994).

Table C4.6: Non-Response Bias Analysis

Constructs/Dimensions/Items	Levene's test for equality of variance		*t*-test for equality of means			Mann-Whitney test for equity of means	
	F-value	*P*-value	*t*-value	df	2-tailed Sig.	Z-Value	2-tailed p-value
Relationship Quality (cognitive)							
Credibility							
Item 1	.44	.51	.43	183	.67	-.96	.33
Item 2	.17	.69	1.51	183	.13	-1.67	.39
Information Exchange							
Item 1	.01	.93	.76	183	.44	-1.01	.31
Item 2	.17	.68	.56	183	.58	-.78	.43
Expertise							
Item 1	1.76	.19	-1.2	183	.23	-.962	.34
Item 2	.07	.80	.26	183	.79	-.322	.75
Relationship Investment							
Item 1	.26	.61	.16	183	.87	-.062	.95
Item 2 (significant)	4.78	.03	-2.3	120	.02	-2.08	.04
Relationship Quality (behaviour)							
Customer Orientation							
Item 1	2.56	.11	-1.7	182	.93	-1.52	.13
Item 2	9.58	.00	-1.6	172	.12	-1.01	.33
Benevolence							
Item 1	.25	.62	.70	183	.49	-1.07	.29
Item 2	2.83	.09	-.20	183	.49	-.054	.96
Cooperation							
Item 1	.14	.71	.51	183	.61	-.611	.54
Item 2	.00	.95	.62	183	.53	-1.03	.30
Power (coercive)							
Item 1	3.92	.05	-.68	183	.50	-.127	.90
Item 2	9.14	.00	-1.4	119	.15	-.975	.33
Ethical Profile							
Item 1	2.67	.10	.75	183	.45	-.554	.58
Item 2	.00	.99	.10	183	.92	-.131	.90
Relationship Value (benefits)							
Economic Benefits							
Item 1	1.90	.17	-.71	183	.48	-1.16	.25
Item 2	1.53	.22	-.49	183	.63	-.287	.77
Social Benefits							
Item 1	3.20	.08	.34	183	.73	-.236	.81
Item 2	.17	.68	-.08	183	.94	-.424	.67
Relationship Value (sacrifice)							
Time and Effort							
Item 1	.69	.41	-.80	183	.42	-.741	.46
Item 2	6.97	.01	-.74	123	.46	-.752	.45
Satisfaction							
Item 1	1.27	.26	.25	183	.80	-.321	.75
Item 2	.18	.67	1.09	183	.28	-1.40	.16
Long-Term Orientation							
Item 1	.00	.99	-.05	183	.96	-.066	.95
Item 2	.00	.96	-.60	183	.55	-1.19	.23

The following methodology was used in the current study for testing for non-response bias. Respondents that returned completed questionnaires without prompting (i.e., not receiving a reminder letter) were considered representative of early respondents, while those that responded after receiving the reminder were deemed late respondents. Independent sample t-test, Levene's test (parametric) and Mann-Whitney test (non-parametric) were carried out in order to examine possible differences between early and late respondents for a random selection of the research items. In each test, if the significance level is less than 0.05, then there is a significant difference between the two groups. As can be seen in Table C4.6, only 1 item was found to be significant (i.e., relationship investment item 2). Consequently, it can be concluded that no apparent bias between early and late respondents is present and therefore there is no evidence of a non-response bias.

C4.2.1.2 Sampling Design Errors

Sampling design errors result from errors in the sample or sampling process (McDaniel and Gates, 2006; Malhotra and Birks, 2006) and result from sampling frame errors, population specification errors, and selection errors. It is almost inevitable that empirical research will suffer from sampling errors. Nevertheless efforts have been made to minimise such error by careful selection of sampling frames and potential respondents.

Sampling frame error: Sampling frame error refers to the variation between the population defined by the researcher and the population implied by the sampling frame used (Malhotra and Birks, 2006). This type of error is encountered by using an inaccurate/incomplete sampling frame (McDaniel and Gates, 2006). A full debate of the merits of the adopted sampling frame for the target group is provided elsewhere (see Section C4.2.1) and, consequently, not repeated here.

Population specification error: Population specification error arises from incorrect definition of population from which the sample is chosen (McDaniel and Gates, 2006). Based on a careful definition and justification for selection of the population of interest, this error was not considered to be a problem in this study.

Selection error: Selection error occurs when sampling procedures are incomplete or improper or when appropriate selection procedures are not followed (McDaniel and Gates, 2006). The systematic approach outlined earlier and the fact that all companies

approached fulfilled the criteria that had been set was viewed as a safeguard against such error. Therefore it was considered that selection error was minimised.

C4.2.1.3 Random Errors

Random errors are those that arise from random changes or differences in respondents or measurement stations (Churchill and Iacobucci, 2004; Malhotra and Birks, 2006). This type of error affects the observed value in different ways, each time the test is administered. As suggested by McDaniel and Gates (2006), these errors can be reduced only by increasing sample size. However, the potential sample size has limitations and the number adhered to recommendations.

C4.3 RESPONSE RATE AND MISSING DATA

Having debated the possible errors and sources of errors in the data collection process and strategies employed to reduce these errors (see Section C4.2) the discussion now turns to response rate and missing data.

A total of 191 usable replies were received giving a response rate of 19.1% which is a similar response rate to the majority of relationship quality and relationship value studies appearing in the literature. To determine the pattern and incidence of missing data from the overall data set, before implementing a remedy plan to decrease effects caused by these omissions. A strategy proposed by Hair *et al.* (2005) was followed to analyse and treat the missing data. The two steps of the strategy are:

Assessing the amount and pattern of missing data: Nine of the 191 questionnaires completed by respondents had missing data. The maximum number of missing values in any one questionnaire was 4, of the remaining questionnaires, 2 had two missing values and the balance had one missing value. The number of values missing from the incomplete questionnaires was low and the pattern of missing data was considered not to influence the data analysis requirement or process.

There was no distinct pattern to the missing values and these were probably the result of a simple error made by the respondent and are indicative of no specific trend. The question concerning the size of the respondents own company contained the highest number of missing values. The percentage of missing values was very low and random. The Missing Completely At Random (MCAR) test compares the actual pattern of missing data with what would be expected if the missing data were totally randomly distributed. The significance level of Little's MCAR test was 0.535 and the

chi-square value was 562.38 at 566 degrees of freedom. As the associated probability values were above 0.1, the randomness was treated as MCAR. Consequently there was no need to apply remedies to reduce missing data effects.

C4.4 DATA ANALYSIS

This study has adopted structural equation modelling (SEM) as the method of assessing the appropriateness of the research model in terms of measurement and theoretical issues as suggested by Baumgartner and Homburg (1996) and Chin *et al.* (2003). Fornell and Bookstein (1982) suggested that despite the popularity of LISREL, it cannot be assumed that all problems amenable to the use of SEM are also suited to LISREL. They consider there are two serious problems that often interfere with meaningful covariance structure analysis. These are improper solutions, or solutions outside the admissible parameter space, and factor indeterminacy. An alternative to the covariance-based approach to SEM is a variance-based approach called partial least squares (PLS), developed by Wold (1975). As an alternative to covariance-based SEM analysis, the variance-based approach of PLS shifts the orientation from causal model testing to component-based predictive modelling (Chin and Newsted, 1999).

Compared to covariance-based approaches, PLS focuses on maximising the variance of the dependent variables explained by the independent variables, instead of reproducing the empirical covariance matrix (Haenlein and Kaplan, 2004). Covariance-based SEM and PLS are similar in as much as they consist of a structural part, reflecting the relationships between the latent variables, a measurement component showing the relationships between the variables and their indicators, and the weight relations, used to estimate scores for the latent variables. Unlike covariance-based SEM that estimates first model parameters and then scores, PLS calculates case scores first allowing the analysis of models containing both reflective and formative latent variables (Fornell and Bookstein, 1982). Analysis was carried out using PLS Graph (Versions 3) developed by Chin (2001).

PART D: DATA ANALYSIS

This part of the thesis presents the results of the analysis of the data collected and comprises three chapters

Chapter D1: ***Assessing Reliability and Validity of the Reflective Latent Variables***

Chapter D2: ***Assessing Multicollinearity of Formative Latent Variables***

Chapter D3: ***Analysis of Higher-Order Structures, Model Fit and Hypothesised Pathways***

CHAPTER D1: ASSESSING RELIABILITY AND VALIDITY OF THE REFECTIVE LATENT VARIABLES

D1.1 INTRODUCTION

Conventional tests for reliability and validity (specifically, internal reliability and convergent and discriminant validity) are only relevant to reflective latent variables. Consequently, and in accordance with the debate advanced by Lee and Hooley (2005), the current chapter focuses on testing the measurement quality and psychometric properties of the reflective latent variables.

Churchill (1979) states that if a measure is valid, it is reliable, which suggests reliability is a necessary but not sufficient condition for validity. Gronlünd (1982) indicates that 'reliability is necessary to obtain validity. Similarly Spector (1992) suggested the reliability should be established before conducting validity tests. In light of Spector (1992) and Gronlünd's (1982) suggestion, reliability is assessed first, followed by the evaluation of validity.

D1.2 RELIABILITY

Reliability concerns the degree of stability and consistency when a measurement scale is used repeatedly (de Vaus, 2002; Bryman and Bell, 2003; Malhotra and Birks, 2006). The various approaches to examine reliability are discussed in the following sections.

D1.2.1. Inter-Scorer Reliability

Inter-scorer reliability should be carried out in order to ensure the reliability of the judgements made, usually by experts (Lee and Hooley, 2005; Williams, 2006). Data for the current research has been obtained through rating-scale items that did not require expert judgement. Consequently, testing scorer reliability is considered to be unnecessary for the current study.

D1.2.2 Test-retest Reliability and Alternative-form Reliability

In test-retest reliability the same participants are administered identical sets of scale items at two different times, with conditions as near equivalent as possible. In

alternative-form reliability, two equivalent forms of scale are administered to the same respondent at two different times (De Vellis, 1991; de Vaus, 2002; Malhotra and Birks, 2006). The time interval for both test-retest and alternative-form reliability tests is usually 2 to 4 weeks. High correlations between the two results are taken to indicate a high degree of reliability. Due to time and administrative constraints neither test-retest nor alternative-form reliability tests were feasible.

D1.2.3 Internal Consistency and Individual Item Reliability

Four methods of measuring internal consistency were considered: Split-half, Cronbach's coefficient α, confirmatory factor analysis and Fornell and Larcker's (1981) composite reliability. Although only two methods were employed in the testing of data for this study, all four methods are discussed in turn.

D1.2.3.1 Split-half

Split-half reliability test involves the separation of the scale items scale into two parts. If the results of the two parts are highly correlated, this is taken to be an indication of reliability. However, the results from split-half tests have been found to be highly dependent on the way the items are separated (Malhotra and Birks, 2006) and consequently this test was not applied.

D1.2.3.2 Cronbach's Coefficient Alpha

Cronbach's coefficient α is a reliability test designed to overcome the problem identified above when using a simple split-half test. Cronbach's coefficient α involves calculating the average of all possible split-half coefficients and is computed as a score between 1, denoting perfect internal reliability, and 0, denoting no internal reliability. Two indices, the alpha value and the item-to-total correlations were utilised in the current study. The benchmark level of acceptable α values suggested by academics varies. For example, Nunnally (1978) recommended 0.7 as benchmark for a 'modest' composite reliability, whereas Malhotra and Birks (2006) suggest 0.6. Bryman and Bell (2003) on the other hand identify 0.8 as the general rule of thumb. The current study adopts the recommendation of Nunnally (1978) and Churchill (1979) and sets the cut-off value for coefficient α at 0.7. If the Cronbach's coefficient α indices was less than 0.7, scale purification was conducted that involved removing items that would increase the coefficient α of the scale until 0.7 was achieved. The acceptable benchmark level for item-to-total correlation was set at 0.5, i.e., any item

that exhibited an item-to-total correlation lower than this value was removed. The process continued until both α value and all item-to-total correlations were acceptable.

D1.2.3.3 Confirmatory Factor Analysis

Confirmatory factor analysis is an important technique in scale development and is used in covariance based SEM (Structural Equation Modelling). Within the PLS (Partial Least Square) analysis framework, composite reliability (as discussed below) is a compatible approach and consequently confirmatory factor analysis is not carried out.

D1.2.3.4 Composite Reliability

Composite reliability (Fornell and Larcker, 1981) is a measure similar to Cronbach's coefficient alpha in that it is a measure of internal consistency and stated above is akin to confirmatory factor analysis. However, the latter presumes a priori that each indicator of a construct contributes equally. Fornell and Larcker (1981) argue that their measure is more sophisticated than Cronbach's coefficient α since it uses the loadings of the scale items on their intended latent variables rather than inter-item correlations. Furthermore, their measure is not influenced by the number of items in the scale.

Individual item reliability is assessed by examining the loadings of the indicators with their respective constructs. The benchmark recommended by Fornell and Larker (1981) is 0.70. An item loading of 0.70 or more will have more shared variance between the construct and it's measurement than error (Carmines and Zeller, 1979; Barclay *et al.,* 1995). This implies 50 percent of the variance in the observed variable is shared with the construct. In addition the loading of each item should be greater than 0.7 and significant at 5% level.

In assessing the statistical significance of loadings, weights and coefficients (given as standardised scores) a bootstrapping analysis was used with estimates based on 500 samples (Mathieson *et al.,* 2001). Using Student *t*-value tables with n-1 degrees of freedom (where n is the number of samples) results in one-tail critical scores of 1.65, 2.33 and 3.09 relate to 0.05, 0.01 and 0.001 levels of significance respectively.

D1.3 RELIABILITY TESTING OF RESEARCH CONSTRUCTS

This section reports on the Cronbach's coefficient α and composite reliability testing carried out on the research constructs. The current study adopts the recommendations of Nunnally (1978) and Churchill (1979) and sets the cut-off value for coefficient α at 0.7. Therefore if the Cronbach's coefficient α indices is greater than 0.7, the scale meets the reliability test and if the item-to-total correlation is greater than 0.5 the item meets the required benchmark recommended by Hair *el al.* (2005).

D1.3.1 Relationship Quality Dimensions

The results for the three reflective dimensions of the cognitive component of relationship quality are shown in Table D1.1 below. The three cognitive dimensions of relationship quality met the criteria set in section D1.2 and therefore there is no need for purification.

Table D1.3.1 Reliability of Relationship Quality (Cognitive) Dimensions

Dimension and Items	**Cronbach's coefficient α tests**		**Composite reliability**	
	Item-total correlation	Cronbach's α	Loading	CR Index
Credibility		0.929		0.950
1	0.839		0.912 [c]	
2	0.863		0.926 [c]	
3	0.813		0.897 [c]	
4	0.827		0.902 [c]	
Information Exchange		0.856		0.906
1	0.816		0.910 [c]	
2	0.794		0.897 [c]	
3	0.640		0.791 [c]	
4	0.580		0.758 [c]	
Expertise		0.894		0.934
1	0.672		0.827 [c]	
2	0.874		0.955 [c]	
3	0.842		0.939 [c]	

Note: $p< 0.05$ [a] ; $p< 0.01$ [b]; $p< 0.001$ [c]
* Indicates a formative latent variable

The results of the reliability tests on the nine dimensions of the behavioural relationship quality are shown in the Table D1.2 below. Although the Cronbach's coefficient α met the required level of 0.7 for ethical behaviour, item 1 of this scale did not meet the internal consistency benchmark of 0.7 and was removed. The rest of the constructs met the adopted benchmarks and consequently no scale purification is necessary.

Table D1.3.2 Reliability of Relationship Quality (Behavioural) Dimensions

Dimension and Items	**Cronbach's coefficient α tests**		**Composite reliability**	
	Item-total correlation	Cronbach's α	Loading	CR Index
Customer Orientation		0.863		0.906
1	0.717		0.868 [c]	
2	0.737		0.881 [c]	
3	0.732		0.833 [c]	
4	0.666		0.780 [c]	
Flexibility		0.883		0.927
1	0.786		0.906 [c]	
2	0.788		0.915 [c]	
3	0.742		0.880 [c]	
Conflict		0.909		0.936
1	0.797		0.886 [c]	
2	0.809		0.893 [c]	
3	0.785		0.886 [c]	
4	0.789		0.882 [c]	
Coercive Power		0.932		0.952
1	0.824		0.909 [c]	
2	0.889		0.943 [c]	
3	0.785		0.870 [c]	
4	0.865		0.924 [c]	
Referent Power		0.877		0.915
1	0.671		0.832 [c]	
2	0.790		0.876 [c]	
3	0.764		0.888 [c]	
4	0.721		0.820 [c]	
Ethical Behaviour		0.777		0.914
1	0.312		----	
2	0.732		0.868 [c]	
3	0.594		0.882 [c]	
4	0.744		0.899 [c]	
Cooperation		0.816		0.879
1	0.579		0.736 [c]	
2	0.597		0.750 [c]	
3	0.742		0.883 [c]	
4	0.635		0.838 [c]	
Benevolence		0.906		0.934
1	0.750		0.839 [c]	
2	0.798		0.891 [c]	
3	0.819		0.906 [c]	
4	0.789		0.897 [c]	

Note: $p< 0.05$ [a] ; $p< 0.01$ [b]; $p< 0.001$ [c]

D1.3.2 Relationship Value Dimensions

The results of the seven dimensions of the benefit component of relationship value are shown in the Table D1.3 below. Item 1 of the Knowledge (intellectual property) dimension failed to meet the benchmark. It was removed which increased the internal consistency to 0.871, which met the 0.7 benchmark. The results for all dimensions met the 0.7 benchmark set for Cronbach's coefficient α and with the exception of Knowledge (intellectual property) all other dimensions met the adopted benchmark for internal consistency.

Table D1.3.3 Reliability of Relationship Value (Benefit) Dimensions

Dimension and Items	**Cronbach's coefficient α tests**		**Composite reliability**	
	Item-total correlation	Cronbach's α	Loading	CR Index
Functional		0.902		0.928
1	0.688		0.792 [c]	
2	0.786		0.863 [c]	
3	0.783		0.871 [c]	
4	0.807		0.886 [c]	
5	0.718		0.826 [c]	
Social (friendship)		0.751		0.864
1	0.672		0.875 [c]	
2	0.572		0.856 [c]	
3	0.540		0.735 [c]	
Social (association)		0.910		0.937
1	0.802		0.890 [c]	
2	0.793		0.899 [c]	
3	0.806		0.875 [c]	
4	0.786		0.886 [c]	
Emotional		0.961		0.972
1	0.910		0.952 [c]	
2	0.935		0.966 [c]	
3	0.919		0.954 [c]	
4	0.857		0.917 [c]	
Knowledge (innovation)		0.892		0.926
1	0.648		0.935 [c]	
2	0.873		0.891 [c]	
3	0.815		0.844 [c]	
4	0.721		0.808 [c]	
Knowledge (intellectual)		0.720		0.871
1	0.476		----	
2	0.564		0.904 [c]	
3	0.584		0.853 [c]	
Economic		0.861		0.906
1	0.706		0.830 [c]	
2	0.769		0.878 [c]	
3	0.681		0.819 [c]	
4	0.677		0.834 [c]	

Note: $p< 0.05$ [a] ; $p< 0.01$ [b]; $p< 0.001$ [c]

D1.3.3 Relationship Satisfaction and Long-term Orientation Dimensions

The results of the Cronbach's coefficient α and internal consistency tests for relationship satisfaction and long-term orientation are shown in the Table D1.5 below. The results met the levels adopted by the current study for reliability, therefore no purification was necessary.

