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# Relationship Governance: Structure and Performance in Industrial Markets

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# Abstract

The scope of research on interorganisational relationship structure has been limited by rigid adherence to specific governance paradigms and by lack of research into relational performance. The conceptual framework developed in this thesis responds to these issues by pursuing a multiparadigm approach from which it develops a taxonomy of relationship structures that is linked to performance. The classification of a relationship into the taxonomy is based on the relationship strength construct. This construct discriminates between relational governance structures by measuring both behaviour process and economic content elements of a relationship. The result is a taxonomy of four relationship structures. They are bilateral, recurrent, dominant partner and discrete. Furthermore, the research links these relationship structures to a multifaceted definition of relational performance, which includes both behaviour and economic outcomes, to enable it to test which structure optimises performance. It proposes that bilateral relationships, developed from social exchange theory, are the optimal governance structures for managing interfirm exchanges. Bilateral relationships have the highest level of relationship strength of all the structures. These structures involve partners who have high levels of trust in each other and who have made substantial commitment to the relationship. If these relationships are found to be the optimal structures in terms of performance, considerable support will have been found for social exchange theory. The research hypotheses are supported by empirical work which combines qualitative and quantitative methodologies. The qualitative study uses in-depth interviews with buyer and

supplier organisations. The quantitative study consists of a mail survey of 500 UK industrial buyers who are interviewed about their main supply relationship. The industries included in the research are engineering, electronics and communications. The development of a taxonomy of relationship structures and its links to performance provides guidance to researchers and managers on how to assess and develop the potential of a relationship. The assumptions managers make about relationships have an impact on what is attainable from the relationship. The research also provides strong support for social exchange positions in managing interfirm relationships.

Keywords: governance theory; interfirm relationships; relationship structure; social exchange theory; relational performance; relationship management and strategy.

# Table of Contents

## List of tables

## List of figures

# Statement of original authorship

This thesis is the original work of the student submitting it for examination.

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# Chapter 1 - Overview of Research

## 1.0 Introduction

This chapter presents an overview of the research. It outlines the background of the research and the key research problems it seeks to investigate. An outline of the research objectives and methodology is also given. Finally, a summary of the content of the chapters of the thesis is presented.

## 1.1 Background to the research

There has been a growth in the importance of interorganisational relationships in business research and practice. Kanter(1994) pointed to the strategic advantages of collaboration in a variety of industries and Kay(1993) used relationships as one of the key building blocks in adding corporate value in his analysis of business strategy. Clearly, collaboration and relationships are moving to centre stage in the analysis of how companies compete. Indeed, relationships are beginning to be integrated into general theories of marketing. For example, Dwyer, Schurr and Oh(1987) provided a framework for developing buyer-seller relationship and Houston, Gassenheimer and Maskulka(1992) integrated relationships into their conceptualisation of exchange theory. Chapter 2 of this thesis will assess relational exchange in more detail and provide a series of examples, from the literature, that catalogue intensified relationship in business practice.

Relational exchanges between partners can be contrasted with a more economic view of exchange which sees the exchange transaction as the unit of analysis of interorganisational relationships. One area that has made a key contribution to

the economic analysis of relationships is transaction cost economics(Williamson, 1979; 1985). The difference between relational and economic views of interorganisational exchange is the assumptions on which they are based. Relational or behavioural assumptions view the relationship as being embedded in a social structure and driven by the mutual needs of the partnership. On the other hand, economic assumptions are based on opportunism and short-term advantage seeking by a particular focal firm. These two approaches are compared in chapter 2. They are also incorporated into the analysis of exchange governance which is the focus of this thesis.

Relationships have been established as a developing field of study. Aijo(1996) examined the environmental reasons which have contributed to the growth of relationships. According to Aijo, the two key reasons which facilitated closer relationships were customisation and the information revolution. These forces have led to what the author termed "virtual marketing" and "virtual corporations". Virtual marketing or integration of the customer into the supply chain was aptly described by Wikstrom(1996) as "customer as co-producer". The ability of the technology of information and communication to create a virtual organisation, or web of organisations linked by technology, is also widely supported. Rockard and Short(1989) emphasised the need to manage technology interdependencies between organisations and Konsynski(1993) outlined the technology opportunities, available through organisational transformation, provided by the blurring of boundaries between companies.

Purchasing is becoming an increasingly strategic function in managing interorganisation cooperation(Gadde and Hakansson, 1993). It is moving away from its traditional price orientation role to one of relational management. The growth of outsourcing and the allied reduction in the supply base of

companies is reinforcing the role of purchasing as the coordination function of a firm's relationship strategy. Operational issues are also drawing firms into closer relationships. Factors such as the need for greater cost reduction, quality, and just-in-time supply, are forcing firms to work together. Companies are realising that improvements can be made through closer cooperation rather than by the traditional adversarial approach to managing interfirm relationships. If this trend towards closer relationships is accepted, a key issue will be the organising or structuring of these relationships. This is the core issue to be addressed in this thesis.

The analysis of relationship structure requires a fundamental understanding of the nature of a relationship and the mechanisms that can be used to coordinate the interaction between the partners. The term "relationship" can mean a variety of things depending on how the term is applied. It can be taken to mean any type of cooperation, from coercive supply relationship to strategic alliances. It is becoming increasingly difficult to separate out a "real" relationship from any other type. Donaldson(1996) asserted that companies may talk a lot about close relationships, but in practice, they may be operating a different strategy, for example, the use of open to tender contracts. The rhetoric does not match the reality. One of the key outcomes of this thesis may be to provide a method for the analysis of relational exchanges which concentrate on what is going on in the relationship rather than on the term itself. This may provide businesses with a framework for analysing relationships and discovering the current and potential value of relationships. These outcomes are made possible by this researcher's development of a taxonomy of relationship structures based on their underlying form.

This research proposes that relationship based on social exchange will be the optimal method of managing

interorganisational exchanges. To test this, the research incorporates a relational performance measurement into its conceptual framework. In previous research, the study of relational performance has been limited by a narrow definition which was bound by a particular theoretical paradigm and, usually, conspicuous by its absence. However, the conceptual structure of this thesis pursues a multiparadigm approach to the key issues of relationship structure and performance. In doing this, it diverges from previous research. Most work on the structure and performance of interfirm exchange is rooted in the assumptions of a particular theoretical field. This research combines approaches to the study of interfirm exchange. This does not prevent this researcher from proposing that a certain set of assumptions are optimal.

The structuring of interorganisational exchange has been an important issue in social science literature and is now becoming equally important in the business field. This thesis also adds a performance dimension which has been understudied in previous research.

## 1.2 Research problem and contribution.

One of the key research problems in interorganisational relationship (IORs) literature, and in practice, is how to structure exchange relationships between independent entities. This thesis aims to add to the body of knowledge in this area by developing a classification schema of relational structures that will integrate the main theoretical perspectives, and measure the performance of each of these structures in a multifaceted way.

The field of study of the structure of IORs is generally referred to as governance theory. Governance theorists attempt to

provide solutions to the issues associated with the matching of underlying dimensions of an exchange to an appropriate structure. There is no agreement on what these underlying dimensions are or what the most appropriate resulting structure is. This thesis aims to provide new insights into these related issues. The governance issue is analysed in chapter 2 through the examination of four major theoretical schools on governance: social exchange, resource-dependency, transaction cost economics, and agency theory. These schools are classified into behaviour and economic groups on the basis of the assumptions they make about the nature of interorganisational exchange. Social exchange and resource-dependency theorists take a behavioural view of exchange and transaction cost economics and agency theorists take an economic view.

In research on governance, the way an author studies the underlying dimensions of a relationship depends on the assumptions s/he has made about how a relationship works. Authors usually view these dimensions from either a behaviour or an economic perspective. This thesis combines both these views. That is, a metatheoretical approach is pursued. However, in following such an approach, one is faced with the conceptual problem of how to incorporate the multiplicity of variables which make-up the economic and behavioural content of a relationship. This thesis develops a classifications schema of relationships based on the underlying dimensions which dominate an interaction between partners. These dominant underlying dimensions are measured through an assessment of the strength of a relationship. This assessment contains both a behavioural and an economic component. In this way, the research allows structures from different theoretical approaches that study governance to be incorporated into its conceptual framework. This argument will be developed in depth in chapter 3 of this thesis.

Four relationship structures are present in the taxonomy developed for the research. They are bilateral, recurrent, dominant partner, and discrete. This research also sets out to establish which of these structural forms is the most appropriate to managing interfirm exchanges. It assumes that social exchange perspectives optimise the performance of an interfirm relationship. It tests this assumption by including a relationship performance dimension in the research. Social exchange governance is best represented by bilateral relationships. The performance of these relationships is measured against that of the other structural forms. The relationship performance construct used in the research is multifaceted, taking elements from each of the governance schools. Therefore, for any relationship structure to outperform the others, it would have to perform across the performance dimensions arising from the different theoretical schools. This is a difficult test of optimality. If social exchange structures pass this test, they will have been given significant support. Most research into relationships does not measure performance and when it does, it is usually limited by a narrow theoretical definition. The performance propositions of the research are developed in chapter 4.

The justification for this thesis arises from the growth in interest in relationships in business outlined in previous sections. In addition, the research question that this researcher aims to answer has also been presented. The research question has been developed out of gaps in previous research. One of the key ways of justifying any research is to examine its potential contribution to research and practice in its field.

The research reported in this thesis aims to contribute to theory building and practice in the area of interfirm relationships in the following ways:

Specifically to theory

1. The research will contribute to a metatheoretical understanding of interfirm relationships.

2. A classification schema of relationship structures will be developed based on the dominant underlying forces driving an exchange. This will add to the definition of a relationship and provide a construct for analysing relationship structure.

3. A multifaceted understanding of relational performance will be conceptualised. This should provide an integrated perspective on the nature of the performance potential of a relationship.

4. A further understanding of social exchange positions on relationship management. Social exchange structures will be developed to include economic components. They will be assessed in terms of their assumptions and ability to optimise the benefits available in relationships.

To practice

1. This thesis will highlight the role and importance of relationship strategy by linking relationship structure to performance in a multifaceted way.

2. It will provides managers with a methodology for analysing relationship structure and performance.

3. This research aims to provides many avenues for building relationship strength.

4. A comprehensive measurement of relationship performance will provide firms with a broader range of options for

assessing the value of a relationship and enhancing its contribution to organisational outcomes.

5. A social exchange mode of cooperation will be analysed as a method of managing interorganisational exchange in a business context.

## 1.3 Research objectives and methodology

The overall objectives of the thesis are as follows:

1. To examine the possibility of developing a taxonomy of relationship structures that integrates previous theoretical perspectives.

2. To develop a conceptualisation of relational performance which draws on the multifaceted nature of this concept.

3. To investigate the linkages between relational structure and performance.

4. To test social exchange assumptions about the coordination of interfirm relationship and to examine whether the resulting relationship structures are the optimal ones to govern interfirm exchanges.

Specific empirical research objectives will be provided in the methodology chapters of the thesis. The methodology of the research will be outlined and justified in chapters 7 and 8. A brief overview will be given in this chapter to introduce the reader to the methodologies chosen to meet the research objectives presented.

The research will generate ideas and develop its conceptual framework from the literature and through the use of a core group of practitioners. Once this framework had been developed, a combination of qualitative and quantitative research methods will be used to test it. A qualitative study of buyers and suppliers will test the research propositions and help further delineate the measures of the research constructs. A quantitative study will be mailed to 500 UK buyers who will be asked about their main supply relationship. The research will be limited to certain standard industrial classifications for its sample but this will include a representative cross section of industry types for comparison purposes. The justification of the primary research approaches is outlined in chapter 7.

## 1.4 Outline of the thesis

This thesis is divided into 11 chapters. This first chapter provides an overview of the research. Chapters 2-6 review the literature and develop the conceptual framework of this research. Chapters 7 and 8 provide the research methodology and chapters 9 and 10, the research findings. The final chapter presents the conclusions and implications of the research.

Chapter 2 contrasts a relational approach to managing interorganisational exchange with a classical economic approach. The classical economic perspective is the dominant mode of investigation into interorganisational relationships. The chapter also reviews the major governance schools and concludes that a multiparadigm approach is worth investigation. Chapter 3 develops the relationship strength construct using a multiparadigm approach. This construct combines behaviour process and economic content elements in its definition. Relationships can be classified into a taxonomy of four structures on the basis of their relationship strength.

These are bilateral, recurrent, dominant partner, and discrete. Chapter 3 presents the research conceptualisation of relationship structure. Chapter 4 adds a relationship performance dimension to the research. It defines a performance outcomes construct by merging the performance measures used in the major theoretical schools on governance. Chapter 4 also links the taxonomy of relationship structures to measures representing relationship performance. The relationship structure taxonomy and performance linkages represent the conceptual model of the research. Bilateral relationships will be proposed to be the optimal governance structure in terms of the relational performance measures included in the research. Bilateral or social exchange positions will be tested further by a proposition developed in the chapter 5. Chapter 5 will complete the literature review by setting up for test a key feature of social exchange theory. It will propose that relationships are determined more by the managerial assumptions and action that underlie them than the environmental context in which they exist.

Chapter 6 re-presents the conceptual model, compares it to existing literature models and details the research hypotheses. The research methodology is presented in chapters 7 and 8. These chapters detail the progression of the research through the research process. The key decision areas are: empirical research objectives, data collection methods, measurement development and measurement instrument design, reliability and validity, sampling, and data analysis. Since each of these areas is central to research at PhD level, considerable detail is presented which requires two chapters. For example, there is a number of multivariate analytical techniques used in data analysis and each has to be presented in the methodology.

Chapters 9 and 10 present the research findings. Chapter 9 analyses the research for reliability and validity and gives an overall assessment of confidence in the research. Chapter 10

presents the findings of both the qualitative and quantitative research. It is organised around the research hypotheses. The final chapter considers the conclusions and implications of the research.

## 1.5 Conclusion

This chapter has presented the reader with an overview of the thesis. It has established that the key focus of investigation is the study of relationship governance and that a combined qualitative and quantitative methodology will be used to conduct the primary research.

Relationship governance will be analysed by the development of a taxonomy of relationship structures linked to performance. This will contribute to the literature as it will be developed from a multiparadigm perspective and include the largely neglected relational performance domain. The structural taxonomy linked to performance will also be shown to have many normative implications and should help firms become more efficient in managing relationships with their supplier/buyer. In addition, social exchange methods of governing interfirm relationships will be tested through an assessment of their ability to perform on both economic and behavioural outcomes of relationships. Social exchange structures will also be tested against the performance of the other relationships structures.

The thesis combines qualitative and quantitative methods of data collection in its empirical approach. Its aim is to develop and test a taxonomy of relationship structure and its links to performance. The development of this taxonomy requires practice input. For its initial empirical testing, a qualitative method will be the most appropriate because of its flexibility.

To enhance generalisability further, a large scale quantitative study will be necessary. This combined approach provides this research with the advantages of both methodologies.

The first chapter of the literature review assesses the potential of interactive relationships as methods for organising interorganisational exchange. It proposes that the relationship approach represents a separate paradigm in strategy research to the traditional economic focus on the transaction. Chapter 2 also examines the major literature approaches to the study of exchange governance and argues for a multiparadigm method, suggesting that previous research traditions are bound by their particular set of assumptions.

# Chapter 2 - Interorganisational Exchange Relationships

## 2.0 Introduction

This chapter develops the theoretical justification for adopting a relationship strategy approach to managing interorganisational exchange. It goes on to examine the various theoretical streams of study of the governance of interorganisational relationships. It is one of the main assumptions of this thesis that social exchange mechanisms for coordinating interorganisational exchange optimise the benefits to the partners.

There are two main themes running through the chapter. The first is that the use of the relationship approach to managing and developing interorganisational strategy is conceptually separate and an alternative to the traditional classical economic method. A comparison between both approaches is used to illustrate this point. This will establish relationship strategy as a valid focus for studying interorganisational exchange.

The second theme of the chapter suggests that a multiparadigm approach to studying relational governance is needed to capture fully the dynamics of interorganisational exchange. This is demonstrated through an examination of existing theoretical approaches to the study of relational governance. All research in this field is rooted in the assumptions of the theoretical stream from which it originates. The research of this thesis will combine these views, which can be classified into two main groups: behaviour and economic. While a multiparadigm approach is pursued, this research is still rooted in social exchange assumptions.

The social exchange view of relationships is founded on mutual cooperation. Under this mode, the governance of the relationship is essentially bilateral in character. As mentioned

in the opening chapter, it is assumed that this is the optimal mode of coordinating interorganisational relationships in today's competitive buyer/supplier environment. The strength of this research is that its conceptual framework will allow for other explanations and thus integrate both behavioural and economic approaches in the study of relational governance.

## 2.1 Interorganisational exchange relationships

The focus of this thesis is on interfirm relationship governance structures. In advance of their examination, the broader context of interorganisation exchange relationships will be discussed. In essence, this section will define exchange relationships and present examples and applications of relationship theory in practice.

### 2.1.1 Relational exchanges

Levitt(1986) predicted a future of intensified relationships between companies and used the analogy of marriage to explain the nature of these types of exchange. Webster(1992) and Gronross(1993) argued that the role of marketing is shifting towards becoming increasingly concerned with the management of relationships: the topic area of this research. Certain types of relationships are driven by the advantages available through cooperation. Their development focuses on interactive processes that enable both parties to combine their capabilities to their mutual advantage.

Hunt and Morgan(1995) found that partnerships between manufacturers and tyre retailers in the automobile industry could be explained by the levels of trust and long term commitment present in the relationship. Turnbull and Wilson(1989) described the case of Pennmist(UK) Ltd., a sales

subsidiary of a US international company, which sells to hospitals. The authors used the concept of social and structural bonding to show how the company could protect profitable relationships from competition. Buzzell and Ortmeyer(1995) examined the changing nature of relationships between retailers and their suppliers and demonstrated that, even in an industry characterised by adversarial relationships, the benefits of partnership were been increasingly recognised and implemented. The focus on relationships is not limited to an industry sector or company size. Schonberger(1996) presented a range of large company examples to illustrate the move to collaboration. Companies such as Motorola, Wal-Mart, Boeing and 3M were actively engaged in strategic cooperation with partners. Close relationships are becoming a competitive reality in business. Relationship studies have been conducted in many fields some of which are presented in the next section.

### 2.1.2 Applications

Some relationships can be seen as long term mutual partnerships between committed firms. The growth of research interest in relationships in general, in the management literature, is explored in this section. Much of this interest is due to the changing nature of the way firms compete. Advances in technology have made it easier to coordinate relationships and manage a web of partners. Firms are looking outside their own organisation to stay competitive by linking with suppliers or by entering into complex arrangements with their competitors. Researchers have examined cooperation in an applied manner on many issues. These include:

i) Technology cooperation and innovation - Hakansson(1987); Clark and Staunton(1989); Hull and Slowinski(1990); Dodgson(1993), Lundgren(1993).

*Example: Bolton, Malmrose, and Ouchi(1994), in a study*

*of innovation in the US and Japanese semiconductor industry, demonstrated that innovation in this industry sector in Japan is accelerated by relational cooperation.*

ii) Just-in-time - Frazier, Spekman, and O'Neal(1988); Gilbert, Young, and O'Neal(1994).
iii) Purchasing - Cova and Salle(1991); Cunningham and Ford, (1993); Gadde and Hakansson(1993).
iv) Distribution channels - Gattorna(1991); Andersson(1992); Buzzell and Ortmeyer(1995).
v) International marketing - Turnbull and Cunningham(1981); Welch(1985); Forsgen(1989).

*Example: Ghauri and Holstius(1996) used a network of relationships model to examine international market entry by three case companies: Norwegian Televerket (state owned telecommunications monopoly), Gap East (agent for a large Lithuanian confectionery manufacturer) and Statoil (petroleum and natural gas company).*

vi) Customer service - Rinehart, Cooper, Bixby, and Wagenheim (1989).
vii) Strategic alliances and partnerships - Weimer, Knill, Modic, and Potter(1988); Kolodziej(1989); Parkhe(1993: a).