Table D1.3.4 Reliability of the Relationship Satisfaction Dimension

Dimension and Items	**Cronbach's coefficient α test**		**Composite reliability**	
	Item-total correlation	Cronbach's α	Loading	CR Index
Relationship Satisfaction		0.938		0.956
	0.774		0.868 [c]	
	0.945		0.972 [c]	
	0.893		0.944 [c]	
	0.807		0.893 [c]	
Long-term Orientation		0.937		0.955
	0.860		0.925 [c]	
	0.883		0.940 [c]	
	0.914		0.955 [c]	
	0.749		0.850 [c]	

Note: $p< 0.05$ [a] ; $p< 0.01$ [b]; $p< 0.001$ [c]

Scale purification was required on two dimensions; knowledge (intellectual property) and ethical behaviour. In order to reach the required level of internal consistency for each of these scales, one item was removed. The remaining scales met the adopted benchmarks for Cronbach's coefficient α and internal consistency.

D1.4 VALIDITY

Validity concerns the extent to which a set of measures actually represent the theoretical latent construct they are designed to measure (Churchill, 1979; de Vaus, 2002; Hair *et al.,* 2005). Validity is defined by Remenyi *et al.* (1998 p.291) as 'the degree to which what is observed or measured is the same as what was proposed to be observed or measured'. Evidence of construct validity provides confidence that the measure taken from a sample represents the actual score that exists in the population. The principle forms of validity considered for this research are discussed in the following sections.

D1.4.1 Criterion Validity

Criterion-related validity is established when a measure performs in line with expectations that are set against a specified criterion, i.e. another selected variable that is meaningful. For example, a scale to measure brand attitude could be assessed against a criterion variable in the form of brand loyalty. Depending on the time frame of the data collection, criterion validity can be divided into concurrent and predictive validity. The former is assessed when the scale data and criterion data are collected at one point in time and the results are used to predict the criterion data collected at a later point, e.g. brand attitude to forecast brand loyalty (Malhotra and Birks, 2003). Formal tests for criterion validity were not carried out; however the fact that the scales used in the present research have been successfully applied in prior related research is considered to provide evidence of their powers of predictive validity.

D1.4.2 Content Validity

Content validity seeks to establish the extent to which the scale items offer a proper representative sample of the theoretical content of the construct being measured , i.e. how well the items tap into the full domain of the construct (Malhotra and Birks, 2003; Hardesty and Bearden, 2004). Hardesty and Bearden (2004) point out that content validity is often confused with face validity, where the latter is a related but conceptually distinct form of validity that is discussed in the following section D1.4.3. According to Churchill and Iacobucci (2005), content validity is difficult to guarantee as its assessment is partly a matter of the researcher's subjective interpretation of the domain of the phenomenon being measured. Thus, the key to meaningful content validity lies in the process undertaken to develop the instrument. A critical factor in establishing content validity, therefore, is establishing the conceptual definition of the domain of the construct. In the current research, and in line with the recommendations of among others Churchill and Iacobucci (2005), content validity was established through a thorough review of the relevant literature, which enabled the definition and operationalisation of the research constructs to be aligned with previous empirical and conceptual research in the field (see the literature review in Part B and the discussion on scale development in Chapter C3).

D1.4.3 Face Validity

As mentioned above, face validity is often confused with content validity due to researchers' use of the terms interchangeably (Hardesty and Bearden, 2004). Whereas content validity is concerned with how representative the scale items are of the whole domain of the construct , face validity is defined as "the extent to which a measure reflects what it is intended to reflect" (Hardesty and Bearden, 2004, p.99). Face validity is an initial and necessary, but not on its one sufficient condition for construct validity. As with content validity, establishing face validity is somewhat difficult because it involves a subjective assessment of how appropriate the pool of scale items looks in terms of fitting the domain of the construct (Malhotra and Birks, 2003). According to Hardesty and Bearden (2004), the use of expert judges is recommended when assessing face validity in the case of scales that are new or previously unexamined. In the current research, the scales had been successfully used in prior studies in a similar context in which face validity had been established.

D1.4.4 Convergent Validity

The convergent validity of a construct represents the ratio of the amount of variance of its indicators captured by the construct, relative to the amount of total variance, including the variance due to measurement error (Cool *et al.,* 1989). The two approaches used for the purposes of this research are Average Variance Extracted (AVE) and Cross Loadings.

D1.4.4.1 Average Variance Extracted (AVE)

The measure of average variance extracted (AVE), developed by Fornell and Larcker (1981), was used as an indicator of convergent and discriminant validity (see Barclay *et al.,* 1995; Chin, 1998b). AVE indicates how much of the variable is represented by the factor. Fornell and Larcker (1981) suggested that for a construct to display adequate convergent validity, the average variance extracted (AVE) should be greater than 0.5. As can be seen in Table D1.4 all dimensions meet the 0.5 criteria.

Table D1.4 Average Variance Extracted (AVE)

Dimension	AVE	Dimension	AVE	Dimension	AVE
Credibility	0.827	Referent Power	0.730	Social Benefit (assoc)	0.787
Information exchange	0.708	Ethical Behaviour	0.780	Emotional Benefit	0.897
Expertise	0.826	Opportunism	0.871	Knowledge Benefit (in)	0.758
Customer Orientation	0.707	Cooperation	0.647	Knowledge Benefit (ip)	0.772
Flexibility	0.810	Benevolence	0.780	Economic Benefit	0.706
Conflict	0.787	Functional Benefit	0.720	Satisfaction	0.846
Coercive Power	0.832	Social Benefit (friend)	0.680	Long-term Orientation	0.843

D1.4.4.2 Loadings and Cross-loadings

Loadings and cross-loadings of the reflective indicators of latent variables as provided by PLS (i.e., theta matrix) are also examined. The indicators assumed to reflect the same latent variable should show high correlation on the hypothesised latent variable and a notably lower correlation with all other constructs.

Table D1.4.1 shows the loadings and cross-loadings for the reflective indicators of the latent variable relationship quality. As can be seen all intended hypothesised constructs loaded consistently high therefore multidimensionality is not suspected.

Table D1.4.1 Relationship Quality Loadings and Cross-loadings

	cred	info	expt	cuso	flex	conf	cpow	rpow	ethc	oppt	coop	benv
Credibility 1	**0.92**	0.72	0.68	0.46	0.70	0.73	0.69	0.37	0.58	0.59	0.56	0.55
Credibility 2	**0.93**	0.71	0.67	0.46	0.70	0.72	0.69	0.37	0.58	0.63	0.56	0.59
Credibility 3	**0.90**	0.68	0.80	0.52	0.68	0.71	0.67	0.34	0.56	0.48	0.57	0.59
Credibility 4	**0.90**	0.64	0.67	0.44	0.65	0.65	0.64	0.38	0.53	0.54	0.49	0.57
Info Exchange 1	0.71	**0.92**	0.68	0.58	0.73	0.60	0.56	0.41	0.53	0.54	0.64	0.62
Info Exchange 2	0.60	**0.89**	0.50	0.59	0.59	0.47	0.47	0.41	0.46	0.44	0.64	0.60
Info Exchange 3	0.46	**0.77**	0.65	0.57	0.50	0.37	0.38	0.35	0.36	0.43	0.53	0.57
Info Exchange 4	0.72	**0.78**	0.67	0.42	0.54	0.63	0.54	0.26	0.42	0.35	0.50	0.45
Expertise 1	0.51	0.61	**0.81**	0.61	0.47	0.43	0.35	0.40	0.43	0.33	0.58	0.57
Expertise 2	0.81	0.74	**0.96**	0.62	0.64	0.68	0.64	0.37	0.56	0.47	0.65	0.61
Expertise 3	0.75	0.70	**0.95**	0.61	0.60	0.61	0.57	0.41	0.55	0.46	0.62	0.65
Customer Oriented 1	0.47	0.59	0.59	**0.88**	0.61	0.44	0.40	0.33	0.56	0.47	0.66	0.61
Customer Oriented 2	0.58	0.64	0.67	**0.91**	0.67	0.50	0.46	0.38	0.50	0.41	0.71	0.60
Customer Oriented 3	0.27	0.44	0.45	**0.80**	0.46	0.20	0.18	0.34	0.31	0.26	0.60	0.51
Customer Oriented 4	0.25	0.34	0.42	**0.74**	0.37	0.15	0.15	0.40	0.26	0.31	0.55	0.47
Flexibility 1	0.71	0.69	0.59	0.56	**0.91**	0.58	0.61	0.33	0.54	0.46	0.67	0.63
Flexibility 2	0.73	0.68	0.64	0.66	**0.92**	0.69	0.66	0.34	0.64	0.58	0.69	0.62
Flexibility 3	0.57	0.53	0.46	0.57	**0.86**	0.52	0.51	0.33	0.52	0.53	0.65	0.59
Conflict 1	0.70	0.56	0.68	0.35	0.59	**0.89**	0.76	0.21	0.63	0.65	0.48	0.45
Conflict 2	0.73	0.62	0.57	0.42	0.62	**0.90**	0.74	0.22	0.64	0.60	0.50	0.47
Conflict 3	0.61	0.50	0.63	0.45	0.62	**0.87**	0.66	0.26	0.76	0.71	0.56	0.57
Conflict 4	0.69	0.53	0.50	0.36	0.55	**0.88**	0.71	0.23	0.69	0.66	0.49	0.46
Coercive Power 1	0.76	0.65	0.64	0.39	0.64	0.83	**0.91**	0.14	0.65	0.59	0.51	0.51
Coercive Power 2	0.71	0.58	0.57	0.37	0.60	0.77	**0.95**	0.10	0.61	0.60	0.47	0.50
Coercive Power 3	0.58	0.40	0.45	0.35	0.56	0.65	**0.86**	0.10	0.51	0.54	0.39	0.41
Coercive Power 4	0.63	0.49	0.47	0.36	0.62	0.70	**0.92**	0.11	056	0.58	0.45	0.48
Referent Power 1	0.42	0.42	0.38	0.40	0.36	0.23	0.14	**0.83**	0.22	0.35	0.42	0.47
Referent Power 2	0.30	0.33	0.33	0.35	0.27	0.20	0.07	**0.88**	0.08	0.21	0.43	0.43
Referent Power 3	0.38	0.39	0.40	0.35	0.36	0.30	0.17	**0.90**	0.22	0.31	0.49	0.50
Referent Power 4	0.23	0.27	0.30	0.35	0.21	0.08	0.02	**0.80**	0.11	0.22	0.38	0.41
Ethical Behaviour 1*	-	-	-	-	-	-	-	-	-	-	-	-
Ethical Behaviour 2	0.48	0.42	0.43	0.44	0.54	0.59	0.50	0.20	**0.84**	0.62	0.50	0.50
Ethical Behaviour 3	0.60	0.49	0.55	0.44	0.56	0.71	0.60	0.14	**0.90**	0.64	0.47	0.48
Ethical Behaviour 4	0.50	0.43	0.46	0.50	0.55	0.66	0.57	0.17	**0.89**	0.65	0.49	0.50
Cooperation 1	0.32	0.42	0.37	0.57	0.52	0.28	0.27	0.36	0.32	0.39	**0.70**	0.53
Cooperation 2	0.33	0.38	0.30	0.50	0.50	0.34	0.31	0.38	0.36	0.39	**0.73**	0.50
Cooperation 3	0.51	0.62	0.64	0.67	0.65	0.49	0.44	0.42	0.49	0.40	**0.89**	0.65
Cooperation 4	0.65	0.69	0.72	0.68	0.69	0.60	0.52	0.46	0.55	0.45	**0.87**	0.64
Benevolence 1	0.33	0.38	0.40	0.51	0.47	0.23	0.26	0.49	0.32	0.32	0.54	**0.81**
Benevolence 2	0.55	0.58	0.60	0.61	0.59	0.50	0.44	0.53	0.55	0.54	0.65	**0.88**
Benevolence 3	0.56	0.59	0.59	0.60	0.62	0.49	0.49	0.41	0.52	0.48	0.62	**0.91**
Benevolence 4	0.66	0.68	0.68	0.61	0.67	0.57	0.55	0.49	0.52	0.53	0.72	**0.92**

Note: *Removed During Reliability Analysis

Table D1.4.2 below shows the loadings and cross-loadings for the reflective indicators of the latent variable relationship value. As can be seen all intended hypothesised constructs loaded consistently high therefore multidimensionality is not suspected.

Table D1.4.2 Relationship Value and Satisfaction Loadings and Cross-loadings

	Econ	Func	Fsoc	Asoc	Kwin	Kwip	Emot	Tmef	Cost	Sat
Economic 1	**0.72**	0.52	0.53	0.47	0.50	0.50	0.57	0.41	0.54	0.51
Economic 2	**0.78**	0.62	0.60	0.45	0.57	0.57	0.64	0.48	0.69	0.62
Economic 3	**0.71**	0.55	0.55	0.46	0.64	0.48	0.63	0.42	0.53	0.51
Economic 4	**0.81**	0.72	0.59	0.34	0.64	0.62	0.70	0.53	0.66	0.70
Function 1	0.64	**0.71**	0.48	0.32	0.54	0.49	0.58	0.46	0.50	0.58
Function 2	0.63	**0.80**	0.60	0.37	0.52	0.56	0.61	0.52	0.60	0.65
Function 3	0.68	**0.84**	0.72	0.44	0.64	0.62	0.77	0.52	0.63	0.72
Function 4	0.70	**0.88**	0.72	0.43	0.59	0.71	0.76	0.61	0.72	0.77
Function 5	0.72	**0.84**	0.69	0.36	0.55	0.74	0.71	0.57	0.71	0.79
Friend Social 1	0.59	0.62	**0.78**	0.57	0.66	0.56	0.69	0.45	0.59	0.62
Friend Social 2	0.70	0.78	**0.85**	0.46	0.62	0.75	0.79	0.57	0.73	0.79
Friend Social 3	0.35	0.35	**0.58**	0.37	0.41	0.32	0.47	0.24	0.37	0.39
Assn Social 1	0.15	0.19	0.30	**0.77**	0.44	0.16	0.31	0.04	0.18	0.18
Assn Social 2	0.23	0.27	0.34	**0.76**	0.47	0.19	0.35	0.07	0.29	0.21
Assn Social 3	0.11	0.11	0.19	**0.68**	0.38	0.07	0.18	0.01	0.05	0.11
Assn Social 4	0.19	0.21	0.27	**0.70**	0.49	0.18	0.28	0.08	0.15	0.18
Knowledge Inv 1	0.38	0.42	0.53	0.60	**0.72**	0.48	0.54	0.32	0.40	0.46
Knowledge Inv 2	0.35	0.41	0.50	0.63	**0.77**	0.41	0.53	0.26	0.33	0.40
Knowledge Inv 3	0.21	0.31	0.37	0.62	**0.67**	0.27	0.41	0.16	0.24	0.25
Knowledge Inv 4	0.36	0.46	0.44	0.54	**0.69**	0.41	0.50	0.24	0.32	0.41
Knowledge IP 1*	-	-	-	-	-	-	-	-	-	-
Knowledge IP 2	0.21	0.32	0.37	0.47	0.36	**0.86**	0.34	0.16	0.20	0.31
Knowledge IP 3	0.14	0.19	0.25	0.51	0.37	**0.83**	0.30	0.06	0.10	0.15
Emotional 1	0.81	0.86	0.80	0.49	0.76	0.78	**0.91**	0.67	0.77	0.86
Emotional 2	0.79	0.87	0.82	0.52	0.73	0.81	**0.92**	0.64	0.75	0.89
Emotional 3	0.77	0.81	0.80	0.47	0.71	0.77	**0.92**	0.59	0.71	0.84
Emotional 4	0.75	0.77	0.79	0.52	0.74	0.70	**0.90**	0.55	0.69	0.79
Satisfaction 1	0.62	0.72	0.66	0.32	0.56	0.71	0.69	0.54	0.67	**0.87**
Satisfaction 2	0.78	0.82	0.77	0.47	0.67	0.78	0.83	0.63	0.77	**0.97**
Satisfaction 3	0.80	0.81	0.79	0.54	0.74	0.76	0.86	0.62	0.76	**0.95**
Satisfaction 4	0.76	0.74	0.69	0.44	0.66	0.68	0.77	0.58	0.70	**0.89**

Note: *Removed During Reliability Analysis

D1.5 DISCRIMINANT VALIDITY

The approach to the measurement of discriminant validity is based on the argument that two different concepts should not correlate with one another (de Vaus, 2002). This implies that a measure should correlate poorly with other dimensions/items that are supposed to be different (Churchill and Iacobucci, 2004). In this respect, an indication of adequate discriminant validity is that a latent variable shares more variance with its own measures than it does with other constructs in the model. It is recommended that for a construct to exhibit adequate discriminant validity the square root of the construct's average variance extracted (AVE) should be noticeably greater than its bivariate correlation with the other constructs in the model. This hold true for variable constructs appearing in Table D1.5 therefore all constructs have discriminant validity.

D1.6 CONCLUSION

The measurement accuracy of the reflective latent variables has been assessed through reliability and validity tests in line with Gronlünd (1982) and Spector (1992) recommendations that were discussed at the beginning of Chapter D1. Following the reliability tests two items were deleted from their constructs for failing to meet the reliability benchmarks set out in D1.1. These were item 1 of ethical behaviour a component of the behavioural relationship quality dimension and item 1 of knowledge (IP) a component the relationship benefits dimension. All items that failed to meet the reliability criteria were removed before testing for validity. The retained items from the reliability testing were considered to be satisfactory by the author and were subsequently tested for validity. All constructs met the test criteria for average variance extracted Table D1.4, loading and cross loading Tables D1.4.1 and D1.4.2, and discriminant validity Table D1.5.

Table D1.5 Correlation Matrix for Research Model Constructs

Constructs	cred	info	expt	cuso	flex	conf	cpow	rpow	ethc	coop	benv	func	fsoc	asoc	emot	knin	kwip	econ	sats	long
Credibility	**0.909**																			
Information Exchange	0 737	**0.841**																		
Expertise	0.767	0.744	**0.909**																	
Customer Orientation	0.466	0.608	0.640	**0.841**																
Flexibility	0.744	0.698	0.624	0.627	**0.900**															
Conflict	0.769	0.607	0.631	0.389	0.664	**0.887**														
Coercive Power	0.735	0.569	0.573	0.354	0.658	0.807	**0.912**													
Referent Power	0.384	0.415	0.419	0.431	0.354	0.239	0.104	**0.854**												
Ethical Behaviour	0.592	0.504	0.542	0.486	0.619	0.745	0.623	0.179	**0.883**											
Cooperation	0.569	0.667	0.643	0.745	0.738	0.541	0.477	0.498	0.537	**0.804**										
Benevolence	0.596	0.640	0.647	0.647	0.666	0.515	0.493	0.536	0.544	0.710	**0.883**									
Functional	0.811	0.760	0.665	0.441	0.724	0.730	0.722	0.268	0.554	0.569	0.519	**0.849**								
Social (Friendship)	0.708	0.637	0.686	0.556	0.662	0.632	0.606	0.399	0.543	0.633	0.639	0.690	**0.825**							
Social (Association)	0.168	0.328	0..291	0.470	0.282	0.088	0.106	0..369	0.171	0.362	0.398	0.143	0.317	**0.887**						
Emotional	0.840	0.767	0.754	0.541	0.804	0.790	0.761	0.316	0.596	0.679	0.599	0.850	0.773	0.217	**0.947**					
Knowledge (Innovation)	0.350	0.528	0.503	0.611	0.508	0.380	0.283	0.433	0.389	0.625	0.553	0.373	0.485	0.667	0.471	**0.871**				
Knowledge (IP)	0.200	0.372	0.334	0.394	0.212	0.189	0.129	0.302	0.207	0.368	0.288	0.213	0.336	0.580	0.303	0.547	**0.879**			
Economic	0.707	0.614	0.601	0.513	0.740	0.633	0.707	0.338	0.574	0.653	0.615	0.722	0.627	0.284	0.747	0.423	0.253	**0.840**		
Satisfaction	0.840	0.722	0.691	0.473	0.740	0.785	0.776	0.332	0.557	0.595	0.534	0.829	0.726	0.189	0.890	0.431	0.259	0.691	**0.920**	
Long-Term Orientation	0.728	0.694	0.699	0.455	0.620	0.635	0.552	0.378	0.467	0.586	0.515	0.682	0.684	0.262	0.787	0.512	0.332	0.560	0.806	**0.918**

CHAPTER D2: ASSESSING MULTICOLLINEARITY OF THE FORMATIVE LATENT VARIABLES

D2.1 INTRODUCTION

As already noted, conventional tests for internal reality and convergent and discriminant validity are not appropriate for formative measures because their indicators are uncorrelated, instead being exogenously indicated rather than explained by the latent variables they measure (Diamantopoulos and Winklhofer, 2001). Bagozzi (1994, p.333) warns that "...reliability in the internal consistency sense and construct validity in terms of convergent and discriminant validity are not meaningful when indexes are formed as a linear sum of measurement", consequently, alternative methods of measurement accuracy must be utilised.

According to Diamantopoulos and Winklhofer (2001) indicator collinearity is a key issue in ensuring the quality of the measure. Excessive collinearity between a construct's indicators will make it difficult to identify the distinct influence of individual indicators on the latent variable, and therefore high multicollinearity is problematic. Further, Mathieson *et al.* (2001) state that high collinearity among items can lead to unstable model estimates, and consequently the authors recommend testing for multicollinearity prior to running PLS analysis.

D2.2 COLLINEARITY TESTING AND RESULTS

In consideration of the above debate, multicollinearity analysis was conducted on all formative latent valuables in the research model, i.e., relationship investment, opportunism, relationship costs and time and effort. The analysis involved regressing the indicators of latent valuable against an appropriate dependent variable, in this case satisfaction, then examining collinearity diagnostics against the following benchmark values:

1. The tolerance value is the amount of variance in the selected independent variable that is not explained by the other independent variables; conversely, the variance inflation factor (VIF) is measured as the inverse of tolerance. Thus, a high degree of multicollinearity is indicated by lower tolerance values and higher VIF values. A common cut-off threshold is a tolerance value of

0.10 which corresponds to a VIF of 10, and the latter is adopted here (Hair *et al.,* 2005; Diamantopoulos *et al.,* 2008).

2. The condition index, which represents the collinearity of the combination of variables in the data set, is examined in conjunction with the variance proportion matrix, which shows the proportion of variance for each variable that is assigned to each condition index. The two-step procedure first involves identifying condition indices above a threshold value of 30, and then identifying variables with variance proportions above 0.9. Collinearity is indicated when two of more variances are above the 0.9 threshold (Hair *et al.,* 2005).

The results of the multicollinearity testing are set out in Table D2.1 to Table D2.8 below. In all cases the VIF values were within the specified threshold and in no cases do the condition indices exceeded 30. In addition, no two variables associated with variance propositions are above 0.9. Thus, the information presented in Tables D2.1 to D2.4 confirms a lack of multicollinearity in the four FLVs and consequently there is no need for purification of any of these scales.

Table D2.1 Relationship Investment –Collinearity Analysis

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	4.660	.374		12.454	.000		
Relationship Investment	.392	.079	.378	4.986	.000	.688	1.452
Relationship Investment	-.308	.076	-.327	-4.070	.000	.615	1.626
Relationship Investment	-.139	.063	-.152	-2.192	.030	.824	1.214
Relationship Investment	.182	.100	.174	1.825	.070	.438	2.285

a. Dependent Variable: Satisfaction

Table D2.2 Relationship Investment –Collinearity Diagnostics

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Relationship Investment	Relationship Investment	Relationship Investment	Relationship Investment
1	1	4.588	1.000	.00	.00	.01	.01	.00
	2	.164	5.294	.03	.18	.09	.45	.00
	3	.149	5.554	.03	.01	.53	.34	.01
	4	.063	8.562	.64	.06	.13	.06	.33
	5	.037	11.095	.29	.75	.24	.14	.65

a. Dependent Variable: Satisfaction

Table D2.3 Opportunism –Collinearity Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.302	.248		29.461	.000		
	Opportunism	-.518	.116	-.505	-4.460	.000	.313	3.192
	Opportunism	.029	.122	.031	.235	.814	.234	4.270
	Opportunism	-.021	.119	-.022	-.180	.857	.273	3.661

a. Dependent Variable: Satisfaction

Table D2.4 Opportunism –Collinearity Diagnostics

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	Opportunism	Opportunism	Opportunism
1	1	3.784	1.000	.01	.00	.00	.00
	2	.139	5.224	.98	.02	.03	.04
	3	.045	9.131	.01	.81	.01	.47
	4	.032	10.942	.00	.16	.95	.49

a. Dependent Variable: Satisfaction

Table D2.5 Relationship Costs –Collinearity Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.610	.186		40.968	.000		
	Relationship Costs	-.189	.074	-.208	-2.558	.011	.429	2.334
	Relationship Costs	-.341	.080	-.364	-4.272	.000	.391	2.557
	Relationship Costs	.024	.067	.028	.354	.724	.470	2.129
	Relationship Costs	-.205	.070	-.226	-2.931	.004	.478	2.091

a. Dependent Variable: Satisfaction

Table D2.6 Relationship Costs –Collinearity Diagnostics

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	Relationship Costs	Relationship Costs	Relationship Costs	Relationship Costs
1	1	4.514	1.000	.01	.01	.00	.01	.01
	2	.188	4.905	.94	.05	.04	.00	.05
	3	.121	6.096	.00	.36	.08	.05	.61
	4	.097	6.838	.05	.03	.02	.94	.29
	5	.080	7.510	.00	.56	.85	.00	.04

a. Dependent Variable: Satisfaction

Table D2.7 Time and Effort –Collinearity Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6.729	.292		23.019	.000		
	Time and Effort	.155	.081	.151	1.915	.057	.591	1.692
	Time and Effort	-.231	.093	-.231	-2.482	.014	.423	2.364
	Time and Effort	-.174	.082	-.169	-2.121	.035	.582	1.718
	Time and Effort	.289	.077	.299	3.766	.000	.584	1.711
	Time and Effort	-.452	.091	-.448	-4.974	.000	.453	2.209

a. Dependent Variable: Satisfaction

Table D2.8 Time and Effort –Collinearity Diagnostics

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	Time and Effort	Time and Effort	Time and Effort	Time and Effort	Time and Effort
1	1	5.527	1.000	.00	.00	.00	.00	.00	.00
	2	.142	6.233	.13	.26	.00	.09	.00	.25
	3	.111	7.052	.27	.15	.12	.14	.20	.03
	4	.097	7.550	.24	.05	.10	.58	.09	.07
	5	.073	8.702	.36	.05	.20	.18	.51	.08
	6	.050	10.495	.00	.49	.57	.01	.20	.57

a. Dependent Variable: Satisfaction

D2.3 CONCLUSIONS

The evidence of collinearity found in the assessment of multicollinearity of the formative latent variables reported above is within the accepted thresholds as set out in the literature. With such levels of collinearity among items, researchers have greater confidence in model estimate stability when running PLS (Mathieson *et al.*, 2001). In Chapter D3, the higher order structures, model fit and hypothesised pathways are analysed using PLS Graph version 3 (Chin, 2001).

CHAPTER D3: ANALYSIS OF HIGHER-ORDER STRUCTURES, MODEL FIT AND HYPOTHESISED PATHWAYS

D3.1 INTRODUCTION

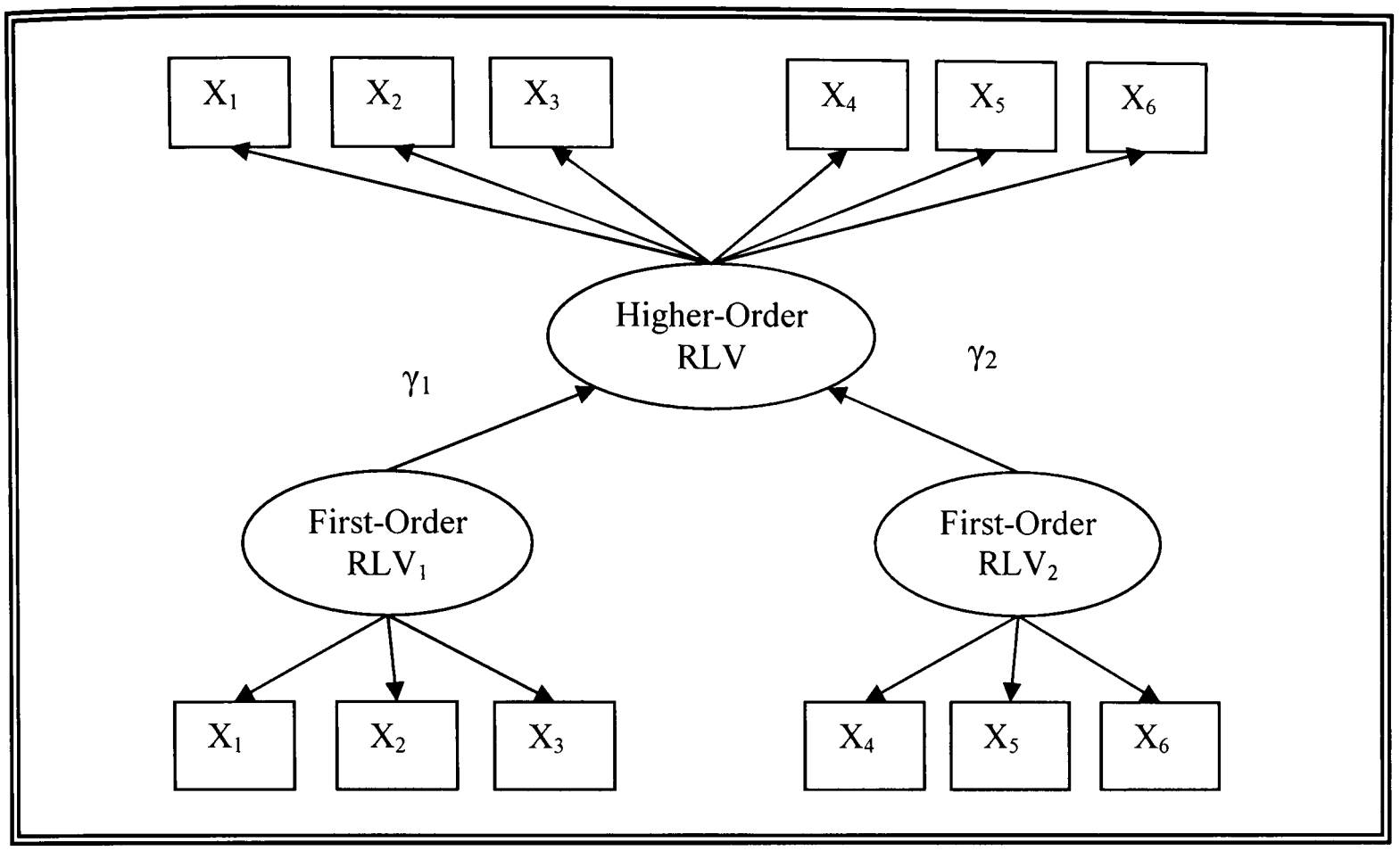
This chapter commences by reporting the analysis related to the hypothesised higher-order structure described in Chapter C1. This examines the underlying structure of relationship quality and relationship value and tests the proposed models in Figure C1.2 and C1.4. Following this, the proposed research model and competing models are assessed.

D3.1.1 Testing High-order Structures

When testing second-order structures, Chin under the frequently asked questions (FAQ) heading of the partial least squares (PLS) webpage (http://disc-nt.cba.uh.edu/chin/plsfaq.htm) suggested that the method of repeated manifest variables is an acceptable approach. Chin identifies the conditions under which this is an acceptable approach for testing second-order structures. He suggested that if the indicators of each of the two constructs are approximately equal in number, the method of repeat manifest variables can be used. Chin described the approach thus "Essentially, our overall factor that represents the two first order constructs is created by using all the indicators used for the first two order constructs".

An example of the repeated manifest variable approach is presented in Figure D3.1. The structure depicts one higher-order reflective latent variable (RLV) that comprises two first-order reflective latent variables (RLV's) each operationalised through three indicators. Unlike covariance based structural equation modelling (SEM), when using partial least squares (PLS) indicators, each must be assigned to the higher-order construct (irrespective of whether a RLV or a FLV). The repeat manifest variable method implies that the indicators of the first order constructs are also assigned to the higher-order construct. As shown in Figure D3.1 the "Higher-order reflective latent variable (RVL)" is operationalised as a comprising X_1 to X_6 which are indicators of two first order reflective latent variables of which X_1 to X_3 represent "first-order RVL_1" and X_4 to X_6 represent "first-order RLV_2". For the structure to be supported, the regression coefficients γ_1 and γ_2 should be statistically significant.

Figure D3.1 Example of Higher-Order Structure using Repeated Measures



Testing the formative structure of cognitive RQ as comprising four dimensions as shown in Table D3.1 is in line with Chin's (2001) recommendations, given that each dimension is measured using a similar number of items. However, when testing relationship quality as an overall formative latent variable, we can see that its cognitive component is measured using 15 items whilst the corresponding number of indicators for behavioural RQ is 34 (see Table D3.1 below). Likewise, the relationship benefit component of the higher-order construct of relationship value has 26 indicators and its corresponding sacrifices component has 9 (see Table D3.2 below). The inequality in the number of indicators of the higher-order constructs of relationship quality and relationship value has been noted as a limitation of this study (see Section A1.6).

Table D3.1 Indicators of Higher-Order Construct Relationship Quality

First-Order Construct	Dimension	Number of Indicators
Cognitive RQ		
	Credibility	4
	Information Exchange	4
	Expertise	3
	Relationship Investment	4
	Total Number of Indicators for Cognitive RQ	**15**
Behavioural RQ		
	Customer Orientation	4
	Flexibility	3
	Conflict	4
	Coercive Power	4
	Referent Power	4
	Ethical Behaviour	4
	Opportunism	3
	Cooperative Behaviour	4
	Benevolence	4
	Total Number of Indicators for Behavioural RQ	**34**

Table D3.2 Indicators of Higher-Order Construct Relationship Value

First-Order Construct	Dimension	Number of Indicators
Relationship Benefits		
	Functional	5
	Social (friendship)	3
	Social (association)	4
	Emotional	4
	Knowledge	4
	Knowledge (IP)	3
	Economic	4
	Total Number of Indicators for Relationship Benefits	**27**
Relationship Sacrifices		
	Relationship Costs	4
	Time and Effort	5
	Total Number of Indicators for Relationship Sacrifices	**9**

D3.2 RELATIONSHIP QUALITY

The relationship quality construct was hypothesised as a formative higher-order structure consisting of cognitive RQ and behavioural RQ dimensions. As can be seen in Table D3.2 all regression coefficients for the dimensions of relationship quality were found to be significant, supporting the hypothesis that the cognitive RQ and behavioural RQ are second-order formative latent variables which contribute to the third order formative latent variable of relationship quality. Similar to testing the significance of item loading, the statistical significance of weights is assed through bootstraping.

Table D3.2 Higher-Order Structure of Relationship Quality

Construct	Dimension	Coefficients	t-Statistic
Cognitive RQ			
	Credibility	0.376	31.42c
	Information Exchange	0.324	29.87c
	Expertise	0.282	32.24c
	Relationship Investment	0.144	15.52c
Behavioural RQ			
	Customer Orientation	0.140	16.28[c]
	Flexibility	0.138	22.25[c]
	Conflict	0.173	17.83[c]
	Coercive Power	0.168	15.28[c]
	Referent Power	0.098	8.25[c]
	Ethical Behaviour	0.119	16.59[c]
	Opportunism	0.131	22.63[c]
	Cooperative Behaviour	0.141	18.71[c]
	Benevolence	0.169	18.62[c]
Relationship Quality			
	Cognitive RQ	0.342	16.38[c]
	Behavioural RQ	0.683	34.61[c]

Note: $p< 0.05$ [a] ; $p< 0.01$[b]; $p< 0.001$[c]

D3.3 RELATIONSHIP VALUE

The relationship value construct was hypothesised as a reflective higher-order structure consisting of relationship benefit and relationship sacrifice dimensions. As can be seen in Table D3.3 all regression loadings for the dimensions of relationship quality were found to be significant, supporting the hypothesis that relationship benefits and relationship sacrifices dimensions are second-order formative latent variables which contribute to the third order formative latent variable of relationship value.