*Example: Cravens, Shipp and Cravens(1993) in an analysis of alliances, used many company examples including General Electric and Benetton and concluded that the benefits of cooperation far outweigh the risks.*

viii) Joint ventures - Harrigan and Newman(1990).
ix) Technology - Cunningham and Tynan(1993); Holland and

Lockett(1993); Jelassi and Figon(1994).

*Example:* *Holland and Phillips(1995) showed, in a case study, how groupware has been applied in corporate banking to strengthen relations.*

(x) Different industry sectors:

(a) Biotechnology - Kjellberg, Lundgren, and Mattsson(1993); Slowinski, Farris and Jones(1993).
(b) Horticulture - Knox and White(1991).
(c) Banking - Turnbull and Gibbs(1987); Perrien, Filiatrault, and Richard(1993).

*Example:* *Paulin, Perrien, and Ferguson(1996), in a study of relationships in commercial banking, found relationship intensity to be related to the performance of the exchange.*

(d) Small companies - Henricks(1991).
(e) Food retailing - Hogarth-Scott and Parkinson(1993).
(f) Auto parts - Metcalf, Frear, and Krishman(1992); Helper and Sako(1995).

*Example:* *Glover, Cordrey and Webster(1994) described the case of how close relationships have developed between Fiat auto and its suppliers and between Pirelli and NFC (European logistics and distribution company).*

The growth in the importance of, and the amount of academic investigation into, relationships give this research a justification and impetus. The study of relationships can be said to represent a separate field of research in strategy. They can be

contrasted most sharply with the traditional classical economic view of the operation of the firm. This contrast is developed in table 2.0. Relationship strategy is an interdependent, rather than autonomous, mode of competition. It will be compared to the classical economic view of strategy in the next section.

## 2.2 Relationship versus classical economic strategy perspectives

Relationship and classical economic approaches to competition are compared in this section. Table 2.0 acts as a summary of the differences between the two methods. It is argued that adopting a relational approach is conceptually distinct, and an alternative method, to a classical economic approach.

### 2.2.1 Bi-polar comparison

Easton and Araujo(1994) and Hunt and Morgan(1994: a) argued that classical economic theoretical perspectives have dominated the managerial and marketing literature and that the emerging relational approach is a viable alternative. This is also the view of this research and it shows a contrast between the traditional classical economic mode of developing interorganisational strategy with the relational strategy mode in table 2.0.

## Table 2.0
## Relationship versus classical economic strategy perspectives

| Comparative dimensions: | Relationship strategy theory | Classical strategy theory |
|---|---|---|
| Governance | Bilateral contracting<br>Arndt(1979), Macneil(1980), Dwyer, Schurr and Oh(1987), Heide(1994), | Market contracting<br>Williamson (1979; 1985), Rubin(1990), Davies (1991), |
| | Relationship strategy can be distinguished by its proposition that relational elements can efficiently govern transactions between firms. Traditional strategy theory has assumed that, in the long term, market control of transactions would be the most efficient form of governance. | |
| Strategy formulation | Dyad/network<br>Thorelli(1986), Axelsson and Easton(1992), Nohria and Eccles(1992), and Hakansson and Johanson (1993), | Firm induced<br>Miles and Snow(1978), Porter(1980; 1985), Snow(1989), |
| | Relational approaches to strategy formulation begin their analysis at the dyad or network level. Classical economic strategy theory is developed at a focal firm level. | |

**Organisation - environment relationship**

| Embedded in social system | Rational independent decision making |
|---|---|
| Weick(1969), Negandhi (1975), Bradach and Eccles (1989), Grabher(1993), Husted(1994), | Hahn, Watts and Kim (1990), Noordewier and Nevin(1990) Heide and George(1988), |

All strategy research assumes a certain organisation - environment relationship. The relational approach assumes that an organisation is embedded in a social system, whereas traditional strategy theory focuses on the firm developing a fit between itself and its environment as a consequence of a rational plan.

**Study of customer relationship**

| Interactive | Discrete transaction |
|---|---|
| Hakansson(1982), Landeros and Monczka(1989), Ford (1990), | Kotler(1972;1992), Anderson, Chu and Weitz (1987), Cardoza, Shipp and Roering (1992), |

In the relational approach, customer relationships are seen as active partnerships. The classical view of the customer relationship is limited solely to the economic relationship. It assumes a world of passive buyers responding to a well designed mix. Research in this area is limited to separate buyer/customer studies. Relational theorists assume buyers to be active and interested in forging long term partnerships.

**Resource allocation**

| Dependent by consent | Independent and driven by control |
|---|---|
| Easton and Araujo (1994), Kogut, Shan and Walker (1993), Wikstrom and, Normann(1994), | Pfeffer and Salancik (1978), Parker and Benson (1988), Davenport and Short (1990), Prahalad and Hamel(1990), Glazer (1991), |

| | | |
|---|---|---|
| | In relational approaches, parties allocate resources to, and consider the effects of allocation on, the partnership. The classical view of allocation is based on a single firm's consideration of its own goals and its need to control resources in any exchange. | |
| **Coordinating Mechanisms** | Trust and equity<br>Cook and Emerson(1978), Anderson and Narus(1990), Mohr and Nevin(1990), Ring and Van de Ven (1992), | Power and control<br>El-Ansary and Stern(1972), Reve and Stern(1979), Frazier(1983), Butaney and Wortzel(1988), Frazier and Cody(1991), |
| | The coordinating mechanisms or intervening variables in relationships depend on the strategy chosen to compete. Relational approaches emphasise cooperation which is achieved through trust and commitment whereas classical competitive strategy considers the exercise of power and dependence as the key to exploiting interorganisation exchange. | |
| **Nature of Exchange** | Long term orientation and commitments<br>Campbell and Cunningham (1983), Heide and Miner (1992), Ganesan(1994), | Short term orientation and minimum switching costs<br>Williamson (1979, 1985), Jackson(1985), Krapfel, Salmond, and Spekman(1991), |
| | The temporal dimension of an exchange affects its content and the parties' approach to it. In relational exchanges, parties view the long term as being important and make commitments on this basis. Classical competition emphasises hedging 'bets' and avoidance of 'lock-in' situations. | |

Source: O' Toole, T.(1996), Thesis Research (unpublished).

The difference between using relationships as a starting point to developing interfirm strategy and classical economics can be seen in table 2.0. The table represents this author's synthesis of the key assumptions underlying the relationship approach to the study of interfirm strategy versus the traditional classical economic approach. These assumptions are supported by references to the literature and by summaries of the key differences in the two methods. The aim is to establish the relationship paradigm as a valid approach to studying and developing strategy for interorganisational exchange. This is achieved by a comparative approach and is presented in table 2.0. The comparison is necessary because relationship approaches are often argued to be a temporary market imperfection rather than a mode of competing in their own right.

Classical strategy theory perspectives are based on classical economic assumptions of perfect competition. The market is viewed as self regulatory, with perfect information, and homogenous. The transaction is the unit of analysis of interfirm exchange. Firms are seen as self interest maximising entities with an aversion to cooperation unless they can control it. Strategy is developed from the perspective of a focal firm as an independent actor. There is a range of different branches of economics that examine exchange behaviour. For a complete review of the contribution of economics to theories of the firm, the reader can refer to Seth and Thomas(1994). In this thesis, the term "classical economics" is used as a generic term and in later chapters, the term "economic" is used to refer to quantifiable activities as opposed to behaviour activities. These terms are often used in these contexts.

Table 2.0 contrasts the relational approach to strategy with the classical economic approach at the main levels of interfirm strategic analysis. These levels are governance, strategy

formulation, organisation-environment relationship, study of customer relationship, resource allocation, coordinating mechanisms, and the nature of exchange. Table 2.0 contrasts the two interfirm strategy approaches at their extreme points to demonstrate the comparison. Each of the elements of the comparison will be presented in more detail in forthcoming sections.

### 2.2.2 Governance

Relationship strategy can be distinguished by its proposition that relational elements can efficiently govern exchanges between firms. Traditional strategy theory has assumed that, in the long term, market control of transactions would be the most efficient form of governance. The main theoretical approaches to the study of the governance of relationships are social exchange, new institutional economics (transaction cost), agency theory and resource dependency theory. Williamson(1979, 1985) has led the economic debate with the presentation of transaction cost economics and Macneil(1980) was among the first to develop a comprehensive framework of relationship contracting based on norms of behaviour.

The optimal management of interorganisational coordination, everything else being equal, is the market for economic exchange, and is bilateral for relational exchange. Both approaches view the structure and management of interfirm exchange differently. This thesis will measure the performance of various approaches to the governance of interorganisational relationships. It will be proposed that no one view can explain all behaviour. The assumption of this thesis is that relational approaches are more efficient modes of governance than economic approaches but this remains to be tested using a multiparadigm approach. Both economic and relational governance have varying structural forms coordinating their

interaction. Therefore, the required method of governance of each approach is different.

### 2.2.3 Strategy formulation

Relational approaches to strategy formulation begin their analysis at the dyad or network level whereas classical economic strategy theory is developed from a focal firm perspective. Juettner(1995) suggested a general move away from adversarial approaches to strategy development to more interactive approaches. Early models which showed the potential for developing interactive sales and marketing strategies were Hakansson and Wootz's(1979) interaction model and Bonoma and Johnson's(1978) marketing-purchasing interaction model. Both groups of authors questioned the traditional assumption of a passive buyer and suggested a more interactive approach to strategy development. Methodologies for developing dyadic and network strategies have continued in the intervening years in the marketing, management and sociology fields. These methodologies challenge the traditional rational analytic method of developing strategy which views strategy development as essentially under an individual firm's control. A lot of supplier evaluation programmes appear to revolve around this type of methodology. For example, a supplier development cum quality programme is launched and "imposed" on the supplier by the buying firm. Hardly, a partnership approach. Even where relationships or partnering are mentioned in the literature, the assumptions an author uses could still be rooted in classical economics. The classical economic view of strategy development is typified by competitive strategy as developed by Porter(1980; 1985).

### 2.2.4 Organisation-environment relationship

All strategy research assumes a certain organisation - environment relationship. The relational approach assumes

that an organisation is embedded in a social system, whereas traditional strategy theory focuses on the firm developing a fit between itself and its environment as a consequence of a rational plan.

Relationship strategy views the firm as embedded in a social structure and interdependent on the actions of other firms with whom it is directly or indirectly linked. Therefore, it is in its best interest to collaborate or engage in partnership. This requires a strategy focus that is interactive and process based. Granovetter(1985) contrasted this "embeddedness" in a social structure with the classical economic approach to strategy which viewed the firm as an independent (an atomised or under-socialised actor in Granovetter's terminology) actor with the social structure having, if any, a marginal influence. In fact, the dominant economic view would argue that the impact of any social structure should be kept to a minimum to avoid any negative collusion between firms.

### 2.2.5 Study of the customer relationship

In the relational approach, customer relationships are seen as active partnerships. The classical view of the customer relationship is limited solely to the economic relationship. It assumes a world of passive buyers responding to a well designed marketing mix. Research in this area is limited to separate buyer/customer studies. Relational theorists assume buyers to be active and interested in forging long term partnerships. Recent authors who describe the contrasts between relational and transaction marketing and their implications for the marketing mix include Dunn and Thomas'(1994) partnering strategy to solve complex problems and Matthyssens and Van den Bulte's(1994) contrast between relational and transactional buying and supply behaviour.

### 2.2.6 Resource allocation

In relational approaches, parties allocate resources to, and consider the effects of allocation on, the partnership. The classical view of allocation is based on a single firm's consideration of its own goals and its need to control resources in any exchange.

Firms in close relationships should view investments and adaptations in the partnership as opportunities. This contrasts with the view of investments and adaptations taken in an economic approach where they are seen as opening a firm to a potential risk of opportunistic behaviour by a partner. Trust and commitment may be adequate to coordinate close relationships, but where an economic approach is used safeguards need to be put in place when close coordination becomes a necessity. The orientation of the two modes is different and one would expect the level of resource allocation to be higher in the more relational firms.

### 2.2.7 Coordinating mechanism

The coordinating mechanisms or intervening process variables in relationships depend on the strategy chosen to compete. Relationship approaches emphasise cooperation which is achieved through trust and commitment whereas classical competitive strategy considers the exercise of power, price bargaining and dependence as the key to exploiting interorganisation exchange.

### 2.2.8 Nature of the exchange

The temporal dimension of an exchange affects its content and the parties' approach to it. In relational exchanges, parties view the long term as being important and make

commitments on this basis. Classical competition emphasises hedging "bets" and avoidance of "lock-in" situations and is more oriented to the short term. Arndt(1979) was among the first to recognise that transactions were occurring within a framework of long term relationships which he labelled a "domesticated market". This trend is particularly applicable to the interfirm context.

Short term self interest maximisation and opportunism drive the classical economic approach forward. Strategy development is firm induced and driven by aggressive adversarial competition. It is in the firm's best interest to act independently at all times. Where collaboration is pursued, it is narrowly based on the advantage to one firm only and short term oriented. These differences are significant enough to justify a relational approach to interorganisation exchange as a valid paradigm for research.

The relational versus classical economic methods of developing interorganisational relationships have been compared in table 2.0 and the preceding sections. The objective was to demonstrate the separateness of the two approaches and to present a framework for analysing the assumptions of the interorganisational literature. The framework also has normative implications in that its dimensions can be used to ask key questions about a firm's methods of managing its relationships.

The next section examines the major theoretical streams in the study of interorganisational relationship governance. They can be divided, as one would have expected from the previous section, into behaviour and economic groups depending on their assumptions. Four specific theories that will be used in this research are also presented.

## 2.3 Theoretical streams in the study of interorganisational relationship governance

The previous section contrasted classical economic and relational approaches to interorganisational strategy. This section contrasts various methods for studying the structure of relationships or their governance. The methods of governance, or at least the issues associated with them, can be divided into behaviour and economic groupings. These groupings will be described and followed by an examination of the four governance schools of thought that dominate the literature. Two of these can be loosely described as behaviour based: social exchange and resource dependency theory, and two as economic: transaction costs and agency theory. These are the main approaches to governance theory. Other schools use similar assumptions or have focal points outside the dyadic perspective taken in this thesis as for example, the social system perspective of network theory and political economy. Lane and Bachmann(1996) provide a good example of the social system approach in their comparison of trusting relationship in the kitchen furniture and mining machinery industries in Britain and Germany.

### 2.3.1 Behaviour and economic groupings

Research into interorganisational relationships has traditionally focused on a classical economic view of competition and has developed from a focal firm perspective. This focal firm perspective views the firm under study as an independent actor. The firm is the unit of analysis not the dyad or network. The classical economic approach, as outlined in the preceding section, views the market as an external invisible hand

mediating the way an organisation conducts its business. In the long term, the market is assumed to approach the perfect competition form. Organisational decisions are developed within this context. Competition is viewed as warfare for survival. The resulting coordination strategy is combative rather than collaborative. Relational elements are assumed to have minimal effect. Where relational elements creep into an exchange, they are assumed to be a short term market imperfection. Two economic governance schools will be assessed. Transaction cost economics bases its governance decision on an uncertainty, transaction frequency and asset specificity assessment. Agency theory centres on an assessment of the risk inherent in an agency-principal exchange. Clearly, these variables do impact on the nature of the exchange structure developed between partners. The economic approaches de-emphasise the social structure in a relationship by concentrating on the analysis of the transaction. The limits of each theoretical stream will be presented in the sections to follow.

The behaviour theorists begin with an assumption of interaction and interdependence. Over time organisations become embedded in relationships with one another. They make commitments and develop trust. Structural and social bonds link them together and provide a mechanism for coordinating the relationship. The two behaviour theory streams to be examined are social exchange and resource-dependency. Social exchange focuses on trust and equity as mechanism for managing the relationship between parties. Cooperation is for the mutual advantage of both parties. The type of relationships formed in this structure are open and dense. Partners do not have the same risk perceptions as their economic counterparts because their relationship is coordinated by trust. In fact, the criteria that serve to explain economic governance may not be relevant. These relations have a dynamic unexplained by economics. Partners evolve with each other, cooperate over

long periods of time, depend on trust, equity and commitment, and do not take opportunistic advantage of one another. Resource-dependency theory concerns itself with one partner's perception of its dependence for critical resources on another. Power over the partner firm, control of resources, and the availability of alternatives constrain and determine management actions. The control of resources is the critical element in this governance mode. From this perspective, resource-dependency theory has parallels to the economic schools of governance. The underlying view of a firm is as an independent entity fighting for survival and control. It is not surprising that power and conflict are the main processes studied. However, these processes are inherently behavioural and do not necessarily operate in an negative manner unless abused. Organisations have to face a reality where other firms may control resources and have power to set rules of competition.

Behaviour and economic groupings of studies on relationship governance provide us with a framework to which the research will return. The conceptual framework for the thesis pursues a multiparadigm approach which includes both behaviour and economic concepts.

Governance theory revolves around the issues associated with matching the underlying dimensions of an exchange to an appropriate organisational structure. Performance will be maximised when this is achieved. Approaches to this subject vary depending on assumptions about the nature of exchange. The diversity of these views is represented by the market, hierarchy, and relationships debate. Which one supports depends on one's view of the dimensions that drive exchange. This thesis will hypothesise that bilateral governance, a social exchange position, will be the most efficient mode for gaining maximum benefit from interorganisational exchange. The four

approaches to the study of governance outlined in this section are presented in more detail.

### 2.3.2 Social exchange theory

Social exchange theory views interorganisational governance in the context of a social structure. Firms are interdependent and rely on reciprocation. Trust and equity are key variables in this approach. Self interest is best maximised by the returns available through cooperation in a relationship (Blau, 1964). In this approach, the analysis of interfirm relationships moves from the focal firm to the dyad or network level. Authors who have used social exchange theory in their work on interorganisation relationships include Cook and Emerson(1978), Bradach and Eccles(1989), and Husted(1994). The method of governance using social exchange is relational contracting using a bilateral mechanism of coordination. The main features of social exchange theory are as follows:

1. Social exchange concentrates on the relationships rather than the transaction. The core element of this approach is the study of interaction between parties to a relationship. This assumption is central to the Industrial Marketing and Purchasing Group (IMP) of researchers (Hakansson, 1982; Ford, 1990). The point of departure for the study of social exchange is the exchange relationship or the dyad/network. In other words, interaction versus an analysis of an autonomous decision unit.

2. Relationships are embedded in a social structure (Granovetter, 1985). Over time, a complex personal and organisational structure evolves between firms. There is a social structure present in many types of relationship but in terms of governance when social structure dominates, a bilateral structure is in operation. In other words, a positive

effect of social exchange. If this were not the case an alternative form of governance would be in place.

3. Social exchange accepts the self interest motivation but adds that this is best achieved when actors act equitably and in the best interests of the partnership. Dwyer, Schurr and Oh's(1987) high motivation investment category of relationship exchange captured the essential self interest but intense nature of bilateral relationships. The rational economic decision unit is bounded by the social context of decision making and by the expectations that the relationship will endure over time. Benefits and burdens will be equalised in the longer term.

4. Macneil(1980) and Dore(1983) described the essential nature of relational contracting. Dore developed the concept using Japanese business to explain its key characteristics. In this research, we move beyond Macneil's notion that bilateral contracting is just a set of norms that govern relationships and see it as a management structure with the norm of mutuality facilitating specific business advantages, for example, joint product development or cost reduction.

5. Under a social exchange view, boundaries between firms become blurred (Powell, 1990) as vertical disaggregation is facilitated and enhanced. Firms become linked in a chain with other firms within a network context (Anderson, Hakansson, Johanson, 1994). The unit of analysis in this thesis will be the dyad.

6. The key processes driving social exchange are trust and commitment. These processes moderate the impact of power and determine the perception of fairness in an exchange relationship. One of the earliest studies that demonstrated this was Cook and Emerson's(1978) study of individual network position and the effect of social structure on power, equity and commitment.