Table D3.3 Higher-Order Structure of Relationship Value

Construct	Dimension	Coefficients	t-Statistic
Relationship Benefits			
	Functional	0.277	16.71[c]
	Social (friendship)	0.147	15.71[c]
	Social (association)	0.113	4.61[c]
	Emotional	0.292	18.94[c]
	Knowledge (Innovation)	0.165	10.18[c]
	Knowledge (IP)	0.057	6.03[c]
	Economic	0.205	16.84[c]
Relationship Sacrifices			
	Relationship Costs	0.659	22.90[c]
	Time and Effort	0.457	17.76[c]
Relationship Value			
	Benefits	0.820	34.18[c]
	Sacrifices	0.249	10.59[c]

Note: $p< 0.05^{a}$; $p< 0.01^{b}$; $p< 0.001^{c}$

D3.4 TESTING THE RESEARCH AND COMPETING MODELS

As stated in section C4.4 analysis was carried out using the PLS Graph Version 3.0 software developed by Chin (2001). Separate analysis for the research and two competing models were carried out. For each model an initial solution that reflects the structures presented in Section C1.4 and Section C1.5 are obtained. In accordance with classical regression analysis and recommendations by Barclay *et al.* (1995), an iterative process of eliminating non-significant pathways was utilised, as well as the examination of correlations for possible additional pathways that are theoretically justified. The process was repeated until a stable solution was obtained, which is referred to as the revised solution. The observations and analysis regarding the significance of the hypothesised pathway are detailed below.

Assumptions about the distribution of the variables are not made in PLS, therefore traditional parametric-based approaches cannot be used to test goodness-of-fit. Instead Chin (1998a) recommends that non-parametric measures such as R^2 are used for dependent latent variables when testing the significance of estimates. This means that unlike covariance-based SEM, PLS does not provide a single goodness-of-fit metric for the entire model but instead the R^2 scores of individual dependent scores are examined. The R^2 interpretation is similar to that employed under traditional multiple regression analysis; that it indicates the amount of variance of a dependent variable that is explained by its predictors/determinants.

In assessing the statistical significance of loadings, weights and pathway coefficients (given as standardised scores) bootstrapping analysis was used with estimates based on 500 samples (Mathieson *et al.,* 2001). Using Student *t*-value tables with n-1 degrees of freedom (where n is the number of samples) results in one-tail critical scores of 1.65, 2.33 and 3.09 relate to 0.05, 0.01 and 0.001 levels of significance respectively.

D3.4.1 Research Model

Table D3.4.1 shows the initial and revised solutions for the Research Model. The initial solution confirmed the significance of all four hypothesised pathways in line with process stated above. Examination of the correlations indicates the existence of additional pathways *relationship quality → long-term orientation.* When this pathway was added the initial significant pathway *relationship value → long-term orientation* was no longer supported. This is indicated under the revised solution coefficients in Table D3.4.1.

The R^2 score (see Section C4.4.1 for R^2 interpretation) for relationship value, satisfaction and long-term orientation are stable at 0.879, 0.792 and 0.661, and the revised R^2 scores are 0.879, 0.792 and 0.666 respectively giving parsimony to the model.

Table D3.4.1 Initial and Revised Solutions for the Research Model

Structural Pathways	**Initial Solution Coefficients & t-statistics**	**Revised Solution Coefficients & t-statistics**
Relationship Quality → Relationship Value	0.937 (94.35[c])	0.936 (92.05[c])
Relationship Value→ Relationship Satisfaction	0.890 (43.68[c])	0.890 (43.45[c])
Relationship Value→ Long-term Orientation	0.286 (2.49[b])	---- ----
Relationship Satisfaction → Long-term Orientation	0.546 (5.00[c])	0.565 (6.80[c])
Relationship Quality → Long-term Orientation**	----- ----	0.282 (3.39[c])
Goodness of Fit	R^2	R^2
Relationship Value	0.879	0.879
Satisfaction	0.792	0.792
Long-term Orientation	0.661	0.666

Note: [a] $0.05<p$; [b] $0.01>p$; [c] $0.001>p$

** Indicates Additional Pathway

D3.4.2 Testing Competing Models 1 and 2

Adopting the same approach followed in Section D3.4 two competing models were tested. Competing model 1 differs from the research model in that the third order structure of *relationship value* is replaced with direct pathways to its two components, i.e. *relationship benefits* and *relationship sacrifices* and the resulting solution is presented in Table D3.4.2.

The R^2 score for relationship benefits, relationship sacrifice, relationship satisfaction and long-term orientation are notable at 0.885, 0.501, 0.792 and 0.683

Table D3.4.2 Initial Solutions for Competing Model 1

Structural Pathways	**Initial Solution Coefficients & t-statistics**
Relationship Quality → Relationship Benefits	0.941 (90.62[c])
Relationship Quality → Relationship Sacrifices	-0.708 (20.06[c])
Relationship Benefits → Relationship Satisfaction	0.659 (14.66[c])
Relationship Sacrifices → Relationship Satisfaction	- 0.299 (6.47[c])
Relationship Benefits → Long-term Orientation	0.377 (3.93[c])
Relationship Sacrifices → Long-term Orientation	- 0.174 (2.38[b])
Relationship Satisfaction → Long-term Orientation	0.605 (5.47[c])
Goodness of Fit	R^2
Relationship Benefits	0.885
Relationship Sacrifices	0.501
Relationship Satisfaction	0.792
Long-term Orientation	0.683

Note: : $p< 0.05$ [a] ; $p< 0.01$[b]; $p< 0.001$[c]

Competing model 2 differs from the research model in that the third order structure of relationship quality is replaced by its two second order components (i.e., cognitive RQ and behavioural RQ) and the third order structure of relationship value is replaced by it's two second order components (i.e., relationship benefits and relationship sacrifices) Table D3.4.3 shows the initial and revised solutions for competing model 2. As can be seen, with the exception of *cognitive RQ → sacrifices*, all other pathways are significant. As with the research model a step-wise process of eliminating non-significant pathways and finding additional pathways was continued until a solution was found.

The revised solution for competing model 2 identifies three additional pathways. The pathways *cognitive RQ→ relationship sacrifices* from the initial solution were not significant in the revised solution. However, three additional pathways were identified *behavioural RQ → long-term orientation*, *cognitive RQ → satisfaction* and *cognitive*

RQ → long-term orientation. The revised R^2 given the parsimony of the model for relationship benefits, relationship sacrifices, satisfaction and long-term orientation is 85%, 54%, 81% and 71% of the variation respectively. The improvement in the R^2 scores further confirmed the stability of the revised model.

Table D3.4.3 Initial and Revised Solutions for Competing Model 2

Structural Pathways	**Initial Solution Coefficients & t-statistics**	**Revised Solution Coefficients & t-statistics**
Behavioural RQ→ Relationship Benefits	0.494 (9.07[c])	0.500 (9.12[c])
Behavioural RQ→ Relationship Sacrifices	-0.632 (7.19[c])	-0.731 (22.27[c])
Behavioural RQ→ Long-term Orientation **	---	0.224 (2.17[a])
Cognitive RQ→ Relationship Benefits	0.463 (8.65[c])	0.456 (8.50[c])
Cognitive RQ→ Relationship Sacrifices	0.122 (1.29)	---
Cognitive RQ→ Relationship Satisfaction **	---	0.202 (2.58[b])
Cognitive RQ→ Long-term Orientation **	---	0.347 (3.25[c])
Relationship Benefits → Relationship Satisfaction	0.671 (14.98[c])	0.503 (5.99[c])
Relationship Sacrifices → Relationship Satisfaction	- 0.287 (6.23[c])	-0.270 (6.05[c])
Relationship Benefits → Long-term Orientation	0.381 (3.88[c])	0.300 (2.55[b])
Relationship Sacrifices → Long-term Orientation	-0.181 (2.48[b])	-0.149 (2.04[a])
Relationship Satisfaction → Long-term Orientation	0.605 (5.41[c])	0.547 (4.95[c])
Goodness of Fit	R^2	R^2
Relationship Benefits	0.854	0.854
Relationship Sacrifices	0.547	0.535
Relationship Satisfaction	0.799	0.807
Long-term Orientation	0.684	0.707

Note: [a] $0.05<p$; [b] $0.01>p$; [c] $0.001>p$
** Indicates additional pathway

D3.5 CONCLUSIONS

The main difference between the Research Model (initial solution) and Competing Model 2 (revised solution) is that relationship quality and relationship value are not treated as higher-order constructs but are instead represented by their respective dimensions, relationship benefits and relationship sacrifices, and cognitive relationship quality and behavioural relationship quality. Table D3.4.3 identifies three pathways in addition to those identified in the Research Model (initial solution). The improvement in R^2 further confirms the stability of this model.

PART E: CONCLUSION AND DEBATE

This section comprises a single chapter that deals with the conclusion

Chapter E1: Conclusion and Debate

CHAPTER E1: CONCLUSIONS AND DEBATE

E1.1 INTRODUCTION

The literature review in Part B lead to the identification of three major gaps in the extant body of research relating to the relationship quality and relationship value constructs and their impact on relationship satisfaction and long-term orientation. Firstly, relationship quality research has focused on a conceptualisation that defines it in terms of its outcomes. Although attempts have been made to conceptualise relationship quality as a process, an improved conceptualisation is required (see Section B1.3). Secondly, relationship value research has tended to concentrate on the functional and economic aspects of value, and give limited consideration to the intangible elements of relationship value (Section B2.3). Thirdly, the functional relationship between relationship quality, relationship value, relationship satisfaction and long-term orientation is uncertain. The current study attempts to address these identified gaps. Specifically the aim of this research is to improve the conceptualisation of relationship quality and relationship value and identify the functional relationships between relationship quality, relationship value, relationship satisfaction and long-term orientation.

E1.2 RESEARCH OBJECTIVES

In order to achieve the above aim, four specific objectives were defined. Objectives 1 to 4 are debated below while Objective 5 (putting forward theoretical and managerial suggestions based on empirical results) is dealt with in Section E1.4.

Objective 1: Building a theoretically grounded model

The first step towards this objective was to conduct an extensive review of the relationship quality literature (see Chapter B1). This was followed by a wide-ranging review of the relationship value literature (see Chapter B2). In the current study, relationship quality is conceptualised as a formative higher-order construct consisting of cognitive relationship quality and behavioural relationship quality components (see Section C1.2). Relationship value is depicted as a formative higher-order construct consisting of relationship benefits and relationship sacrifices components (see Section C1.3). In addition, each of the components of relationship quality and relationship value was conceptualised as higher-order constructs comprising a number of

dimensions. Guided by extant literature, a research model was developed comprising the constructs relationship quality, relationship value, relationship satisfaction and long-term orientation (see Section C1.5). In addition, two competing models were also developed, the first of which differs from the research model in that the hypothesised higher-order structure of *relationship value* is replaced by its two components i.e., *relationship benefits* and *relationship sacrifices* (see Section C1.6). In the second competing model there is a further relaxation of the higher-order constructs, here relationship quality is replaced by its two components i.e., *cognitive RQ and behavioural RQ*.

Objective 2: Operationalisation of the model constructs

Once the research and competing models were formulated, it was necessary to identify scales from the extant marketing literature that would represent the conceptualisation of relationship quality and relationship value proposed by the current study (identification of these scales is debated in Sections C1.2 and C1.3). Scales for relationship satisfaction and long-term orientation were also borrowed from the extant marketing literature and adapted to the context of the current study (see Section C1.4). Content analysis of existing published material and expert informant feedback provided a foundation for the selection and adaptation of these scales. Extensive reliability and validity tests were undertaken to ensure the stability of the borrowed scales (see Chapter D1).

Objective 3: Collection of data

A three stage approach was adopted in order to gather the required data by means of self-completion questionnaires among buyers in the UK electrical and electronics industries. Companies were identified from a mailing list of UK electrical and electronics companies using a random number generator. The author then sought to identify the job title of the person responsible for the organisation's main supplier relationship. Interrogation of the mailing list established that three job titles, managing director, buying director or head buyer fulfilled this role. The list identified the name of the people in these roles, together with the company telephone numbers. The accuracy of the data was checked by contacting the company to establish the name and job title listed was correct. Once the identity of the respondent had been established, a questionnaire and covering letter were sent to that named individual.

The letter gave respondents the choice of completing the hard copy questionnaire that accompanied the letter or completing a questionnaire on-line. Data were collected in two phases between November 2006 and March 2007 (see Section C4.3.1). One thousand questionnaires were sent to named respondents and in the first phase 123 responses were received of which 115 were fully completed. In the second phase (the follow up letter) 80 questionnaires received, of which 76 were usable. The combined effective response rate of the two phases was therefore 19.1%, which is in line with the response rates achieved in recent relationship quality and relationship value studies. See Section C4.1 for a detailed discussion of the data collection process.

Objective 4: Analysing the acquired data using suitable analytical tools.

Having collected data, partial least squares software 'PLS Graph' was used to test the proposed model structure and hypothesised casual pathways for the research and competing models (see Chapter D2). The psychometric properties of the proposed higher-order structures were confirmed and final solutions were obtained for the research model and competing models. The findings for the research model are presented in Section D2.4.1. As can be seen all hypothesised pathways are significant in the initial solution and revised solution. An additional pathway was found between relationship quality and long-term orientation, however the hypothesised pathway between relationship value and long-term orientation was not found to be significant. The R^2 values for the research model were all notable (above 0.5). In competing model 1, the higher-order structure relationship value was replaced by its second order components, relationship benefits and relationship sacrifices. When tested all pathways were found to be significant and the R^2 values were all above 0.5. All relationship sacrifice pathways were negative and therefore offer support to utility theory, which suggests that value is a trade-off between benefits and sacrifices. In competing model 2 both the higher-order structures, relationship value and relationship quality were replaced by their second-order components. In the initial solution of competing model 2, all hypothesised pathways were significant but for one exception, the pathway between behavioural RQ and relationship sacrifice. In the revised solution of competing model 2, additional pathways were found between three of the components of relationship quality and the long-term orientation construct. The R^2 values for competing model 2 were notable having values greater than 0.5.

The explanatory power of the research model confounds the differential impact of the competing models (i.e., relationship value and relationship quality higher-order structures were replaced by their second-order components). For example, revealed in the results of competing model 1 was the negative effect of relationship values second-order component, relationship sacrifices. In competing model 2 three additional pathways between relationship quality second-order components and the long-term orientation were identified. With the exception of two pathways (i.e., behavioural RQ → relationship satisfaction and cognitive RQ → relationship sacrifices), the remaining eleven pathways of competing model 2 were significant. Due to the superior explanatory power offered by competing model 2, it was decided that this model would be the focus of the concluding debate. The specific pathways identified by competing model 2 are debated in Section E1.3.

The above provide substantial evidence of the differential behaviour of the dimensions of higher-order constructs relationship quality and relationship value. Consequently it is considered that in order to examine confounding effects the subsequent debate should be based on competing model 2.

Objective 5: Putting forward theoretical and managerial suggestions based on the empirical results.

Having debated the study's findings in relation to extant literature (see Section E1.3), the theoretical contributions and managerial implications are presented in Sections E1.4.1 and E1.4.2.

E1.3 DISCUSSION OF THE RESEARCH FINDINGS

As indicated in 'Objective 4' above, competing model 2 provided superior explanatory power over the research model and competing model 1. Therefore the discussions in this section focus on competing model 2. The coefficients and t-statistics of the structural pathways for the adopted model 2, the values for R^2, f^2 and Q^2 are presented in Table E1.3. Using the formula below, examination of the change in R^2 can help to determine whether a latent variable has a substantial effect on the size of f^2 and, using the guidelines provided by Cohen and Lee (1988), interpret f^2 scores of 0.02, 0.15 and 0.35 as respectively representing small, medium and large effects.

$$f^2 = \frac{R^2_{included} - R^2_{excluded}}{1 - R^2_{included}}$$

Q^2 predictive relevance relates to the predictive sample reuse technique that represents a synthesis of cross-validation and function fitting. In PLS this can be achieved through a blindfolding procedure that '...omits a part of the data for the particular block of indicators during parameter estimations and then attempts to estimate the omitted part using the estimated parameters'(Chin, 1998b). In terms of interpretation a $Q^2 > 0$ indicates the existence of predictive relevance.

Before proceeding to discuss the behaviour of the hypothesised pathways it is important to note that in addition to acceptable R^2 values, all constructs exhibit Q^2 values greater than zero, thus confirming the predictive relevance of the model.

Table E1.3 Final Solutions of Competing Models 2

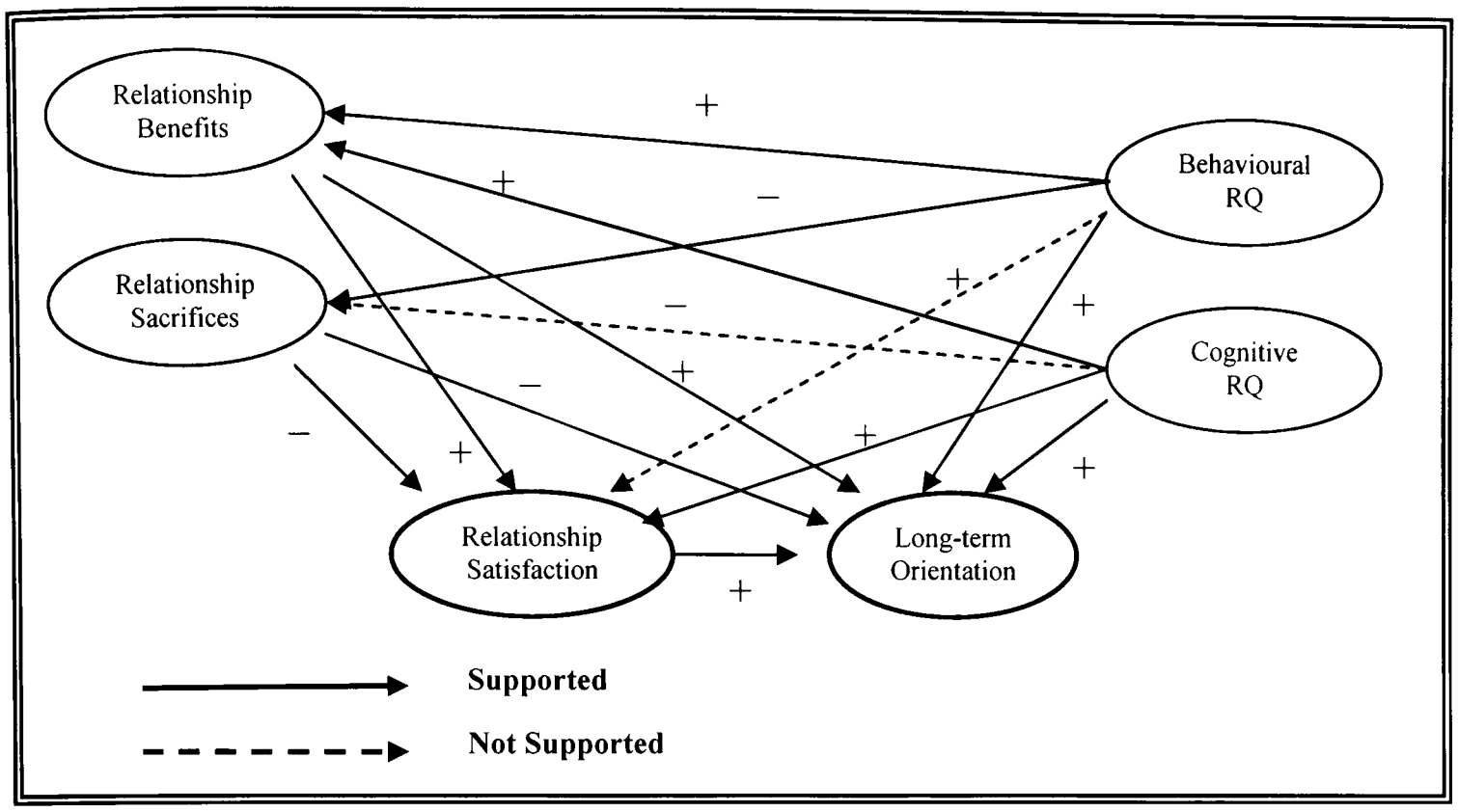
Significant Structural Pathways	**Coefficients & t-statistics**	f^2	**Hypothesised Pathways**
Behavioural RQ → Relationship Benefits	0.500 (9.12[c])	0.417 L	Supported
→ Relationship Sacrifices	- 0.731 (22.27[c])	0.205 M	Supported
→ Relationship Satisfaction	--- ---	---	Not Supported
→ Long-term Orientation	0.224 (2.17[a])	0.027 M	Supported
Cognitive RQ → Relationship Benefits	0.456 (8.50[c])	0.349 L	Supported
→ Relationship Sacrifices	--- ---	---	Not Supported
→ Relationship Satisfaction	0.202 (2.58[b])	0.041 M	Supported
→ Long-term Orientation	0.347 (3.25[c])	0.068 S	Supported
Relationship Benefits → Relationship Satisfaction	0.503 (5.99[c])	0.255 M	Supported
Relationship Sacrifices → Relationship Satisfaction	-0.270 (6.05[c])	0.249 M	Supported
Relationship Benefits → Long-term Orientation	0.300 (2.55[b])	0.038 S	Supported
Relationship Sacrifices → Long-term Orientation	-0.149 (2.04[a])	0.024 S	Supported
Relationship Satisfaction → Long-term Orientation	0.547 (4.95[c])	0.205 M	Supported
Goodness of Fit	R^2	Q^2	
Relationship Benefits	0.854	0.671	
Relationship Sacrifices	0.535	0.561	
Relationship Satisfaction	0.807	0.366	
Long-term Orientation	0.707	0.225	

Note: $p < 0.05$ [a] ; $p < 0.01$[b]; $p < 0.001$[c]

The effect of f^2 scores : S (small) < 0.02, M (medium) <0.15, L (large) if >0.35

Figure E1.1 show the supported and not supported pathways for competing model 2. The results of both supported and not supported pathways are discussed in sections E1.3.1 to E1.3.7.