### 2.3.3 Resource dependency theory

The reason for entering into relationships is to gain access to the resources of other parties. However, resource theory views this access from a focal firm perspective rather than a relationship or network one. Therefore, authors following this view are often concerned with the issue of gaining resource or other control over a partner organisation. Resource theory concentrates on control of critical resources and focuses on the power-dependence continuum as the key factor in deciding governance (Pfeffer and Salancik, 1978; Heide, 1994). This perspective can be contrasted with a social exchange perspective which supports the mutual value potential of interorganisational exchange. The point of departure is different. The governance mechanisms which are closest to this form are recurrent and dominant partner types. The exchange relationship is limited by the perceived value/need for the resources, in the case of recurrent relationships, and by the potential power use, in the case of dominant partnerships. The key features of the resource dependency school of thought are as follows:

1. Exchange happens in order to gain access to needed resources. Firms, in general, do not have access to all the resources they need to carry out their business objectives. One response to this access problem is to build an internal hierarchy to produce the resource. This is seen as an increasingly inefficient and risky strategy in a changing, somewhat turbulent, global environment. Therefore, there is a growing need to gain access to critical resources of other parties. From a resource dependency view, this is seen as a control problem: what control can one exert over a partner on whom one is dependent? The loss of autonomy is a central concern of resource-dependency school.

2. Heide's(1994) assessment of governance scenarios arising out of resource-dependency is that they develop as a response to uncertainty and dependence. In common with transaction cost analysis, firms are presumed to cooperate in conditions of high uncertainty. Dependence is a response to uncertainty. This is one interpretation but it can be argued that dependence is a response to choice or opportunity. For example, Hallen, Johanson, and Seyed-Mohamed(1991) found adaptations develop out of the social structure of a relationship in response to reciprocation or to be unilaterally based on the power-dependence position of a partner.

3. Dependence on the partner firms is one of the main results of a resource view. Being dependent is not seen as a positive outcome of the resource-dependency school and should be avoided if at all possible. Indeed, Heide and John(1988) suggested building-in dependence balancing mechanisms into the exchange relationship.

4. The key process driving this approach is power-conflict assessment. Nowhere is this focus more evident than in the channel literature. Reve and Stern(1979), in a review of the channel literature, demonstrated this concern. Frazier(1983: a) supported this view but suggested that the channel literature should broaden its scope to include a more socio-political perspective. Social exchange would reduce the likelihood of negative power use and facilitate conflict reduction through open communication. Power use is most likely under conditions of highly substitutable exchange relationships or relations of a recurrent nature (Yamaguchi, 1996). It is also likely to be strongly present in a relationship in which one partner dominates and uses its power (Gassenheimer and Calantone, 1994).

5. Switching costs is one of the key elements in the analysis of resource-dependence theory. Building-in or avoiding switching

cost is a core dilemma in buyer/seller relationships (Jackson, 1985). However, from a social exchange perspective, bilateral firms would have an objective of making themselves more interdependent. The opposite to the approach suggested in resource-dependency theory.

6. A contribution of resource dependency to the understanding of a relationship is that it can be conceptualised as an asset or a resource. It is a resource because much of what goes on in a relationship can generate returns to the parties. This is where social exchange and resource views meet. This research views relationships as a resource in a bilateral context. Where resources are seen in terms of their interactive rather than focal firm perspective they correspond to a bilateral view outlined under social exchange. Wikstrom and Normann's(1994) book on knowledge competencies took an interactive approach. However, much resource dependency based work is still focused on the ability of an individual firm to exploit its resource environments. This focus has its roots in classical economic theory of the firm and is illustrated in Prahalad and Hamel's(1990) classic competence article. Resource based work can make an important contribution to the study of relationships and bilateral relationship are rich in unique resources. However, much of the resource based literature is likely to continue to focus on the activities of a single actor (Wernerfelt, 1995).

### 2.3.4 Transaction cost economics

The dominant theory approach to the study of interorganisational exchange has been a classical economic approach. New institutional economics is making a major contribution to the study of governance, particularly, in the area of transaction costs. This branch of economics views collaboration as a result of cost economising decisions made

about transactions by an individual firm (Williamson 1979, 1985; Rubin, 1990).

Transaction cost economics is preoccupied with the working of transaction costs. The main assumption on which transaction cost economics is based is that firms pursue opportunistic behaviour motivated by cost minimisation. Embeddedness and reciprocal actions are peripheral considerations. In reality, the extent of interaction between partners in long term relations deserves analysis beyond the narrow considerations of transaction economics. Partnership advantage does not come from cost economising on its own. The benefits of partnership are broader than this. Advantages in product or process innovation, information sharing and management, predictability, and network involvement, go beyond cost considerations and the view of a firm as a separate entity. This thesis views costs as important determinants of interorganisational behaviour but will view other considerations such as innovation, adaptation, integration, as being of equal importance. In short, it will place the relationship at the centre of the analysis rather than the individual transaction. The key assumptions of transaction cost economics are explored as follows:

1. The focus of transaction cost economics is on the transaction as the unit of analysis. This concentration is inherently short-term in nature. The transaction rather than the interaction between organisations is the unit of analysis.

When the decision to make or buy is left to an analysis of the transaction, there are essentially two options - leave it to the market or make it within the firm (hierarchy). Transaction cost economics provides important insights into these modes of governance. The market or discrete relationship (arm's length relationship) is where there is minimum involvement between the parties. The product is bought in the market, as this

achieves the lowest cost and price to the firm. The decision to internalise, or make within the firm's hierarchy, a transaction is not directly considered in this research but a related dominant partner supply relationship is used instead. The dominant partner relationship is a more appropriate relationship to study at a time when firms are outsourcing and moving away from internal production by regulating (e.g., contracts, hostages) their supply relationships to reduce the risk of opportunism.

2. In transaction cost economics, the firm is seen as an atomised actor. The firm makes decisions and acts as an independent entity. The environment, including relationships, is seen as an exogenous variable in the planning process. Zajac and Olsen(1993) argued that transaction cost is limited, when used to assess interorganisational relationships, due to its single party emphasis, which neglects the interdependence between partners in their pursuit of joint value. They also proposed that the transaction cost perspective is limited by its focus on structural variables as opposed to the process focus of other theoretical approaches. Clearly, any model explaining relationship governance must include both process and structure variables.

3. One fundamental assumption of transaction cost economics is that firms pursue opportunism in all decisions. This implies that the firm exploits each decision for its own short term interest. Businesses do act in self interest but not necessarily opportunistically. They will consider the long term and may not see themselves as independent of their relationships. The interests of their partners are considered. Even if this social structure argument is not accepted, recent views on opportunism note that individuals are likely to obtain better results from cooperation in primary supply relationships than by using an opportunistic approach (Lomborg, 1996).

4. One important contribution of transaction cost economics is its focus on costs. To remain competitive, business must consider the costs of relationships. One criticism of the behaviour schools is their failure to include any substantial element of costs in their models. The assessment of the performance of relationships must include costs. One advantage of the multiparadigm approach of this thesis is the ability to include costs in the relationship model.

5. Williamson's(1979) discussion of transaction costs posited that governance decisions were made as a result of an analysis of a transaction. This analysis was based on the mix of purchase frequency, uncertainty and transaction specific investment in any transaction. As mentioned, this assessment resulted in a market versus hierarchy decision. The variables that make up this model must be considered when building a governance framework. They have been found to be significant in many studies. For example, Stump(1995) found the mix of purchasing concentration and asset specific investments to explain governance and Pilling, Crosby and Jackson(1994) found the dimensions of Williamson's model to contribute to the understanding of governance, when relational elements were included. The question becomes: does transaction cost economics explain how a relationship is structured or are social exchange, or other, assumptions closer to the reality of what happens between organisations?

### 2.3.5 Agency Theory

Close to the view of cost economising is the principal-agent problem of agency theory outlined by Ross(1973). Agency theory is concerned with the principal-agent relationship and its associated risks and rewards. This risk orientation assumes opportunistic behaviour where companies who share information are open to risk. The governance question becomes one of balancing risks and rewards. Agency theory assumes all

actors are motivated by individual self interest and thus, divergence between agents and principals becomes a matter of course. These problems are multiplied in the interorganisational setting. Since this view focuses on self interest maximisation, the resulting relational issues are concerned with information exchange safeguards and risk reduction mechanisms. This is in contrast to the information sharing/risk exposure premise of social exchange theory. The very existence of long term relations would reduce risk. In fact, Bakos and Brynjolfsson(1993) see benefits in reducing bargaining power, an implicit agency safeguard, to increase cooperation. Agency theory, therefore, focuses on the risks of agent-principal relationships rather than on the opportunity made possible by cooperation. The key features of agency theory are examined as follows:

1. Agency theory is an attempt to manage the risks of opportunism. Most agency models define efficiency from the principal's point of view. Bergen, Dutta, and Walker(1992) view an efficient agency solution as one which brings about the best possible outcome for the principal given the constraints imposed by the situation, rather than for outcomes which maximise the returns to both parties. The individual firm becomes the unit of analysis rather than the interaction between the parties.

2. One of the key risks of agency theory is that of information asymmetry (Spreman, 1987). The risk that your partner will abuse the information rights of the partnership places a limit on the extent of cooperation. The agency theory view of risk runs in contrast to the information sharing/trust position of social exchange. It contributes more to the explanation of dominant partner and discrete relationships than bilateral relationships.

3. The principal's problem is one of deciding how to maximise his/her utility through an incentive structure designed to

motivate the partner and to ensure compliance. An incentive analysis, along with sanctions, has been described by Schanze(1987) who conceptualised the principal-agent relationship as close to an hierarchy with the appropriate rules and procedures built into the structure.

4. Given that one of the key risks of agency theory is information asymmetry, one of the key implementation issues is monitoring. Gurbaxani and Whang(1991) demonstrated the role information technology could play in monitoring the agent (partnering firm). When the underlying processes in a relationship are assumed to be insufficient to coordinate the exchange, then it is necessary to build in safeguards and to monitor abuses. However, where trust prevails, information sharing becomes a norm and reduces the need for elaborate monitoring structures.

5. The main contribution of agency theory to this thesis is one of risk assessment. This will be built into the model of this thesis. Power is a key mechanism of enforcement of the principal's contract. The use or absence of power will give a clear indication of whether a relationship is governed by committed or dominant partners. The main application of agency theory has been to a principal's relationship to its downstream channel members rather than to the buyer/supplier relationship as is the focus of this thesis. Agency theory is incorporated into this research as it will add a risk assessment element to the mulitparadigm analysis of relationships pursued in this thesis.