Figure E1.1 Supported and Not Supported Pathways for Competing Model 2



E1.3.1 Behavioural and Cognitive RQ → Relationship Benefit

The hypothesised pathway between relationship quality's two components behavioural RQ and cognitive RQ were found to have a significant effect on relationship benefits. The findings suggest that both behavioural RQ and cognitive RQ components lead to relationship benefits. The current study conceptualised behavioural RQ as supplier behaviours that support the exchange process and cognitive RQ is conceptualised as the structural attributes a supplier relationship that support the exchange process (e.g., credibility, expertise, and information exchange and relationship investments). The current study offers support to the conceptualisation advanced by Ravald and Grönroos (1996), which suggests that in addition to the value a buyer receives from the exchange of products or services is the value a buyer receives from the relationship itself.

The current study identifies nine behavioural RQ dimensions of relationship quality. Menon *et al.* (2005) test two of these behavioural RQ dimensions (i.e., flexibility and cooperation) in relation to relationship benefits. Menon *et al.* (2005) found these to have a significant effect on relationship benefits, thus the current study offers support to these findings. As can be seen in Table E1.3 the f^2 score for behavioural RQ and cognitive RQ constructs has a large effect on relationship benefits. However, comparing the scores for these components, behavioural RQ was found to have a greater effect than its cognitive counterpart. This implies that in the context of the

current study, buyers perceive greater value in a seller's behaviour than the cognitive elements of the relationship (i.e., credibility, expertise, and information exchange and relationship investments).

E1.3.2 Behavioural RQ and Cognitive RQ → Relationship Sacrifice

These results confirm that behavioural RQ has a significant negative relationship with relationship sacrifices, which implies behavioural RQ reduces buyer perceptions of relationship sacrifices. This finding suggests that suppliers displaying superior behavioural RQ (i.e., benevolence, customer orientation, flexibility, cooperation, minimum opportunism, ethical profile, conflict and the use of coercive and referent power) reduce perceptions of relationship sacrifices. Table E1.3 indicates that the effect size of behavioural RQ on relationship sacrifices is medium with an f^2 score of 0.205.

The hypothesised pathway between cognitive RQ and relationship sacrifice was not supported. The literature identifies a possible explanation for this unsupported pathway. Heskett *et al.* (1990) argued that a buyer expects and therefore accepts a reasonable cost when acquiring products, therefore perceptions of this cost are neutral. Similarly, Cronin *et al.* (2000) argued that service products are largely defined by their benefits and not by the costs associated with their acquisition. These authors suggest that buyers factor-in the cost of acquisition to the product or service costs, which could have the effect of neutralising the cognitive RQ elements of the relationship and its effect on relationship sacrifices.

E1.3.3 Behavioural RQ and Cognitive RQ → Relationship Satisfaction

The pathway between behavioural RQ and relationship satisfaction was not supported. However, the pathway between cognitive RQ and relationship satisfaction was found to be significant. Within the context of the current study these findings imply that cognitive RQ has a medium effect (f^2 value 0.041) on relationship satisfaction. The relationship quality literature offers support for the pathway between cognitive RQ and relationship satisfaction. Johnson and Raven (1996) found a significant pathway between cognitive components of relationship quality and relationship satisfaction. However the current study is the first that explicitly examines the relationship between the behavioural RQ and relationship satisfaction. Given that behavioural RQ has a significant effect on relationship value and long-term orientation, the absence of

a pathway between behavioural RQ and relationship satisfaction is therefore confounding. A possible explanation for the absence of a pathway was proposed by a marketing practitioner interviewed. He suggested that satisfaction has been conceptualised as both an assessment of a single interaction and as an assessment of many interactions. The latter he argued will draw a more cognitive response than the former for this reason. "*If we were given a satisfaction survey as we left the pub this evening, it might be worded as (did you enjoy your visit tonight?), or it could be worded as (taking all your visits to this pub into account, what is your level of enjoyment?). We might have had a bad meal this evening but overall our experience of the pub could have been very good*". Therefore, he suggested that a cumulative assessment of the level of enjoyment forces a more cognitive response, which may account for behavioural RQ having no effect on relationship satisfaction.

E1.3.4 Behavioural RQ and Cognitive RQ → Long-term Orientation

The pathways between behavioural RQ and cognitive RQ and long-term orientation were found to be significant. As can be seen in Table E1.3 the f^2 value for both behavioural RQ and cognitive RQ has a medium effect size. Boles *et al.* (2000) and Hennig-Thurau *et al.* (2002) found that relationship quality has a significant effect on long-term orientation. However, these studies conceptualised relationship quality in terms of its outcomes (i.e., trust, satisfaction and commitment), whereas the current study conceptualises relationship quality in terms of it process dimensions. The different levels of attribution used in each conceptualisation would therefore confound a direct comparison between findings. Adopting a process approach to the dimensions of relationship quality, Woo and Ennew (2005) found a significant relationship between both product quality and service quality with long-term orientation. However, they found no significant pathway between relationship quality and long-term orientation.

E1.3.5 Relationship Benefits and Sacrifice → Relationship Satisfaction

The hypothesised pathways between relationship benefits and relationship satisfaction, and relationship sacrifices and relationship satisfaction were found to be significant. Table E1.3 indicates that the relationship benefits effect on relationship satisfaction is positive, whilst relationship sacrifices have a negative effect. Both f^2 effect strengths were medium. These findings imply that relationship benefits

enhance relationship satisfaction whereas relationship sacrifices reduce relationship satisfaction. Prior relationship value studies have reported a significant relationship between relationship value and relationship satisfaction (c.f., Lapierre *et al.*, 1999; Eggert and Ulaga, 2002; Ulaga and Eggert, 2006b). Unlike the current study, these studies adopt a uni-dimensional approach to relationship value, focusing exclusively on relationship benefits. The current study extends the finding of these prior studies by confirming that relationship value is a higher-order construct consisting of the dimension relationship benefit and relationship sacrifices.

E1.3.6 Relationship Benefits and Sacrifices → Long-term Orientation

The pathways linking relationship benefits and relationship sacrifices with long-term orientation were found to be significant. As can be seen from Table E1.3 relationship benefits have a positive coefficient with long-term orientation whilst relationship sacrifices have a negative coefficient. Both pathways have an f^2 score that indicates small effect strength. The findings indicate that relationship benefits have a positive impact on long-term orientation whereas relationship sacrifices have a negative effect, giving support to the theory of economic utility (Lancaster, 1971). This theory suggests that value is a trade-off between the benefits received and the sacrifices. In addition to supporting economic utility theory, the findings offer support to social exchange theory (Homans, 1958; Blau, 1967) and social penetration theory (Altman and Taylor, 1973) which suggest that a relationship partner will continue to deepen their relationship as long as anticipated benefits exceed anticipated costs. Examining only relationship benefits Hennig-Thurau *et al's.* (2002) study found these have a significant effect on long-term orientation. The current study confirms that relationship benefits have positive effect on long-term orientation and relationship sacrifices have a negative effect. These findings advances our understanding of relationship value by confirming this as a higher-order construct that has both relationship benefits and relationship sacrifices dimensions.

E1.3.7 Relationship Satisfaction → Long-term Orientation

The pathway between relationship satisfaction and long-term orientation was found to be significant. As can be seen in Table E1.3 the f^2 effect strength is medium. This finding implies that relationship satisfaction leads to long-term orientation and

supports the findings of numerous studies that report this as a significant pathway (c.f., Ping, 1993; Patterson and Spreng, 1997; Rauyruen and Miller, 2007).

E1.4 CONTRIBUTIONS OF THE RESEARCH

The results debated in Section E1.3 are considered to make a number of theoretical and managerial contributions. These are predicated on two key considerations related to the nature and structure of the two focal conducts of this study (i.e., relationship quality and relationship value): (1) a new conceptualisation of relationship quality is proposed based exclusively on the process dimensions and comprising cognitive and behavioural components. This is considered to represent advancement to the currently developed conceptualisation that incorrectly combines processes that are part of relationship quality with outcomes of relationship quality, and (2) an expanded conceptualisation of relationship value is proposed. This includes not only the intrinsic tangible elements but also extrinsic intangible elements. The adopted conceptualisation is considered to provide a more complete account of relationship value than the ones currently found in related literature.

E1.4.1 Theoretical Contributions

Within the electrical and electronics industries in the UK the findings of the current study indicate that a buyer's perceptions of relationship satisfaction and long-term orientation are determined by relationship quality and relationship value. This study models relationship quality as comprising cognitive and behavioural components and relationship value as consisting of relationship benefit and relationship sacrifice dimensions. The supported and *not* supported hypothesised pathways are shown in Figure E1.1. Two pathways are identified as not supported (i.e., behavioural RQ → relationship satisfaction and cognitive RQ → relationship sacrifice), all other hypothesised pathways are supported. Examining the functional relationship of the above conceptualisations of relationship quality and relationship value the following contributions to the study of the subject matter are made:

1. The functional relationship between relationship quality and relationship value and the main outcomes relationship satisfaction and long-term orientation ***should not*** be examined at the overall construct level. Specifically, this is the

first documented evidence of differential behaviour of the functional relationship between the cognitive and behavioural components of relationship quality and the benefits and sacrifices components of relationship value.

2. Examination of the functional relationship offers the following new insights.

   a) Behavioural relationship quality has only an indirect effect through relationship benefits and sacrifices on relationship satisfaction.

   b) Although behavioural relationship quality is a significant direct determinant of relationship benefits, relationship sacrifices and long-term orientation, its major impact is on the formation of relationship benefits.

   c) Unlike behavioural relationship quality that is a significant determinant of both relationship benefits and relationship sacrifices, whereas cognitive relationship quality is a significant determinant only of relationship benefits.

   d) Relationship satisfaction is predominantly formed by relationship benefits and sacrifices rather than relationship quality.

   e) Although the components of both relationship quality and relationship value, and relationship satisfaction are significant determinants of long-term orientation, relationship satisfaction is found to have the greatest impact on the formation of long-term orientation.

These contributions add to the relationship quality, relationship value and relationship management literature.

E1.4.2 Managerial Contributions

By examining the functional relationship of relationship quality and relationship value modelled by the current study, the following contributions to practice are made:

1. The findings indicate that behavioural RQ has a positive effect of relationship benefits and a negative effect on relationship sacrifices, which conforms to the proposed conceptualisation of relationship value as a trade off between relationship benefits and relationship sacrifices. Thus indicating that behavioural RQ contributes towards buyer perceptions of relationship value. Managers wishing to offer improved levels of relationship value should look

to the nine behavioural RQ dimensions identified by this study (i.e., customer orientation, flexibility, conflict resolution, use of coercive and referent power, ethical behaviour, opportunist behaviour, cooperation and benevolence). These dimensions are presented in form of scale questions in Appendix 3. For example, 'customer orientation' on page 4 of 19 Appendix 3 shows the five original scale items and their corresponding amended questions used in the questionnaire for this study. The questions capture the behaviours which represent the concept of the 'customer orientation' construct. A comparison of the company's customer orientation behaviour with that of the study's measures will reveal those differences affecting the quality of the relationship. A systematic appraisal of each dimension will inform managers of the course of action necessary to improve behavioural RQ.

2. Cognitive RQ was found to have a positive effect on relationship benefits, but no effect was found between cognitive RQ and relationship sacrifices. The buyer's perception of relationship value is therefore only driven by the cognitive aspects of relationship quality RQ (i.e., credibility, expertise, and information exchange and relationship investments). Managers wishing to achieve higher levels of relationship value should therefore consider the impact of the cognitive RQ dimensions identified in this study on their own organisations. Using the methodology described above that compares the substance of questions presented in Appendix 3 with managers own organisation potential areas of cognitive RQ improvement could be identified.

3. The results indicate that buyers focus more heavily on behavioural RQ than the cognitive RQ components when considering all other constructs. In light of these findings, staff selection should focus on behavioural RQ because if an organisations current selection process concentrates only on cognitive RQ (i.e., credibility, competence and communication skills), then much of the potential value a buyer attributes to their supplier relationship will not be achieved. When considering staff training, managers should also consider the importance of behavioural RQ to relationship value, relationship satisfaction and long-term orientation. Improved behavioural RQ can be achieved by adopting the process dimensions identified by this study.

4. The study's findings support the concept of value proposed by utility theory (Lancaster, 1971) which states that value is a trading-off between benefits and sacrifices. Therefore managers wishing to maximise the effect of relationship quality on relationship value, should use it to either increase relationship benefits or reduce relationship sacrifices. The actions that a manager should undertake to improve relationship quality and thus relationship value discussed earlier should be adopted.

5. The results suggest that relationship satisfaction has the greatest effect on long-term orientation. Therefore managers wishing improve buyer long-term orientation need understand and measure determinates of relationship satisfaction. Figure E1.1 indicates that cognitive RQ has a direct effect on relationship satisfaction, whereas behavioural RQ has only an indirect effect on relationship satisfaction. Improvements to customer relationship satisfaction should therefore focus on the delivery of relationship value and the cognitive aspects of relationship quality.

The above will guide and support managers both in establishing new exchange relationships and managing existing ones. Managers with existing customer relationships should review their current relationships using these guidelines as a frame of reference to identify where their current customer relationships could be strengthened.

E1.5 SUGGESTIONS FOR FUTURE RESEARCH

As with any empirical research, the results cannot be interpreted without taking into account the study's limitations (see Section A1.6) and although the current study has made a number of contributions (see Section E1.4) further research is needed to enhance our understanding of the subject matter. Some of the more urgent research needs are discussed below.

1. The results presented here are based on the analysis of a causal model with cross-sectional data. Because the model is not tested using experimental design, strong evidence of causal effects cannot be inferred. A study focusing on the causal direction between the constructs relationship quality, relationship value, relationship satisfaction and behavioural outcomes would represent an important research opportunity.

2. In discussing the results of their relationship quality study, Naudé and Buttle (2000) conclude that "As our results show, there is not one explanation of the construct (relationship quality) rather there are different views of what determines a good relationship...." (p.360). Using the selection method described in Section C1.2.1, the current study identifies a number of dimensions/determinants of relationship quality. In spite of the care taken in the selection process, other dimensions/determinants of relationship quality could be added. Action in this regard could further enhance our understanding of the relationship quality construct.

3. A qualitative study, based on in-depth interviews, is suggested for the investigation of the complex and environment-specific phenomena of relationship quality. With such a study, the model should be tested within strictly defined environments to capture the changing nature of relationship quality between buyer and seller through the detailed exploration of views, comments, reactions and opinions of key relationship actors.

4. The effect of relationship quality, relationship value and relationship satisfaction on long-term orientation could be moderated by various environmental variables such as buyer/supplier dependency and strength/weakness of the competitive environment. Future studies could consider identifying and analysing the impact of moderating of such variables on the current research model.

5. Although the research sample for the current study included manufacturing and distributing companies of all sizes, they were confined to the UK electronic and electrical industry. A research sample that looks at other industrial sectors would contribute to the result being more readily generalised.

6. The usefulness/practicality of the proposed managerial contributions should be tested through a case study approach. Such a methodology will offer additional evidence as to the stability and relevance of the results on which these inferences are based.