All of the theories in the previous sections are based on managerial assumptions about the nature of interorganisational exchange. The idea of forcing cooperation rather than letting it emerge from the relational processes inherent in exchanges between firms pervades, the economic writings. Cost economising in, opportunism in, and control of, transactions are

not the only considerations for organisations. Sako(1992), in her study of British and Japanese firms, posited that trust and interdependence can bring greater performance differences than arm's length management of relationships. Companies will only cooperate in areas of strategic importance if a climate of trust and openness prevails. However, not all relationships will operate in this way and therefore an approach which combines elements from each of the above theories may be a way forward. The next section examines the suitability of using a multiparadigm approach to the study of relationship governance.

## 2.4 Multiparadigm approach rooted in social exchange.

An analysis of the main theories that aim to explain the structure of interorganisational exchange has been presented in the preceding sections. It has been demonstrated that each of them is founded on a set of assumptions which explain certain, but not all types of exchange behaviour. No one governance theory will explain the range of interorganisational relationships. Therefore, a multiparadigm approach is needed when measuring relational behaviour. This does not mean that this research is avoiding taking any assumptions about how firms interact. The research is rooted in social exchange assumptions and will hypothesise that they offer the optimal governance solution. These will be tested by allowing other forms to be included in the analysis and by broadening the scope of social exchange theory to include elements from the other schools. For example, costs will be specifically included as outcomes.

Gioia and Pitre(1990) argued for a multiparadigm approach to theory building and research methodology in management. A

similar proposal was put forward by Parkhe(1993) in the study of joint ventures. In this thesis, a modest proposal is to allow for alternative explanations of any differences found in the relationship governance structures between firms included in the study. The expectation is that social exchange governance will be the optimal mode. Many writers in the interorganisational relationship field do support the combination of various theoretical approaches. However, this can produce frameworks which produce no insights and which try to be all-inclusve. The framework of this research will be developed in forthcoming chapters. Some support for the combination of theory perspectives or the meta/multiparadigm position for examining relationships is given in this chapter. This issue will be returned to in later chapters. Grabher(1993), in reviewing the major theoretical streams to the study of interorganisational relations, argued for social exchange but also drew on dependence theory in his assessment of the features of networks. Moller(1993) attempted to provide an integrated theory of relationships by concentrating on the general assumptions of the approaches. He combined transaction cost, political economy, interaction and network, analyses. His integrative approach is not unlike the multiparadigm method used in this chapter to analyse governance structures. Dabholkar, Johnson and Cathey(1994) integrated resource dependence, political economy, transaction cost economics and channel communication in their model of negotiation behaviour. The multiparadigm perspective has been proposed for governance studies by Powell(1990) on network forms and by Bradach and Eccles(1989) who argued that all relationships are managed by a combination of processes, especially price, authority and trust.

In this thesis on the management structure of interfirm relationship, it is assumed that social exchange mechanisms are the optimal forms of coordination. However, for this to be tested, other governance forms are included in the analysis,

which will result in a broader understanding of the key elements that determine a particular governance method and in a multifaceted assessment of the resulting performance.

## 2.5 Conclusion

Adopting a relationship strategy approach to the management of interorganisational relationships has been shown to be a valid analytical paradigm. This has been established through a comparison with the dominant classical economic paradigm. The comparison was developed across the main decision variables for interorganisational strategy: governance, strategy formulation, organisation-environment relationship, study of customer relationship, resource allocation, coordinating mechanisms and nature of the exchange. This comparison was developed specifically for this research.

A multiparadigm approach to governance will be further developed in the next chapter. In this chapter, the main theoretical streams of research on governance have been reviewed and their contribution assessed. Each one relies on a particular set of assumptions which only explains part of the relationship process. The theoretical streams can be broadly placed into behaviour and economic groupings. It was suggested that a combined approach to the study of governance has been under-represented by previous research. This research will combine behaviour and economic approaches in its conceptual framework of governance structures.

This research takes a social exchange view of relationships and expects social exchange governance to be the optimal method of coordinating interorganisational exchange. However, consistent with its multiparadigm method, it will allow for other explanations. In the next chapter, the analysis of relationships

will continue with the method this thesis will use to combine paradigms and discriminate between relationship structures being developed.

# Chapter 3 - Interfirm Interaction: Relationship Strength

## 3.0 Introduction

Chapter 2 established a need for a multiparadigm approach to the study of relationships. In particular, it emphasised the need to combine elements of behaviour and economic theory when studying governance. This chapter will propose a methodology for achieving this through the development of the relationship strength construct.

The chapter begins with a review of previous studies on relationship structure and will show that a multiplicity of variables has been studied but that they can be grouped into behaviour and economic categories. Given that there has been a huge number of variables studied, is it then possible to determine, in any given situation, how a relationship is governed?

The governance issue can be addressed by concentrating on the variables that dominate any particular relationship structure. The ability to measure them is achieved through the development of the relationship strength construct which will be shown to discriminate between four major relationship governance forms: bilateral, recurrent, dominant partner and discrete.

By the end of the chapter, a construct will have been developed that discriminates between different relationship governance structures.

## 3.1 Previous studies on relationships

Some previous studies on relationships will be examined to demonstrate the range of variables studied. Most studies can be classified into behaviour and economic groups on the basis of assumptions made about the nature of exchange. One of the major issues for any research is the huge range of variables studied. This is particularly relevant to a study that combines paradigms. This chapter will show how this research will deal with the range of variables studied and still capture the behaviour and economic nature of a relationship.

There are two ways of examining the variables that have been found to be important in coordinating relationships in previous research. We can examine various frameworks which will provide us with lists, or we can examine the direction of research into these variables. Frameworks will be referred to throughout this thesis, for example, the Industrial Marketing and Purchasing Group's (IMP) interaction model (Hakansson, 1982) but it is not intended to examine them in detail in the text. They can provide research directions or lists of variables. Aldrich's(1979) classification of variables is one such listing and is helpful in specifying the domain of research work into relationships. Grandori and Soda(1995) did a similar analysis for interfirm networks. However, it is proposed to examine governance by referring to the main theoretical streams in the study of interorganisational relationships (IORs). Each stream of research on IORs is dominated by a particular set of variables which seek to explain the nature of the exchange between organisations.

### 3.1.1 Behavioural studies

The behaviour analysis of relationships brings history, social structure and interdependence to the study of IORs. A social exchange and resource-dependency focus on relationships has been prevalent in sociology and psychology for a long time. In 1978, Cook and Emerson identified the role power, equity and commitment, play in relationships. Business research has begun to focus on a behavioural analysis of relationships with various interfirm process variables such as trust, interdependence, adaptation, communication, power and commitment, being studied (Dwyer, Schurr and Oh, 1987). Empirical support has been found for behavioural assumptions in applied areas of business research, for example, innovation (Dodgson, 1993). The starting point in a behavioural analysis of IORs is the interaction between the parties to the relationship. This interaction approach has been developed further by network theory which applies embeddedness to a macro-structure level to explain the multiplicity of connecting ties between firms. In the behavioural explanation, the most efficient forms of governance are bilateral or recurrent. Firms benefit from interaction developed over a long period of time. These relationships are characterised in research studies by variables such as trust, commitment, cooperation, mutuality, equity. If these variables are strong, it is unlikely that opportunism will prevail in any individual transaction between parties. Firms do consider their own self interest but it is in this interest to meet the needs of a partnership.

The two behaviour research approaches to the issue of governance are social exchange and resource-dependency. Some research work from these research traditions will illustrate the variables studied.

The IMP interaction model has been extensively studied (Ford, 1990). It includes a range of variables classified into four groupings: characteristics of the parties, the interaction process, the interaction atmosphere and the interaction environment. Metcalf, Frear, Krishnan(1992) tested the effects of atmosphere on cooperation and adaptation in buyer/supplier relationships in the aircraft industry and found social exchange assumptions to have support. Hallen, Johanson and Seyed-Mohamed(1991) combined resource dependency and social exchange to test a theory of adaptation and found that it could arise from either trust or dependence in a study using the IMP database. The study focused on two variables: adaptation and dependence. Similarly, Ganesan(1994) combined social exchange and dependence theory in a study of the long term orientation of retail buyers and suppliers. Time orientation, dependence, trust, transaction specific investments and various control measures were used in the study.

Boyle, Dwyer, Robicheaux, and Simpson(1992) tested the impact of influence strategies on relationships and found them to differ across governance strategies in automobile channels. The authors used six different types of influence strategy in their study and eight other measures of structure and control variables. Anderson and Narus(1990) tested a model of distributor firm and manufacturer firm working partnerships. The model was found to have empirical support in a cross industry study. The model was based on a range of behavioural process variables and included communication, trust, cooperation, conflict, outcomes given comparison to expectations and alternatives, influence, and satisfaction.

A selection of studies has established that a range of variables is studied in behavioural research on relationships. A focus on process is evident.

### 3.1.2 Economic studies

The economic approach to the study of relationships concentrates on the efficiency of transactions. Costs, power, risk, and opportunistic behaviour are key elements in explaining a firm's behaviour in a relationship. The two governance schools in the economic category are transaction cost economics and agency theory. Williamson's(1975; 1979) transaction cost analysis emphasised the risks of asset specific investments in transactions as a key variable. Ross's(1973) agency theory analysis placed the risk of relational abuses at the centre of governance decisions between agent and principal. The two relational governance forms closest to these schools are discrete and dominant partner.

In the economic explanation of exchange, the most efficient relationship structures are those which enable firms to remain independent, use the market, or gain control to exploit their power over partner firms. Therefore, the key variables in the economic schools that explain the structure of exchange are price, power, risk avoidance and opportunism. If these are present to a high degree in a relationship, it is unlikely that mutuality and collaboration will exist.

The two economic research approaches to the issue of governance are transaction cost economics and agency theory. Some research work from these research traditions will illustrate the variables studied.

Stump(1995) investigated the effect of purchase dependence on transaction specific investments in the chemical industry. Purchasing concentration was found to have led to increased investment specificity. The risk of such an investment strategy was explored in a study by Heide and George(1988) who found that risks of dependence were balanced by offsetting

investments by agents in their accounts when they had highly dedicated investments with a principal. An industrial channel was used in the research. Heide and Stump(1995) examined the effects on performance of investments in suppliers by OEM buyers and found that transaction cost economic prescriptions held. Lohtia and Krapfel(1994), in a cross sectional study, assessed the benefits of technology investment in a relationship and found that risk monitoring issues dominated where a partner's power was already high.