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APPENDICES

Appendix 1: Dimensions of Relationship Quality
Appendix 2: Pool of Measurement Scale
Appendix 3: Conversion of Original Borrowed Scales into Research Instrument
Appendix 4: Covering Letter
Appendix 5: Questionnaire
Appendix 6: Follow up Letter

DIMENSIONS OF RELATIONSHIP QUALITY

Dimensions of Relationship Quality

Dimension	Type	Citation
Credibility	Cognitive Dimension	Ganesan (1994) McAllister (1995) Geyskens *et al,* (1996) Doney and Cannon (1997) Smith and Barclay (1997) Garbarino and Johnson (1999) Sirdeshmukh *et al*, (2002)
Reputation *(Redundant)*	Cognitive Dimension	Anderson and Weitz (1992) Yoon *et al.* (1993) Ganesan (1994) Caruana (1997) Doney and Cannon (1997) Smith and Barclay (1997) McKnight *et al.* (1998)
Information Exchange	Cognitive Dimension	Parasuraman *et al.* (1985) Anderson and Narus (1990) Mohr and Nevin (1990) Metcalf *et al*. (1992) Anderson and Weitz (1992) Morgan and Hunt (1994) Mohr and Spekman (1994) Berry (1995) Kim and Frazier (1997) Ramsey and Sohi (1997) Duncan and Moriarty (1998) Smith (1998) Cannon and Perreault (1999) Kalafatis (2002) Woo and Ennew (2005) Bonner and Calantone (2005) Leonidou *et al.* (2006)
Expertise	Cognitive Dimension	Parasuraman *et al.* (1985) Crosby *et al.* (1990) Lagace *et al.* (1991) Schul *et al.* (1992) Palmer and Bejou (1994) Bejou *et al.* (1996) Boles *et al*. (2000)

Dimensions of Relationship Quality

Dimension	Type	Citation
Relationship Investment	Cognitive Dimension	Hallén *et al.* (1991) Anderson and Weitz (1992) Metcalf *et al.* (1992) Han *et al.* (1993) Kumar *et al.* (1995a) Smith (1998) Cannon and Perreault (1999) Joshi and Stump (1999a) Cannon and Homburg (2001) Woo and Ennew (2005)
Benevolence	Behavioural Dimension	Rempel *et al.* (1985) Ganesan (1994) Hess (1995) Smith and Barkley (1997)
Customer Orientation	Behavioural Dimension	Saxe and Weitz (1982) Parasuraman *et al.* (1988) Crosby *et al.* (1990) Palmer and Bejou (1994) Bejou *et al.* (1996) Dorsch *et al.* (1998) Boles *et al.* (2000) Bonner & Calantone (2005)
Opportunism	Behavioural Dimension	Williamson (1975) John (1984) Dwyer *et al.* (1987) Dabholkar *et al.* (1994) Morgan and Hunt (1994) Gundlach *et al.* (1995) Smith and Barclay (1997) Dorsch *et al.* (1998) Geyskens *et al.* (1998)

Dimensions of Relationship Quality

Dimension	Type	Citation
Cooperative Norms *(Include- solidarity, flexibility, mutuality and role integrity)*	Behavioural Dimension	Stern (1969) Sibley and Michie (1982) Childers *et al.* (1984) Stern and Reve (1989) Anderson and Narus (1990) Metcalf *et al.* (1992) Skinner *et al.* (1992) Mohr and Spekman (1994) Morgan and Hunt (1994) Gundlach *et al.* (1995) Van Mieghe (1995) Baker *et al.* (1999) Cannon and Perreault (1999)* Cannon *et al.* (2000) Kalafatis (2000) Woo and Ennew (2005) Leonidou *et al.* (2006)
Power	Behavioural Dimension	Macneil (1980) Frazier & Summers (1986) Dwyer *et al.* (1987) Anderson and Weitz (1989) Anderson and Narus (1990) Skinner *et al.* (1992) Morgan and Hunt (1994) Brown *et al.* (1995) Wren *et al.* (1998) Kim (2000) Naudé and Buttle (2002)
Conflict Resolution	Behavioural Dimension	Etgar (1979) Anderson & Narus (1984/90) Dant and Schul (1982) Mohr and Spekman (1994) Kumar (1995a) Kumar (1995b) Leonidou *et al.* (2006)

Dimensions of Relationship Quality

Dimension	Type	Citation
Fairness *(Redundant)*	Behavioural Dimension	Macneil (1980) Gundlach and Murphy (1993) Kumar *et al.* (1995b) Boles *et al.* (2000)
Ethical behaviour	Behavioural Dimension	Victor and Cullen (1988) Hunt *et al.* (1989) Lagace *et al.* (1991) Palmer and Bejou (1994) Wray et al. (1994) Bejou et al. (1996) Dorsch *et al.* (1998)
Flexibility	Behavioural Dimension	Macneil (1980) Heide and John (1992) Lusch and Brown (1996) Joshi and Stump (1999) Bonner & Calantone (2005)

POOL OF MEASUREMENT SCALE

Relationship Quality Scale (Behavioural Dimensions)

Construct	*Author*	*Scale*
Benevolence	Ganesan (1994) Kumar *et al.* (1995) McAllister (1995) Ganesan and Hess (1997) Sirdeshmukh *et al.* (2002)	Ganesan (1994) 5 item scale Benevolence Kumar *et al.* (1995) 4 item scale Organisational Benevolence McAllister (1995) 5 items Affect Based Trust Ganesan and Hess (1997) 6 item scale Interpersonal Benevolence 4 item scale Organisational Benevolence Sirdeshmukh *et al.* (2002) 6 items Benevolence
Customer Orientation	Saxe and Weitz (1982) Dunlap *et al.* (1988) SOCO Kelly (1992) SOCO Deshpande *et al.* (1993) Dorsch *et al* (1998) Bonner and Calantone (2005) Thakor and Joshi (2005)	Saxe and Weitz (1982) SOCO 24 item Customer Orientation Deshpande *et al.* (1993) 9 items customer orientation Dorsch *et al* (1998) 24 items (borrowed SOCO) Bonner and Calantone (2005) 4 items Buyer Attentiveness Thakor and Joshi (2005) 5 item Customer Orientation
Flexibility	Heide and John (1992) Dahlstrom *et al.* (1996) Lusch and Brown (1996) Ayers *et al.* (1997) Cannon and Homburg (2001) Bonner and Calantone (2005)	Heide and John (1992) 3 items flexibility Dahlstrom *et al.* (1996) 3 items flexibility Lusch and Brown (1996) 3 items flexibility Ayers *et al.* (1997) 3 items flexibility Cannon and Homburg (2001) 4 item supplier flexibility (adapted from Noordewier *et al.*, (1990) Bonner and Calantone (2005) 4 item flexibility

Relationship Quality Scale (Behavioural Dimensions)

Construct	*Author*	*Scale*
Cooperation	Childers *et al.* (1984) Metcalf *et al.* (1992) Skinner *et al.* (1992) Mohr and Spekman (1994) Morgan and Hunt (1994) Cannon and Perreault (1999) Joshi and Stump (1999) Kalafatis (2000) Woo and Ennew (2005)	Childers *et al.* (1984) 9 items cooperation Metcalf *et al.* (1992) 4 items cooperation Skinner *et al.* (1992) 4 items cooperation Mohr and Spekman (1994) 4 items participation Morgan and Hunt (1994) 5 items cooperation Cannon and Perreault (1999) 6 items cooperative norms Joshi and Stump (1999) 6 items joint action Kalafatis (2000) 6 items cooperation Woo and Ennew (2005) 3 items cooperation
Opportunism	John (1984) Morgan and Hunt (1994) Gundlach *et al.* (1995) Smith and Barclay (1997) Dorsch *et al* (1998)	John (1984) 6 items opportunism Morgan and Hunt (1994) 3 items opportunistic behaviour Gundlach *et al.* (1995) 6 items opportunism Smith and Barclay (1997) 4 items forbearance of opportunism Dorsch *et al* (1998) 9 items opportunism
Ethical profile	Victor and Cullen (1988) Hunt *et al.* (1989) Lagace *et al.* (1991) Schwepker *et al.* (1997) Dorsch *et al* (1998)	Victor and Cullen (1988) Ethical climate 7-items caring 4-items law and code 4-items rules 4-items independence 7-items instrumental Hunt *et al.* (1989) 5 items corporate ethical values Lagace *et al.* (1991) 15 items ethical behaviour Schwepker *et al.* (1997) 5 items ethical climate Dorsch *et al* (1998) Ethical profile 7-items caring 4-items law and code 4-items rules 4-items independence 7-items instrumental

Relationship Quality Scale (Behavioural Dimensions)

Construct	*Author*	*Scale*
Power (Coercive and Non-Coercive)	John (1984) Skinner *et al.* (1992) Brown *et al.* (1995) Doney and Cannon (1997) Wren *et al.* (1998) Kim (2000)	John (1984) 4 items coercive influence 6 items reward influence 4 items referent influence 4 items expert influence 4 items legitimate influence Skinner *et al.* (1992) 4 items non-coercive power 4 items coercive power Brown *et al.* (1995) *Non-coercive power* 4 items use of referent power 4 items use of expert power 4 items use of information power 4 items use of legitimate power *Coercive power* 4 items use of reward power 4 items use of coercive power Doney and Cannon (1997) 3 items salespersons power Wren *et al.* (1998) 11 items non-coercive power 14 items coercive power Kim (2000) 3 items coercive influence strategy 3 items non-coercive influence strategy
Conflict	Frazer et al. (1989) Anderson and Narus (1990) Skinner *et al.* (1992) Mohr and Spekman (1994) Kumar (1995a) Kumar (1995b) Menon *et al.* (1997)	Frazer *et al.* (1989) 2 items conflict Anderson and Narus (1990) 7-items cooperation (conflict reflected) Skinner *et al.* (1992) 4-items Conflict Mohr and Spekman (1994) 6 items Conflict Resolution Kumar (1995a) 2 item perceived conflict Kumar (1995b) 2 items manifest conflict Menon *et al.* (1997) 7 items interdepartmental conflict

Relationship Quality Scale (Cognitive Dimensions)

Construct	*Author*	*Scale*
Credibility	Ganesan (1994) Kumar *et al.* (1995) McAllister (1995) Sirdeshmukh *et al.* (2002)	Ganesan (1994) 7 items Interpersonal Credibility Kumar *et al.* (1995) 4 items Organisational Credibility McAllister (1995) 6 items Cognition Based Trust Sirdeshmukh *et al.* (2002) 7 items Interpersonal Credibility 4 items Organisational Credibility
Information exchange	Anderson and Weitz (1992) Heide and John (1992) Metcalf *et al.* (1992) Mohr and Spekman (1994) Morgan and Hunt (1994) Mohr and Sohi (1995) Dahlstrom *et al.* (1996) Lusch and Brown (1996) Doney and Cannon (1997) Li and Dant (1997) Smith and Barclay (1997) Cannon and Perreault (1999) Bonner and Calantone (2005)	Anderson and Weitz (1992) 11 items communication Heide and John (1992) 4 items information exchange Metcalf *et al.* (1992) 2 items information exchange Mohr and Spekman (1994) 4 items communication quality 5 items communication participation 8 items information sharing 6 items conflict resolution Morgan and Hunt (1994) 4 items communication Mohr and Sohi (1995) 5 items communication quality Dahlstrom *et al.* (1996) 4 items information exchange Lusch and Brown (1996) 3 items communication Doney and Cannon (1997) 2 items supplier fir confidential information sharing Li and Dant (1997) 4 items communication Smith and Barclay (1997) 7 items communication openness Cannon and Perreault (1999) 4 items information exchange Bonner and Calantone (2005) 5 items information exchange

Relationship Quality Scale (Cognitive Dimensions)

Construct	*Author*	*Scale*
Expertise	Parasuraman *et al.* (1985) Crosby *et al.* (1990) Doney and Cannon (1997) Smith and Barclay (1997)	Parasuraman *et al.* (1985) 3 items competence Crosby *et al.* (1990) 5 items expertise Doney and Cannon (1997) 3 items salespersons expertise Smith and Barclay (1997) 4 items role competence
Relationship Specific Investment	Anderson and Weitz (1992) Metcalf *et al.* (1992) Ganesan (1994) Kumar *et al.* (1995a) Stump and Heide (1996) Smith and Barclay (1997) Ping (1997) Cannon and Perreault (1999) Joshi and Stump (1999) Cannon *et al.* (2000) Kalafatis (2000) Cannon and Homburg (2001) Woo and Ennew (2005)	Anderson and Weitz (1992) 5 items distributors perception of manufactures idiosyncratic investment Metcalf *et al.* (1992) 3 items adaptation Ganesan (1994) 3 items transaction specific investments Stump and Heide (1996) 6 items investments (supplier) Smith and Barclay (1997) 6 items relationship investment Ping (1997) 4 item investment in relationship Cannon and Perreault (1999) 5 items seller adaptation Joshi and Stump (1999) 4 items supplier asset specificity Cannon *et al.* (2000) 5 item relationship specific adaptation Kalafatis (2000) 3 item scale adaptation Cannon and Homburg (2001) 5 items relationship specific adaptations (adapted from Cannon and Perreault, 1999) Woo and Ennew (2005) 4 items adaptation

Relationship Quality Scale (Cognitive Dimensions)

Construct	*Author*	*Scale*
Credibility	Ganesan (1994) Kumar *et al.* (1995) McAllister (1995) Sirdeshmukh *et al.* (2002)	Ganesan (1994) 7 items Interpersonal Credibility Kumar *et al.* (1995) 4 items Organisational Credibility McAllister (1995) 6 items Cognition Based Trust Sirdeshmukh *et al.* (2002) 7 items Interpersonal Credibility 4 items Organisational Credibility
Information exchange	Anderson and Weitz (1992) Heide and John (1992) Metcalf *et al.* (1992) Mohr and Spekman (1994) Morgan and Hunt (1994) Mohr and Sohi (1995) Dahlstrom *et al.* (1996) Lusch and Brown (1996) Doney and Cannon (1997) Li and Dant (1997) Smith and Barclay (1997) Cannon and Perreault (1999) Bonner and Calantone (2005)	Anderson and Weitz (1992) 11 items communication Heide and John (1992) 4 items information exchange Metcalf *et al.* (1992) 2 items information exchange Mohr and Spekman (1994) 4 items communication quality 5 items communication participation 8 items information sharing 6 items conflict resolution Morgan and Hunt (1994) 4 items communication Mohr and Sohi (1995) 5 items communication quality Dahlstrom *et al.* (1996) 4 items information exchange Lusch and Brown (1996) 3 items communication Doney and Cannon (1997) 2 items supplier fir confidential information sharing Li and Dant (1997) 4 items communication Smith and Barclay (1997) 7 items communication openness Cannon and Perreault (1999) 4 items information exchange Bonner and Calantone (2005) 5 items information exchange

Relationship Value Scales (Benefits Dimensions)

Construct	*Author*	*Scale*
Economic benefits	Gwinner *et al.* (1998) Hennig-Thurau *et al.* (2002)	Gwinner *et al.* (1998) 5 items special treatment benefits Hennig-Thurau *et al.* (2002) 5 items special treatment benefits
Social benefits (Friendship)	Gwinner *et al.* (1998) Reynolds and Beatty (1999) Ulaga and Eggert (2001) Hennig-Thurau *et al.* (2002) Baxter and Matear (2004) Spiteri and Dion (2004) Ulaga and Eggert (2005)	Gwinner *et al.* (1998) 5 items social benefits Reynolds and Beatty (1999) 4 items social benefits Ulaga and Eggert (2001) 4 item personal benefits Hennig-Thurau *et al.* (2002) 5 items social benefits Baxter and Matear (2004) 4 items relationship Spiteri and Dion (2004) 4 items personal benefits Ulaga and Eggert (2005) 3 items social benefits
Social benefits (Association)	Gwinner *et al.* (1998) Reynolds and Beatty (1999) Ulaga and Eggert (2001) Hennig-Thurau *et al.* (2002) Baxter and Matear (2004) Spiteri and Dion (2004) Ulaga and Eggert (2005)	Gwinner *et al.* (1998) 5 items social benefits Reynolds and Beatty (1999) 4 items social benefits Ulaga and Eggert (2001) 4 item personal benefits Hennig-Thurau *et al.* (2002) 5 items social benefits Baxter and Matear (2004) 4 items relationship Spiteri and Dion (2004) 4 items personal benefits Ulaga and Eggert (2005) 3 items social benefits
Knowledge benefits (Innovation)	Baxter and Matear (2004) Ulaga and Eggert (2005) Ulaga and Eggert (2006)	Baxter and Matear (2004) 4 items organisation 4 items mental agility Ulaga and Eggert (2005) 3 item know-how benefits Ulaga and Eggert (2005) 2 items time to market benefits Ulaga and Eggert (2006) 5 items know-how benefits Ulaga and Eggert (2006) 4 items time to market benefits

Relationship Value Scales (Benefits Dimensions)

Construct	*Author*	*Scale*
Knowledge benefits (Intellectual Property)	Baxter and Matear (2004)	Baxter and Matear (2004) 4 items organisation 4 items mental agility
Functional benefits	Reynolds and Beatty (1999) Ulaga and Eggert (2001) Baxter and Matear (2004) Menon *et al.* (2005) Ulaga and Eggert (2005) Ulaga and Eggert (2006)	Reynolds and Beatty (1999) 4 items functional benefits Ulaga and Eggert (2001) 5 items strategic relationship benefits Baxter and Matear (2004) 3 items competence Menon *et al.* (2005) 8 items service quality Ulaga and Eggert (2005) 2 item service benefits Ulaga and Eggert (2006) 4 items service benefits 3 items delivery benefits
Emotional benefits	Gwinner *et al.* (1998) Hennig-Thurau *et al.* (2002) Baxter and Matear (2004)	Gwinner *et al.* (1998) 5 items confidence benefits Hennig-Thurau *et al.* (2002) 4 items Confidence Benefits Ulaga and Eggert (2006) 7 items personal benefits

Relationship Value Scales (Sacrifices Dimensions)

Construct	*Author*	*Scale*
Cost/Price	Cronin *et al.* (1997) Sweeny *et al.(*1999) Lapierre (2000) Ulaga and Eggert (2005) Menon *et al.* (2005)	Cronin *et al.* (1997) 1 item price Sweeny *et al.*(1999) 2 items relative price Lapierre (2000) 5 items price Ulaga and Eggert (2001) 1 item higher prices Ulaga and Eggert (2005) 1 item relative price Menon *et al.* (2005) 5 items acquisition cost 4 items operating costs
Time/Effort	Cronin *et al.* (1997) Lapierre (2000) Ulaga and Eggert (2005)	Cronin *et al.* (1997) 1 item time Lapierre (2000) 5 items time/effort/energy Ulaga and Eggert (2001) 1 item time Ulaga and Eggert (2005) 2 items process cost (time/effort)

Relationship Satisfaction Scales

Construct	*Author*	*Scale*
Relationship Satisfaction	Ruekert and Churchill (1984) Anderson and Narus (1984) Crosby and Stephens (1987) Skinner *et al.* (1992) Ping (1993) Ganesan (1994) Smith and Barclay (1997) Cannon and Perreault (1999) Jap and Ganesan (2000) Geyskens and Steenkamp (2000) Homburg and Bettina (2001) Homburg *et al.* (2002) Hennig-Thurau *et al.* (2002)	Ruekert and Churchill (1984) satisfaction with: 4 items social interaction 1 item product 3 items financial 5 items promotional 3 items other assistance Anderson and Narus (1984) 3 items satisfaction Crosby and Stephens (1987) 3 items overall satisfaction Skinner *et al.* (1992) 4 items satisfaction Ping (1993) 5 items relationship satisfaction Cannon and Perreault (1999) 5 items satisfaction with supplier Ganesan (1994) 4 items satisfaction with past outcomes Smith and Barclay (1997) 6 items mutual satisfaction Jap and Ganesan (2000) satisfaction with: 4 items salesperson 2 items financial return 4 items product Geyskens and Steenkamp (2000) 5 items economic satisfaction 5 items social satisfaction Homburg and Bettina (2001) satisfaction with: 5 items product 7 items salespeople 4 items product information 4 items order handling 3 items technical service 3 items interaction with internal staff 3 items complaint handling Homburg *et al.* (2002) 5 items customer satisfaction Hennig-Thurau *et al.* (2002) 4 items customer satisfaction

Long-term Orientation Scales

Construct	*Author*	*Scale*
Long-term orientation	Anderson and Weitz (1989) Noordewier *et al.* (1990) Ganesan (1994) Lusch and Brown (1996) Kim (2000)	Anderson and Weitz (1989) 3 items expectations of continuity Noordewier *et al.* (1990) 3 items expectations of continuity Ganesan (1994) 6 items long-term orientation Lusch and Brown (1996) 4 items relationship continuity (adapted from Noordewier *et al.*, 1990 and Heide and Miner, 1992) Kim (2000) 5 items relationship continuity

Conversion of Original Borrowed Scales into Research Instrument

By altering the scales, they have been made appropriate for the proposed research. In some cases the words and context are changed and in other case new items are introduces into the scales. Here follows the state by stage description of how the original scales have been changed into the scales used in the proposed research

Measures of cognitive relationship quality from the buyer's perspective of the relationship with their major supplier

Credibility

Original Scale (Ganesan, 1994)

1. This resource's representative has been frank in dealing with us
2. Promises made by this resource's representative are reliable
3. This resource's representative is knowledgeable regarding his/her products
4. This resource's representative does not make false claims
5. This resource's representative is not open in dealings with us (R)
6. If problems such as shipping delays arise, the resource's representative is honest about the problems
7. This resource's representative has problems answering our questions (R)

Changes made:
The term 'our major supplier....' was introduced throughout the scale
Item 1 the word 'frank' was changed to 'honest'
Items 3, 6 and 7are dropped from the scale on the grounds of duplication of meaning.

Scale used in the questionnaire

1. Our major supplier's employees are honest in their dealings with us
2. Promises made by our major supplier's employees are reliable
3. Our major supplier's employees are open in their dealings with us
4. Our major supplier's employees do not make false claims

Information Exchange

Original Scale

1. We keep each other informed about events that affect the other party (Heide and John, 1992)
2. We often exchange information informally (Heide and John, 1992)
3. We often exchange information beyond what is required by our agreement (Heide and John, 1992)
4. We are expected to provide each other with information that may be of help (Heide and John, 1992)

Changes made:
The term 'our major supplier....' was introduced throughout the scale

Scale used in the questionnaire

1. Our major supplier keeps us informed about events that affect or may affect us
2. Our major supplier regularly exchanges information informally
3. Our major supplier often gives us information beyond what is required by our formal agreement(s)
4. We expect our major supplier to provide us with information that may be of help to us

Expertise

Original Scale

1. This salesperson is very knowledgeable (Doney and Cannon, 1997)
2. This salesperson knows her/his product line very well (Doney and Cannon, 1997)
3. This salesperson is not and expert (R) (Doney and Cannon, 1997)

Changes made:
The term 'employee of our major supplier ...' was introduced throughout the scale
Reverse coding was taken off Item 3
Item 1 and 3 identify the specific the area of knowledge and expertise the major supplier has

.

Scale used in the questionnaire

1. Our major supplier's employees are very knowledgeable about their industry
2. Our major supplier's employees know their product line very well
3. Our major supplier's employees have good selling and marketing skills

Relationship Investment

Original Scale

1. This supplier has gone out of its way to link us with their product line (Anderson and Weitz, 1992)
2. This supplier has made significant investment in training our people (Anderson and Weitz, 1992)
3. It would be difficult for this supplier to recoup its investment in us if we switched to a new distributor (Anderson and Weitz, 1992)
4. This supplier does a lot to help us become a more effective distributor, such as providing management training (Anderson and Weitz, 1992)
5. This supplier puts on helpful programs that are designed to enhance our overall business (Anderson and Weitz, 1992)

Changes made:
The term 'employee of our major supplier ...' was introduced throughout the scale
Item 3, the phrase 'new distributor' is changed to 'new manufacturer'
Item 4the word 'distributor' is deleted
Item 5 was deleted because a four item scale was required and this item was deemed to be the least appropriate question by panel of experts

Scale used in the questionnaire

1. Our major supplier has gone out of his way to link their product into our organisation
2. Our major supplier has made significant investment in training our employees
3. It would be difficult for our major supplier to recover their investment in us if we switched to a new supplier
4. Our major supplier does a lot to help us become more effective users of their products/services

Measures of behavioural relationship quality from the buyer's perspective of the relationship with their major supplier

Benevolence

Original Scale (Ganesan, 1994)

1. This resource's representative has made sacrifices for us in the past
2. This resource's representative cares for us
3. In times of shortage, this resource's representative has gone out on a limb for us
4. This resource's representative is like a friend
5. We feel the resource's representative has been on our side

Changes made:
The term 'our major supplier....' was introduced throughout the scale
Item 4 was dropped on the grounds of relevance to conceptualisation and when friend is applied to more than one employee the questions looses some meaning

Scale used in the questionnaire

1. Our major supplier's employees have made sacrifices for us in the past
2. Our major supplier's employees care for us
3. In times of shortage, our major supplier's employees have gone out on a limb for us
4. We feel our major supplier employees have been on our side

Customer orientation

Original Scale

1. I try to determine how I can best help the customer solve his/her problem (Thakor and Joshi, 2005)
2. I always present the customer with a realistic picture of what my firm's products can do (Thakor and Joshi, 2005)
3. I spend much of my time listening to the customer talk about his/her firm's needs (Thakor and Joshi, 2005)
4. I wait until I fully understand the customer's needs before making my sales presentation (Thakor and Joshi, 2005)
5. I am always candid in discussions with my customers (Thakor and Joshi, 2005)

Changes made:
The term 'employee of our major supplier ...' was introduced throughout the scale
Item 5 was deleted from the scale due to close association with credibility as opposed to customer orientation

Scale used in the questionnaire

1. Our major supplier tries to determine how best they can help to solve our problems
2. Our major supplier always presents us with a realistic picture of what their firm's products can do
3. Our major supplier spend much of their time listening to us about our firm's needs
4. Our major supplier wait until they fully understand the our firm's needs before making a sales presentation

Flexibility

Original Scale

1. This manufacturer is flexible in response to requests we make (Bonner and Calantone, 2005)
2. This manufacturer handles change well (Bonner and Calantone, 2005)
3. Flexibility in response to requests for changes is a characteristic of this relationship (Bonner and Calantone, 2005)
4. This manufacturer can readily adjust supply of products to meet unforeseen needs that might occur (Bonner and Calantone, 2005)

Changes made:
The term 'our major supplier ...' was introduced to item 1, 2 and 4
Item 2 what change is identified
Item 3 is dropped from the scale due to its similarity with item 1

Scale used in the questionnaire

1. Our major supplier is flexible in response to requests we make
2. Our major supplier handles relationship and market change well
3. Our major supplier can readily adjust supply of their products and services to meet unforeseen needs that might occur

Cooperation *(cooperative norms)*

Original Scale

1. No matter who is at fault, problems are joint responsibilities (Cannon and Perreault, 1999)
2. Both sides are concerned about the other's profitability (Cannon and Perreault, 1999)
3. One party will not take advantage of a strong bargaining position (Cannon and Perreault, 1999)
4. Both sides are willing to make cooperative changes (Cannon and Perreault, 1999)
5. We must work together to be successful (Cannon and Perreault, 1999)
6. We do not mind owing each other favours (Cannon and Perreault, 1999)

Changes made:
The term 'our major supplier... 'was introduced throughout the scale
Item 2 and 5 are similar therefore item 2 has be deleted from the scale '
Item 6 was not considered representative of our studies conceptualisation on cooperation

Scale used in the questionnaire

1. No matter who is at fault, our major supplier sees problems as a joint responsibility
2. Our major supplier will not take advantage of a strong bargaining position
3. Our major supplier support our initiatives
4. We work with our major supplier to achieve success

Opportunism

Original Scale

1. To accomplish his own objectives, sometimes my supplier alters the facts slightly (Morgan and Hunt 1994)
2. To accomplish his own objectives, sometimes my supplier promises to do things without actually doing them later (Morgan and Hunt 1994)
3. To accomplish his own objectives, sometimes my supplier fails to provide us with the support that he is obliged to (Morgan and Hunt 1994)

Changes made:
The term 'to accomplish his own objectives, our major supplier sometimes... 'was introduced throughout the scale

Scale used in the questionnaire

1. To accomplish his own objectives, our major supplier sometimes alters the facts slightly
2. To accomplish his own objectives, our major supplier sometimes my supplier promises to do things without actually doing them later
3. To accomplish his own objectives, our major supplier sometimes fails to provide us with the support that he is obliged to

Ethical Profile

Original Scale (Victor and Cullen, 1988)

Have used (Victor and Cullen, 1988) because (Dorsch *et al.,* 1998) conversion of the original V and C, 1988 scale is incomplete in the papers appendix

(Instrumental)

1. In this company, people protect their own interests above all else
2. In this company, people are mostly out for themselves
3. There is no room for one's own personal morals or ethics in this company
4. People are expected to do anything to further the company's interests, regardless of the consequences
5. People here are concerned with the company's interests to the exclusion of all else
6. Work is considered substandard only when it hurts the company's interests
7. The major responsibility of people in this company is to control costs

Changes made:
The phrase 'at our major supplier ... ' was introduced throughout the scale
Items 4, 6 and 7where deleted from the scale due to their similarity with other measures.

Scale used in the questionnaire

1. Our major supplier protect their own interests above all else
2. Our major supplier's employees are mostly out for themselves
3. There is no room for morals and ethics among the employees of our major supplier
4. Employees of our major supplier are concerned with the company's interests to the exclusion of all else

Coercive power (Brown *et al.,* 1995)

Original Scale

1. The manufacturer's personnel would somehow get back at us if we didn't do as they asked and they would've found out
2. The manufacturer often hinted that they would take certain actions that would reduce our profits if we didn't go along with their requests
3. The manufacturer might have withdrawn certain needed services from us if we didn't go along with them
4. If wee didn't agree to their suggestions, the manufacturer could have made things difficult for us.
5. The manufacturer threatened to cancel, or refused to renew, our contract

Changes made:
The term 'our major supplier... 'was introduced throughout the scale
Item 2 was considered to be vague and was deleted from the pre-test scale.
However, in the pre-test item 1 produced an item–to-total correlation of less than 0.2 and therefore item 2 was reintroduced to replace this poor performing item
.

Scale used in the questionnaire

1. Our major supplier often hints that they would take certain actions that would reduce our profits if we did not go along with their requests
2. Our major supplier would withdrawn certain needed services from us if we did not go along with them
3. Our major supplier could make things difficult for us, if we did not agree to their suggestions
4. Our major supplier threatens to cancel, or refused to renew, our contract if we do not agree with their proposals

Referent power (Brown *et al.,* 1995)

Original Scale

1. We really admire the way the manufacturer runs their business, so we tried to follow their lead
2. We generally wanted to operate our dealership very similar to the way we thought the manufacturer would

3. We when along with the manufacturer's requests because we wanted to earn the respect of the manufacturer's personnel
4. Our dealership did what the manufacturer wanted because we have very similar feelings about the way a business should be run
5. Because our dealership is proud to be affiliated with the manufacturer, we often did what they asked last year

Changes made:
The term 'our major supplier... 'was introduced throughout the scale
Item 2 was deleted on grounds of relevance to the concept
Item 4 the phrase 'our dealership' was changed to 'our businesses
Item 5 the phrase 'our dealership' was changed to 'our company'

Scale used in the questionnaire

1. We admire the way our major supplier runs their business, so we try to follow their lead
2. We agree to our major suppliers requests in an effort to gain their respect
3. We agree to our major supplier's requests because we have similar feelings about the way a business should be run
4. Because we are proud to be affiliated with our major supplier we often do what they ask

Conflict (Menon *et al.*, 1997)

Original Scale

1. Most departments in this business unit get along well with each other (R)
2. When members of several departments get together, tensions frequently run high
3. People in one department generally dislike interacting with those from other departments
4. Employees from different departments feel that the goals of their respective departments are in harmony with each other (R)
5. Protecting ones departmental turf is considered to be a way of life in this business unit
6. The objectives pursued by the marketing department are incompatible with those of the manufacturing department
7. There is little or no interdepartmental conflict in this business unit (R)

Changes made:
The term 'our major supplier... 'was introduced throughout the scale
Item 1, 4 and 7 are deleted due to their similarity to other questions
Reference to 'interdepartmental personnel' was changed 'inter-company personnel'

Scale used in the questionnaire

1. When getting together with our major supplier, tensions frequently run high
2. In general employees in our company generally dislike interacting with employees from our major supplier
3. Protecting your own interests is a way of life for employees of our major supplier
4. The objectives pursued by our company are incompatible with those of our major supplier

Measurement scales for benefits of the relationship with our major supplier

Economic benefits (Gwinner *et al.,* 1998)

Original Scale

1. I get discounts or special deals that most customers don't get
2. I get better prices than most customers
3. They do services for me that they don't do for most customers
4. I am placed higher on the priority list when there is a line
5. I get faster service than most customers

Changes made:
The phrase 'Our major supplier give us ... 'was introduced throughout the scale and 'I get' was deleted
Item 3 was deleted because the question is vague

Scale used in the questionnaire

1. Our major supplier give us discounts and special deals that most of their other customers do not get
2. Our major supplier give us better prices than most of their other customers
3. Our major supplier give us priority when there is a shortage of product
4. Our major supplier give us a faster service than they give most of their other customers

Social Benefits (friendship)

Original Scale (Ulaga and Eggert, 2005)

1. Compared to our best supplier, working with supplier A provides me with more personal satisfaction
2. Compared to our best supplier, working with supplier A is of more personal value to me
3. Compared to our best supplier, working with supplier A provides me with more personal recognition

Changes made:
The phrase 'compared with our second best supplier...' was replaced with 'the relationship with our major supplier .....than other supplier relationships was introduced throughout the scale

Scale used in the questionnaire

1. Our major supplier provide our employees with more personal satisfaction than other supplier relationships
2. Our major supplier is of more personal value to our employees than other supplier relationships
3. Our major supplier provide our employees with more personal recognition than other supplier relationships

Social Benefits (association)

Original Scale (Baxter and Matear, 2004)
To what extent does your relationship with your chosen customer allow you to utilise the relationship your customer has with the following?

1. Members of a product or service user group to which the customer belongs
2. Your customer's alliance or joint venture partners
3. Key opinion leaders in your customer's field
4. Business networks or other networks to which your customer belongs

Changes made:
The phrase 'the relationship with our major supplier allows us to utilise ....' Was introduced throughout the scale

Scale used in the questionnaire

We benefit from the trade associations and standards organisations to which our major supplier belongs
We benefit from the alliances or joint venture partners our major supplier supports
Our major supplier allows us access to key opinion leaders in our industry
We gain benefit from the business and other networks to which our major supplier belong

Knowledge Benefit (Innovation)

Supplier know-how (Ulaga and Eggert, 2006a)

Original Scale

1. Compared to the second supplier, the main supplier provides us a better access to his know-how
2. Compared to the second supplier, the main supplier knows better how to improve our existing products
3. Compared to the second supplier, the main supplier performs better at presenting us with new products
4. Compared to the second supplier, the main supplier knows better how to help us drive innovation in our products
5. Compared to the second supplier, the main supplier knows better how to assist us in new product development

Changes made:
The phrase 'Compared with our other suppliers, our major supplier ....' was introduced throughout the scale
Item 3 was deleted on the grounds of vagueness

Scale used in the questionnaire

1. Compared with our other suppliers, our major supplier provides us with better access to his know-how
2. Compared with our other suppliers, our major supplier knows better how to help us improve our existing products
3. Compared with our other suppliers, our major supplier knows better how to help us drive innovation in our products

4. Compared with other supplies, our major supplier knows better how to assist us in new product development

Knowledge Benefits (IP)

Organisation (Baxter and Matear, 2004)

Original Scale
To what extent does your relationship with your customer allow you to gain benefits from the following in their organisation?

1. Their intellectual property, including patents, trade marks and copyrights
2. Their brands
3. Their information in databases and other documentation

Changes made:
The phrase 'the relationship we have with our major supplier allows us to gain benefits from……' Was introduced throughout the scale

Scale used in the questionnaire

1. Our major supplier allows us more access to their intellectual property, including patents, trade marks and copyrights
2. Our company benefits more from the brands of our major supplier's brands than those of other suppliers
3. Our company benefits from the information in databases and other documentation of our major supplier

Functional Benefits

Original Scale (Ulaga and Eggert, 2006a)

1. Compared to the second supplier, the main supplier performs better in meeting delivery due dates
2. Compared to the second supplier, we have less delivery errors with the main supplier
3. Compared to the second supplier, deliveries from the main supplier are more accurate (no missing or wrong parts)

Changes made:
Introduce the phrase 'our major supplier...'and deleted comparison with second supplier
Item 2 was deleted on the grounds of similarity with item 3

Two additional items are introduced that identify other functional benefits of a supplier relationship

Scale used in the questionnaire

1. Compared with other suppliers, our major supplier performs better in meeting delivery due dates
2. Compared with other suppliers, deliveries from our major supplier are more accurate (no missing or wrong items)
3. Compared with other suppliers, our calls are returned more promptly by our major supplier
4. Compared with other suppliers, we have less invoicing and accounting errors with our major supplier

Emotional Benefits

Original Scale (Ulaga and Eggert, 2006a)

1. Compared to the second supplier, it is easier to work with the main supplier
2. Compared to the second supplier, we have a better working relationship with the main supplier
3. Compared to the second supplier, there is a better interaction between the main supplier's people and ours
4. Compared to the second supplier, we interact better with the main supplier
5. Compared to the second supplier, we can address problem more easily with the main supplier
6. Compared to the second supplier, we can discuses problems more freely with the main supplier
7. Compared to the second supplier, the main supplier gives us a greater feeling of being treated as an important customer

Changes made:
Introduce the phrase 'our major supplier... 'through out the scale and deleted the phrase 'compared to the second supplier....''
Items 2, 3 and 5where deleted from the scale due to their similarity with other measures

Scale used in the questionnaire

1. Compared with our other suppliers, our major supplier is easy to work with
2. Compared with our other suppliers, we interact well with our major supplier
3. Compared with our other suppliers, we can discuss problems more freely with our major supplier
4. Compared with our other suppliers, our major supplier gives us a feeling of being treated as an important customer

Measurement scales for sacrifices of the relationship with our major supplier

Relationship Cost

Original Scale (Ulaga and Eggert 2006a)
(5 point Likert scale from 'main supply's costs are much lower' to 'main supplier's costs are much higher)

How do each of the following costs of the main supplier, compare with the costs of your second-best supplier?