Keith, Jackson, Crosby(1990), in a study of food brokers, examined the effects of influence strategies under different dependence structures. They found that a broker's dependence on a principal strongly related to his/her readiness to respond to requests from the principal. The stronger the dependence, the greater a principal's scope for power use. Frazier and Rody(1991), in a study of power strategies in industrial product channels, found that the influence strategy used was generally reciprocated in kind. The ability to use influence strategies is related to dependence with negative influence strategies generally receiving a negative response. Dependence has also been related directly to power, in contrast to the power use focus of influence studies. For example, Frazier(1983), in a franchise study, used a measure of role performance to assess the impact of dependence on power.

A broad range of variables is also studied by the economic research approach. The economic analysis centres on risk and the variables studied are usually related to the content of a relationship rather than to its process.

### 3.1.3 Multiplicity of variables

The aim of the previous section was to demonstrate that a multiplicity of variables is considered in research within the domain of IORs. Therefore research in this area must suggest a

mechanism for dealing with these variables. Initially, this has been achieved by dividing the variables into behavioural and economic groups. This division will allow this thesis to classify relationships in either of these groups depending on the variable that dominates the interaction. The dominant variable argument will be developed in the next section of this chapter.

The research theorists who study relationships are broadly grouped into two categories in chapter two: economic and behavioural. This division is based on managerial assumptions about the nature of a relationship. Economic theorists assume firms will act opportunistically unless governed by specific contractual or other restraint. Behavioural theorists view relations as embedded in a social structure which mediates the market and provides long term stability. In other words, a substantially different view of exchange underpins both theoretical streams. This thesis takes a behavioural view, but unlike most of the research reported in this chapter, it will allow for other explanations of difference in its conceptual framework and measurement method.

The integration of behaviour and economic perspectives used in this research is supported by the fact that cooperative and competitive motives exist side by side in many relationships. To fully capture the nature of exchange interaction, research must cover both motives. Among the authors supporting the mixed motives perspective are Oliver(1990) and Heide and Miner(1992). To rely on any one theory would, therefore, miss certain fundamental coordination mechanisms which drive particular relationships. The resulting explanation would only be partial.

## 3.2 Key mediating variable

Section 3.1 demonstrated that a multiplicity of variables is considered in studies of interorganisational relationships. These were divided into behaviour and economic groupings. A parallel division could be made between process and content variables. Process variables are those on which behaviour studies concentrate, for example, power, trust. Content variables are those which concern the economic side of relationships, for example, the nature of investment made by the parties. For the research to discriminate between various governance structures present in any relationships, it will need to be able to capture adequately the dominant process-content variables in a particular relationship. The argument that, in any relationships, a combination of content and process variables dominates the interaction between organisations will be presented in this section.

### 3.2.1 Process and content variables

For this thesis, the process of interaction between organisations is defined as the underlying motivation driving the exchange. Examples of process variables are power, trust, and conflict. The content of a relationship is defined by the intensity or strength of interaction between partners. An example of a strong relationship would be one in which strategic investments have been made by both partners. These two elements of IORs will be combined into a construct labelled "relationship strength" in a later section of this chapter. This construct will distinguish between different relationship structures by concentrating on the process-content variable set which dominates (the key mediating variable) the exchange.

The direction taken in this thesis towards the study of IORs has broader roots in interorganisation theory. Hall(1987) outlined a general framework for the study of IORs which included interaction process and resource flows as two dimensions. These equate to the process and content of exchange used in this thesis. Hall and others such as Negandhi(1975) examined IORs from a sociological and primarily, public sector view. The research in this thesis fits within their conceptualisation since they see organisations from a social exchange perspective. This research is also supported within business frameworks applicable to understanding IORs. The content-process concentration taken in this research is mirrored by Pettigrew's(1987) model of organisational change which is based on the context, content, and process elements of change. Hakansson's(1982) conceptualisation of interaction includes the concept of atmosphere, equivalent to process, and interaction process, equivalent to content, as two features of dyadic relationships. Dyadic interaction models have been further developed into network theory. One such theoretical schema, outlined by Hakansson and Johanson(1993), uses actors, activities, and resources to explain network interaction and structure. The linkages between these variables determine the content and process of exchange. We examine relationship structure by determining the dominant process-content variables in the exchange between parties at a dyadic level. The elements of IORs studied in this thesis fit within, and are supported by, existing schema that set out the dimensions of relationships between and within organisations. However, as presented in the previous section, there is little theoretical agreement on the nature of the causal linkages between all of the variables identified in these frameworks. In fact, a multiplicity of variables is studied. The method adopted here will discriminate between structures by measuring the mediating variable that is dominant in any one relationship.

McNeilly and Russ(1992) combined process and content variables in their study of coordination in the marketing channel. A similar approach was taken to the study of information ties in Japanese and American auto manufacturers by Bensaou and Venkatraman(1995). Zaheer and Venkatraman(1995) specifically designed their study to combine process and content variables in their empirical assessment of relational governance in the insurance industry and found that the combined model explained more of the variation than would have an individual behaviour or economic approach on its own, lending significant support to the combined perspective taken in this thesis. However, it is more common for studies to focus on one set of variables or the other as in Ring and Van de Ven's(1994) exploration of development processes of a cooperative IOR or Baker's(1990) study of content variables as they affected the relationship between large corporations and investment banks.

### 3.2.2 Dominant process and content variables

This section develops the process-content classification of variables used in this study of relationships by suggesting that, in any relationship, a particular process-content variable set dominates the interaction. Every relationship can be classified on the basis of the process-content set (key mediating variable set) that dominates its structure. A key mediating variable is one which drives the process and content of exchange between partners. It is indicative of the nature of the relationship.

Previous work on key mediating variables in relationships has been conducted by Hunt and Morgan(1994) and Morgan and Hunt(1994). Hunt and Morgan(1994) tested organisational commitment and Morgan and Hunt(1994) tested interorganisational trust and commitment. In both of these studies, the authors presented these variables as key mediating

ones and tested them against a rival model. They found the key mediating variable hypothesis to have stronger support than when these variables were just left to vary independently with the other variables included in the studies. This thesis uses the idea that a combination of particular process-content variables dominates any particular interaction between firms. This key mediating variables set, that is dominant in any exchange, indicates the governance of the relationship. The main issue becomes: which variables from the multiple set identified actually discriminate in this key way?

How is this discrimination between relationships, driven by a behavioural or economic set of variables, to be achieved? This research will develop a construct labelled "relationship strength" to discriminate between relationships on the basis of the variable that dominates the content-process of the exchange. The construct does this by measuring the extent of trust and commitment present in any relationship. Trust and commitment discriminate between different relationship types in this research because their definition combines economic and behaviour viewpoints. Trust and commitment as discriminating variables will be examined in the next section. They are normally seen as social exchange variables but by adding content or economic elements to their definition they can discriminate between different relationship or governance structures.

## 3.3 Belief and action components of trust and commitment as discriminating variables.

The previous section suggested that, in any relationship, a set of process-content variables can dominate the interaction between organisations and, thereby, identify the underlying governance

structure or form of the relationship. This key mediating variable set is capable of discriminating between relationship structures because it combines behaviour (process) and economic (content) approaches to the study of relationships. This section will show that trust and commitment can act as the key mediating variable set to distinguish between relational structure. Previous studies which use these variables to discriminate between the process and/or content of relationships will be presented. Trust is usually used in process based studies to discriminate between relationships, and commitment used in content or economic studies. It is by combining these two variables, and by adding a behaviour and economic element to their definitions, that will enable them to discriminate between various governance structures. This section will provide the theoretical support for defining these variables in this way. In the next section, they will be combined in a construct labelled "relationships strength" which will be used to develop a taxonomy of governance structures.

### 3.4.2 Discriminating Variables

Trust and commitment were chosen as discriminating variables after a review of the literature on all the process-content variables in the various theoretical streams of research on IORs. The literature is not in doubt that trust and commitment promote cooperative behaviour, but does the extent of their presence permit a classification of a range of relationship governance structures/forms not just bilateral structures? As defined in this thesis, they will.

Morgan and Hunt(1994) have used both of these concepts to establish whether or not they explain cooperative business relationships. Their explanation was purely based on the behaviour side of trust and commitment, and therefore did not differentiate between relational forms. However, they did use both trust and commitment which are usually studied singly or

as antecedents to other concepts. Husted(1994) saw cooperation as a function of trust and asset specific investment (a key element of economic commitment). Ring and Van de Ven(1992) argued that organisations can rely on trust (behavioural coordination) or risk (economic coordination) in coordinating an exchange. All these studies support the ability of trust and commitment to distinguish between forms in a generalised way but there are also particular investigations which add validity to the approach taken in this thesis.

Bradach and Eccles(1989) saw trust as central to the social system. Without it a market based on perfectly competitive principles or elaborate contracts would exist and discrete transactions would be the primary mode of exchange. Sako(1992) found trust to distinguish between discrete and bilateral relations. Kalwani and Narayandas(1995) examined relationship development as a result of trust, and found that this focus was more important to relationship continuity than a power based strategy built on a partner's ability to exploit another's dependence. Gulati(1995) found that research and development cooperation in alliances was as likely to be based on trust as on specific content features such as share holding, which would be hypothesised by a purely economic risk based view of cooperation. Provan(1993) also found cooperative behaviour important in situations of high risk asset specificity which would suggest an alternative governance mode other than the hierarchial modes, hypothesised by economic assumptions of exchange (transaction cost and agency), for this type of coordination.

Cook and Emerson(1978) found commitment as central in distinguishing social from economic exchange. Their conceptualisation of commitment reflects an economic risk taking behaviour only. In the literature, commitment is often based on economic rather than social assumptions. In this context, commitment is often related to dependence brought

about by transaction specific investment (Heide, 1994). This focus sees commitment actions being made as a result of power use by a partner. Therefore, measuring commitment on its own might reflect a dominant partner rather than a bilateral relationship. However, Provan and Gassenheimer(1994) supported the idea that commitment could modify the effect of power and dependence in a relationship, that is a social exchange view of commitment. This approach views commitment as continuity rather than as an investment. Commitment usually discriminates between the use and presence of power and its absence in a relationship. Helper(1993) found power to be constrained by the need for commitment. Oliver(1990); Gundlach and Cadotte(1994); and Boyle and Dwyer(1995) proposed that being dominant does not mean a bilateral approach should not be pursued. These authors found empirical support to suggest resource control did not explain patterns of cooperation. In fact, a firm may be likely to react negatively to abuse of its position by a dominant partner.