1. Purchase Price
2. Ordering costs
3. Delivery costs
4. Inventory carrying costs
5. Coordination and communication costs
6. Manufacturing costs
7. Downtime costs

Changes made:
Introduce the phrase 'our major supplier... 'through out the scale
The original scale uses the phrase "compared with the cost of your second best supplier" was used in the overall question that applied to each item cost. In the interest of consistency of questionnaire presentation and ease of use, the comparison made by this question was introduced into each item. For example, "purchase price" became "We pay substantially more for the goods obtained from our major supplier".
Deleted item 6 and 7 from the scale on grounds that they are only relevant to manufacturing companies and not for example relevant the distributors and retailers.
Item 4 was 'Anglicised' to read 'stock' and 'inventory'
Item 5 'communication' was deleted on the grounds that 'coordination' in a relationship pre-supposes communication and therefore the word 'communication is redundant and confusing. As result of the pre-test this item was deleted due to the confusion coursed by the meaning of this cost.

Scale used in the questionnaire (7 point Likert scale from 'our main supply's costs are much lower' to 'our main supplier's costs are much higher)

How does each of the following costs of your major supplier compare the costs of your second-best supplier?

1. We pay substantially more for the goods obtained from our major supplier.
2. The cost of administrating orders placed with our major supplier is unwarranted.
3. The cost of stocking our major supplier's products is disproportionately high.
4. The cost of delivery from our major supplier is excessive.

Time

Original Scale (Lapierre, 2000)

1. The number of meetings with the supplier's staff
2. The bargaining effort with the supplier's staff in reaching an agreement
3. Your time and effort spent training a number of your employees
4. Your time and effort spent developing a working business relationship with your major IT supplier
5. Your energy invested with your major IT supplier

Changes made:

Introduce the phrase 'our major supplier... 'through out the scale

Scale used in the questionnaire

1. The number of meetings we have with our major supplier, is in proportion to the volume of business we do
2. Negotiations with our major supplier are concluded in a reasonable time frame
3. Training our employees in the products of our major supplier is worth the time we spend
4. The time spent developing a good working relationship with our major supplier has paid dividends

Effort

Original Scale (Lapierre, 2000)

1. The number of meetings with the supplier's staff
2. Reaching an agreement with our major supplier's staff requires a great deal of time
3. Your time and effort spent training a number of your employees

4. Your time and effort spent developing a working business relationship with your major IT supplier
5. Your energy invested with your major IT supplier

Changes made:
The phrase 'our major supplier...' was introduced throughout the scale
Item 1 from the original scale is deleted on grounds that it is related more to time than effort

Scale used in the questionnaire

1. The effort required to administer transaction with our major supplier is proportionate to volume of business we do
2. Reaching agreement with our major supplier requires little bargaining effort
3. The effort involved in training our employees in the products of our major supplier is worth the effort
4. The effort involved in developing a good working business relationship with our major supplier has paid dividends

Time and Effort

This scale was developed from two Lapierre (2000) sales 'Time' and 'Effort', which were tested separately in the pre-test. Three problems exist with these scales [1] time and effort in the context of cost in a relationship amount to a similar utility and [2] in order to achieve an alpha score over 0.7 'Time' was reduced to a 3 item scale and 'Effort' to 2 item scale [3] the phrasing of Lapierre (2000) scales are the same but for the word 'time' and 'effort'. In view of these issues and the unsatisfactory nature of a 2 item scale it was decided to combine these scales.

Time

Original Scale (Lapierre, 2000)

1. The number of meetings with the supplier's staff
2. The bargaining effort with the supplier's staff in reaching an agreement
3. Your time and effort spent training a number of your employees
4. Your time and effort spent developing a working business relationship with your major IT supplier
5. Your energy invested with your major IT supplier

Effort

Original Scale (Lapierre, 2000)

6. The number of meetings with the supplier's staff

7. Reaching an agreement with our major supplier's staff requires a great deal of time
8. Your time and effort spent training a number of your employees
9. Your time and effort spent developing a working business relationship with your major IT supplier
10. Your energy invested with your major IT supplier

Changes made:
The phrase 'our major supplier...' was introduced throughout the scale

Scale used in the questionnaire

1. We spend a lot of time in meetings with our major supplier
2. Negotiations with our major supplier take a long time to conclude.
3. It takes a considerable amount of time training our employees in the products of our major supplier
4. A substantial amount of time and effort is spent developing a good working relationship with our major supplier.
5. Excessive time and effort is expended to administer transactions with our major supplier.

Satisfaction (With a Supplier)

Original Scale (Cannon and Perreault, 1999)

1. Our firm regrets the decision to do business with this supplier (R)
2. Overall, we are very satisfied with this supplier
3. We are very pleased with what this supplier does for us
4. Our firm is not completely happy with this supplier (R)
5. If we had to do it all over again, we would still choose to use this supplier

Changes made:
The phrase 'our major supplier...' was introduced throughout the scale
Item 1 and 4 was reversed
Satisfaction is an assessment of past performance and is not necessarily factor in choosing the future, therefore question 5 was dropped.

Scale used in the questionnaire

1. We do not regret the decision to do business with our major supplier
2. Overall, we are very satisfied with our major supplier

3. We are very pleased with what our major supplier does for us
4. Our firm is completely happy with our major supplier

Long-term Orientation

Original scale (Ganesan, 1994)

1. We believe that over the long run our relationship with the supplier firm will be profitable
2. Maintaining a long-term relationship with the supplier firm is important to us
3. We focus on long-term goals in this relationship
4. We are willing to make sacrifices to help the supplier firm from time to time
5. We share our long-term goals with the supplier firm
6. We would like to develop a long-term relationship with the supplier firm

Changes made:
The term 'our major supplier...' was introduced throughout the scale
Item 5 was deleted from the scale due to a similarity with item 3

Scale used in the questionnaire

1. We believe that over the long run our relationship with our major supplier will be profitable
2. Maintaining a long-term relationship with our major supplier is important to us
3. We focus on long-term goals in our relationship with our major supplier
4. We are willing to make sacrifices to help our major supplier from time to time

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14th November 2006

A Study of Relationship Quality and Value

Thank you for agreeing to take part in this study.

We are conducting a nationwide survey among senior executives in the electrical and electronics industries. Your answers are very important to the accuracy of our research therefore please complete the questionnaire as per the given instructions and return it in the pre-paid envelope provided.

The questionnaire has an identification number on the front cover that is used to check your name off the mailing list when it is returned. Your name will never be placed on the questionnaire itself, which means that you can be assured your answers are completely confidential.

In recognition of your contribution to our research, we will enter each completed questionnaire into a prize draw for the chance to **win one of three iPods**. Furthermore, if you would like to receive the summary of the project outcome, please circle the identification number on the front cover of your questionnaire.

Finally, if you have any questions concerning the research or its administration, you are welcome to contact me on 07973 655569 or Prof. Stavros Kalafatis on 020 854 77121. I would like to take this opportunity to thank you in advance for your time, effort and above all your support.

Yours sincerely

Stephen Constable
Business Marketing Research Group

A Study of Business Relationship Quality and Value

The questionnaire looks at business-to-business relationships. When completing the questionnaire, please consider your firm's relationship with your current major supplier and respond accordingly.

Section 1: Background Information about You and Your Major Supplier

1. The size of your major supplier: (please tick the appropriate box)

1-49 employees ____	50-249 employees ____	250 or more employees ____

2. The size of your own organisation: (please tick the appropriate box)

1-49 employees ____	50-249 employees ____	250 or more employees ____

3. Length of the relationship with your major supplier: _____ years

Section 2: General Views about Your Major Supplier

Please indicate your level of agreement with each of the following statements

	Strongly agree			Neither agree nor disagree			Strongly disagree
4. Our major supplier's employees are honest in their dealings with us.	7	6	5	4	3	2	1
5. Promises made by our major supplier's employees are reliable.	7	6	5	4	3	2	1
6. Our major supplier's employees are knowledgeable about their company's products.	7	6	5	4	3	2	1
7. Our major supplier's employees do not make false claims.	7	6	5	4	3	2	1
8. We admire the way our major supplier runs its business, so we try to follow its lead.	7	6	5	4	3	2	1
9. We agree to our major supplier's requests in an effort to gain their respect.	7	6	5	4	3	2	1
10. We agree to our major supplier's requests because we have similar feelings about the way a business should be run.	7	6	5	4	3	2	1

	Strongly agree			Nether agree nor disagree			Strongly disagree
11. Because we are proud to be affiliated with our major supplier we often do what they ask.	7	6	5	4	3	2	1
12. Our major supplier's employees make sacrifices for us.	7	6	5	4	3	2	1
13. Our major supplier's employees care for us.	7	6	5	4	3	2	1
14. In times of shortage, our major supplier's employees go out on a limb for us.	7	6	5	4	3	2	1
15. We feel our major supplier's employees are on our side.	7	6	5	4	3	2	1

Section 3: Your Major Supplier's Knowledge and Expertise

	Strongly agree			Nether agree nor disagree			Strongly disagree
16. Our major supplier keeps us informed about events that affect or may affect us.	7	6	5	4	3	2	1
17. Our major supplier regularly exchanges information informally.	7	6	5	4	3	2	1
18. Our major supplier consistently gives us information beyond what is required by our formal agreement(s).	7	6	5	4	3	2	1
19. We expect our major supplier to provide us with information that may be of help to us.	7	6	5	4	3	2	1
20. Our major supplier's employees are very knowledgeable about our industry.	7	6	5	4	3	2	1
21. Our major supplier's employees know their product lines very well.	7	6	5	4	3	2	1
22. Our major supplier's employees are experts in their products' area.	7	6	5	4	3	2	1

Section 4: Your Major Supplier's Behaviour

	Strongly agree			Neither agree nor disagree			Strongly disagree
23. Our major supplier makes a special effort to integrate its products into our organisation.	7	6	5	4	3	2	1
24. Our major supplier makes a significant investment in training our employees.	7	6	5	4	3	2	1
25. It would be difficult for our major supplier to recover its investment in us if we switched to a new supplier.	7	6	5	4	3	2	1
26. Our major supplier does a lot to help us become more effective users of its products.	7	6	5	4	3	2	1
27. Our major supplier's employees try to determine how best they can help to solve our problems.	7	6	5	4	3	2	1
28. Our major supplier's employees always present us with a realistic picture of what their firm's products can do.	7	6	5	4	3	2	1
29. Employees of our major supplier spend much of their time listening to us talk about our firm's needs.	7	6	5	4	3	2	1
30. Our major supplier's employees wait until they fully understand our firm's needs before making a sales presentation.	7	6	5	4	3	2	1
31. No matter who is at fault, our major supplier sees problems as a joint responsibility.	7	6	5	4	3	2	1
32. Our major supplier will not take advantage of a strong bargaining position.	7	6	5	4	3	2	1
33. Our major supplier supports the initiatives we take.	7	6	5	4	3	2	1
34. We work with our major supplier to achieve success.	7	6	5	4	3	2	1

Section 5: Doing Business with Your Major Supplier

	Strongly agree			Neither agree nor disagree			Strongly disagree
35. Our major supplier protects its own interests above all else.	7	6	5	4	3	2	1
36. Our major supplier's employees are mostly out for themselves.	7	6	5	4	3	2	1
37. There is no room for morals and ethics among the employees of our major supplier.	7	6	5	4	3	2	1
38. Employees of our major supplier are concerned with their own company's interests to the exclusion of all else.	7	6	5	4	3	2	1
39. To accomplish their own objectives, our major supplier sometimes alters the facts slightly.	7	6	5	4	3	2	1
40. To accomplish their own objectives, our major supplier sometimes promises to do things without actually doing them later.	7	6	5	4	3	2	1
41. To accomplish their own objectives, our major supplier sometimes fails to provide us with the support that they are obliged to.	7	6	5	4	3	2	1
42. When getting together with our major supplier, tensions frequently run high.	7	6	5	4	3	2	1
43. In general employees in our company dislike interacting with employees from our major supplier.	7	6	5	4	3	2	1
44. Protecting their own interests is a way of life for employees of our major supplier.	7	6	5	4	3	2	1
45. The objectives pursued by our company are incompatible with those of our major supplier.	7	6	5	4	3	2	1
46. Our major supplier often hints that they would take certain actions that would reduce our profits if we did not go along with their requests.	7	6	5	4	3	2	1

	Strongly agree			Neither agree nor disagree			Strongly disagree
47. Our major supplier would withdraw certain needed services from us if we did not go along with them.	7	6	5	4	3	2	1
48. Our major supplier could make things difficult for us, if we did not agree to their suggestions.	7	6	5	4	3	2	1
49. Our major supplier would threaten to cancel, or refuse to renew, our contract if we do not agree with their proposals.	7	6	5	4	3	2	1

Section 6: The Benefits of Doing Business with Your Major Supplier

	Strongly agree			Neither agree nor disagree			Strongly disagree
50. Our major supplier is flexible in response to requests we make.	7	6	5	4	3	2	1
51. Our major supplier handles relationship and market change well.	7	6	5	4	3	2	1
52. Our major supplier can readily adjust supply of its products to meet unforeseen needs that might occur.	7	6	5	4	3	2	1
53. Our major supplier gives us special discounts and terms.	7	6	5	4	3	2	1
54. Our major supplier gives us their best price.	7	6	5	4	3	2	1
55. Our major supplier gives us priority when there is a shortage of product.	7	6	5	4	3	2	1
56. Our major supplier gives us a fast service.	7	6	5	4	3	2	1
57. Our major supplier meets delivery due dates.	7	6	5	4	3	2	1
58. Deliveries from our major supplier are accurate (no missing or wrong items).	7	6	5	4	3	2	1

	Strongly agree			Neither agree nor disagree			Strongly disagree
59. Our major supplier is prompt in returning our calls.	7	6	5	4	3	2	1
60. Our major supplier's invoicing and accounting is accurate.	7	6	5	4	3	2	1
61. Our major supplier's products conform to the standard of quality we require.	7	6	5	4	3	2	1
62. Our major supplier provides personal satisfaction for our employees.	7	6	5	4	3	2	1
63. Our major supplier's employees are friendly.	7	6	5	4	3	2	1
64. Our major supplier offers our employees personal recognition.	7	6	5	4	3	2	1
65. We benefit from the trade associations to which our major supplier belongs.	7	6	5	4	3	2	1
66. We benefit from the alliance partners our major supplier support.	7	6	5	4	3	2	1
67. Our major supplier offers access to key opinion leaders in our industry.	7	6	5	4	3	2	1
68. We benefit from our major supplier's business network.	7	6	5	4	3	2	1
69. Our major supplier gives us access to its know-how.	7	6	5	4	3	2	1
70. Our major supplier understands how to help us improve our existing products.	7	6	5	4	3	2	1
71. Our major supplier knows how to help us drive our innovation.	7	6	5	4	3	2	1
72. Our major supplier knows how to assist us in new product development.	7	6	5	4	3	2	1
73. Our major supplier allows us access to their intellectual property, including patents, trade marks and copyrights.	7	6	5	4	3	2	1
74. Our company benefits from the brands of our major supplier.	7	6	5	4	3	2	1

	Strongly agree			Neither agree nor disagree			Strongly disagree
75. Our company benefits from the information in databases and other documentation of our major supplier.	7	6	5	4	3	2	1
76. Our major supplier is easy to work with.	7	6	5	4	3	2	1
77. We interact well with our major supplier.	7	6	5	4	3	2	1
78. We can discuss problems freely with our major supplier.	7	6	5	4	3	2	1
79. Our major supplier gives us a feeling of being treated as an important customer.	7	6	5	4	3	2	1

Section 7: The Cost of Doing Business with your Major Supplier

	Strongly agree			Neither agree nor disagree			Strongly disagree
80. We spend a lot of time in meetings with our major supplier.	7	6	5	4	3	2	1
81. Negotiations with our major supplier take a long time to conclude.	7	6	5	4	3	2	1
82. It takes a considerable amount of time training our employees in the products of our major supplier.	7	6	5	4	3	2	1
83. A substantial amount of time and effort is spent developing a good working relationship with our major supplier.	7	6	5	4	3	2	1
84. Excessive time and effort is expended to administer transactions with our major supplier.	7	6	5	4	3	2	1
85. We pay substantially more for the goods obtained from our major supplier.	7	6	5	4	3	2	1
86. The cost of administering orders placed with our major supplier is unwarranted.	7	6	5	4	3	2	1

	Strongly agree			Neither agree nor disagree			Strongly disagree
87. The cost of stocking our major supplier's products is disproportionately high.	7	6	5	4	3	2	1
88. The cost of delivery from our major supplier is excessive.	7	6	5	4	3	2	1

Section 8: Your Company's Satisfaction and Future Intentions

	Strongly agree			Neither agree nor disagree			Strongly disagree
89. We do not regret the decision to do business with our major supplier.	7	6	5	4	3	2	1
90. Overall, we are very satisfied with our major supplier.	7	6	5	4	3	2	1
91. We are very pleased with what our major supplier does for us.	7	6	5	4	3	2	1
92. Our firm is completely happy with our major supplier.	7	6	5	4	3	2	1
93. Over the long run we believe the relationship we have with our major supplier will be profitable.	7	6	5	4	3	2	1
94. Maintaining a long-term relationship with our major supplier is important to us.	7	6	5	4	3	2	1
95. We focus on long-term goals in our relationship with our major supplier.	7	6	5	4	3	2	1
96. We are willing to make sacrifices to help our major supplier from time to time.	7	6	5	4	3	2	1

Thank you very much for taking part in this research.

Please use the enclosed FREEPOST envelope to return your completed questionnaire to: Stephen Constable, (c/o Stavros P Kalafatis), Kingston Business School, FREEPOST KT2430, Kingston Hill, Kingston-upon-Thames, Surrey KT2 7BR

SCHOOL OF MARKETING POSTGRADUATE PROJECT SERVICES
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Questionnaire Identification Number: «Questionairre_ID_»

«Reminder_Letter»

««AddressBlock»»

««GreetingLine»»

On the «Questionairre_Sent» we sent you a questionnaire, asking for your help. We have already received a significant number of responses to the questionnaire but we appear not to have received your response.

It is important that we receive your questionnaire in order to ensure the validity of the results. So I am writing to you again to ask for your help. You can contribute to the study in any of the following three ways:

- If you still have the paper copy of the questionnaire, I would be grateful if you could complete and return it in the 'Freepost' return envelope previously provided.

- If you require another copy of the questionnaire, then please quote your name or the questionnaire identification number shown at the top of the page in an e-mail to myself at: s.constable@ziamax.com or call me on 01344 626327.

- Alternatively, you can respond by using the on-line questionnaire, which is reached by typing the following hyperlink into the address box of your internet browser: **http://FreeOnlineSurveys.com/rendersurvey.asp?sid=24zcn3eetvdr6id251245** your questionnaire identification number, which is «Questionairre_ID_» will be required when using this method.

For further information about this research or its administration, you are welcome to contact me on 01344 626327 or Prof. Stavros Kalafatis on 020 854 77121. I would like to take this opportunity to thank you in advance for your time, effort and above all your support.

Yours sincerely

Stephen Constable
Business Marketing Research Group