Relationships high on commitment and trust are based on mutuality. This does not mean that they are symmetrical, but merely that they are dominated by a bilateral content and process. This is not true for relationships with other combinations of these variables. This research sees power as an important variable but it is not measured directly. However, it will dominate in situations where trust is low and resource commitments are high: a dominant partner exploiting its power base. Power is defined in terms of use. This is consistent with literature views of power and avoids difficulties in measuring and operationalising the concept. These difficulties are reviewed by Frazier(1992). Even where power is the central variable measured in a study, as in the locus of power distribution channel study by El-Ansary and Stern(1972), which combined various measures of power, it was not found to give a clear indication of behaviour.

Trust and commitment have been shown to have empirical support in their ability to discriminate between relational forms. They are combined in this thesis into the relationship strength construct. The method of qualitative investigation along with a quantitative study will also test them for the particular purpose of this research.

There are two major issues addressed in the remaining parts of this section. One is the definition of trust and commitment and the other is the theoretical support for this definition.

### 3.3.2 Trust and commitment defined

The definition of trust and commitment combines elements of behaviour and economic approaches to the study of IORs. On researching the literature, the author of this thesis found a divide in definitional perspectives between authors who use a behaviour set of assumptions and those who use an economic set when defining trust and commitment. The definition of trust and commitment developed for this research will include behaviour and economic, process and content, elements. The behavioural elements will be assessed by measures of belief and the economic ones by action measures. Strong distributor-supplier partnerships were found by Joseph, Gardner, Tach, and Vernon(1995) to have many action elements. This was implicitly recognised by Geser(1992) who maintained that organisations did not have an identity or existence outside actions, when he argued for an interaction theory of organisational actors. Classifying relationships on belief alone may miss out important differences between firms.

The conceptualisation of trust taken in this research reflects both a behavioural and economic focus. Trust is seen as trusting belief (process) and trusting action (content). Trusting belief has been defined by Ring and Van De Ven(1992) as

"confidence in another's goodwill". In other words, reliance/confidence in the moral integrity (motivation) of another. Trusting actions arise out of vulnerability to another's action (Husted, 1994) that is the degree to which firms are willing to rely on trust to coordinate the relationship and deal with future uncertainty.

The definition of commitment also captures behavioural and economic components. The behavioural dimension (process) is reflected in expectations of partnership continuity, and the economic dimension (content) in investment and adaptation patterns in the relationship. Dwyer, Schurr and Oh(1987) have summarised the behavioural or belief state of commitment as "the pledge of relational continuity". Jackson(1985), coming from an economic viewpoint, was more interested in the pattern of investments and adaptations.

Trust and commitment will be combined into the relationship strength construct. Trust largely measures the underlying motivation of the relationship (the process dimension) and commitment, the strength/intensity of interaction between the parties (the content dimension). The need for both angles is evident in their definition. Strong trust without commitment does not indicate a fully bilateral relationship and vice versa. The two variables are needed to discriminate. This research is rooted in social exchange but allows for other explanations of variation in relationship structures.

### 3.3.3 Trust as belief and action

The theoretical definition of trust as actions or as belief depends on the theory position of an author. Economic writers (transaction cost and agency) view trust as a risk assessment whereas behaviour writers (social exchange and resource-dependency) see the goodwill angle driving trust. We have combined these two foci to differentiate between strong and

weak trust. To capture the content and process of trust in a relationship, both a belief and an action component are necessary. A process based view of trust reflects a social exchange view whereas a content definition is closer to an economic assessment. Studies of both trusting belief and action will be examined to support the combined perspective taken in this thesis.

Hosmer(1995) in reviewing major literature approaches which study trust, captured the essential nature of the debate about trusting belief by identifying trust as ethically justifiable behaviour. Trusting belief is that which can be justified on an ethical base. There are no common norms or standards of ethical principles but inherent in this view is the belief that one party to an exchange will not take detrimental actions against the other. This fits in with the psychological concept of "cognitive belief". Trust in this research is institutional based and involves a cognitive but also an action element. Lewis and Weigert(1985) have defined trust as having cognitive, emotional and affective elements. Their cognitive component corresponds to our trusting belief and their affective component to trusting action. The emotional perspective is more usual in interpersonal relationships, according to the authors, and is, therefore, not applied in this thesis. Sako(1992) also viewed trust as a capital asset (economic) and a social norm (behaviour) but went on to measure trust solely in terms of one partner's trusting belief in another.

Trust as trusting belief has been used in many studies. Ganesan(1994), in a study of long term orientation, defined trust as reliance in another partner. Trust is seen as sentiment about, or expectation in, the credibility and benevolence of a partner. It is a process or behaviour view. Similarly, Morgan and Hunt(1994) viewed trust as confidence in an exchange partner's reliability and integrity. This type of definition of trust is consistent with social exchange. Trust is embedded in

the social norms and obligation of organisations. A high level of this type of trust would indicate a bilateral relationship but not discriminate between it and other forms. In fact, both trusting belief and action would be strongly present in a bilateral relationship.

The addition of trusting action or economic trust is consistent with a self interest view of a relationship, that is it must have some payback. This arises in actions taken. Actions can be evidenced in, for example, problem responsiveness and information sharing. Anderson and Narus(1990), in a study of manufacturer and distributor working partnerships, viewed strong trust as reflected in trusting actions. Bradach and Eccles(1989) also defined trust as trusting action, specifically recognising that this approach alleviates the fear that an exchange partner will act opportunistically. Trusting action is linked to economic assumptions about exchange. An action oriented definition gives trust the power to be an tangible asset as it is made visible in specific components like fairness in raising and lowering prices and exchange of information. Barney and Hansen(1994) inherently recognised this when they argued that certain forms of trust could be a competitive advantage.

The combination of trusting action and trusting belief are likely to be found in bilateral modes of governing interfirm exchanges and are likely to be absent, or at a minimum, much lower in discrete exchanges. The combination of elements gives trust its ability to discriminate between relational structures.

### 3.3.4 Commitment as belief and action

The theoretical definition of commitment, like trust, as actions or as belief depends on the theory position of the author. Economic writers (transaction cost and agency) view commitment as an investment of resources open to

opportunism by a partner, whereas behaviour writers (social exchange perspective and resource-dependency) view commitment as belief in the future of the relationship and in the loyalty of their partner. This thesis has combined these two foci to differentiate between strong and weak commitment. To capture the content and process of commitment in a relationship both a belief and an action component is necessary. A process based view of commitment reflects a social exchange view whereas a content definition is close to a transaction cost/agency perspective. Studies of both committed belief and action will be examined to support the combined perspective taken in this thesis.

Meyer and Allen's(1984) definition of commitment as containing continuance and affective components and McGee and Ford's(1987) subsequent test of their conceptualisation provide theoretical and empirical support for the view of commitment used here. Their work had an individual rather than an interorganisational focus, but can be complemented by other authors, for example, Gundlach, Achrol and Mentzer(1995) who applied it to the organisation context. Continuance commitment has a parallel in committed belief and affective commitment in committed action. The usual focus of commitment studies is economic. This is due to an author's theoretical assumptions. Commitment is assumed to be related to dependence not mutuality.

Process studies of commitment define commitment in a cognitive way. Helper(1993) asserted that the continuity element of commitment was vital. This future orientation to the relationships was defined by Morgan and Hunt(1994) and Mohr and Spekman(1994) as belief that an ongoing relationships was important enough to warrant maximum effort at maintaining it. Measures of continuity and loyalty reflect this component of commitment. It is very much a behaviour

view of commitment and can be contrasted with an economic content assessment of commitment.

Content commitment is defined as action and reflects specific investments of resources and adaptations in the relationship. Heide(1994) supported an action view of commitment in which parties make relation specific investments that lock them into a particular partnership. This action is seen as creating symmetric dependence thus reducing the risk of opportunism. However, it is not necessary to focus on the self interest element of committed actions. They can be seen to positively enhance collaboration. Hallen, Johanson and Seyed-Mohamed(1991) found this view to be supported in their study of adaptations. Investments were reciprocated and made for the benefit of the partnership.

Commitment is seen as both committed belief and action. Both commitment and trust, as defined, will be combined in the relationship strength construct which will be shown to discriminate between various relational governance structures in the next section.

## 3.4 The Relationship Strength Construct

This section will define the relationship strength construct and develop a taxonomy of relationship structures using it. It will also examine each of these structures in detail.

### 3.4.1 Definitional

The relationship strength construct combines the underlying motivation of a relationship (process) with the intensity of interaction (content) to determine the structure of a relationship.

Four major relationship structures are outlined in this section. They are derived from the major theory approaches presented in chapter 2.

Central to the definition of the relationship strength construct is the idea that a particular set of content-process elements dominate a relationship (key mediating variable set), and that the construct itself has the ability to discriminate between structures. The latter is made possible by the elements of trust and commitment that comprise relationship strength. High and low combinations of trusting and committed belief and action will discriminate between four relational governance structures. Use of the concept relationship strength can be compared to previous literature indices and classification frameworks of relational structures.

The idea behind many indices of relationships or continuums that attempt to discriminate between relationship forms is that a particular set of underlying variables dominates the interaction between parties. These indices support this research but are different from it in that they may be measuring a different element of inter-relationship. They may concentrate on only one element, or miss the idea of mixed motives and thereby fail to capture the behaviour and economic dimensions of relationships by explaining them only in part. Many indices have been developed that reflect the relationship contracting method developed by Macneil(1980). It is derived from contract law and based on contracting norms. Authors who have used this approach to discriminate between relationship forms include Sako(1992), who developed an index of arm's length contracting and obligational contracting, and Kaufmann and Stern's(1992) index using three contracting norms - mutuality, role integrity and solidarity - to differentiate between relational and discrete exchanges. These indices were developed to measure norms which may not

reflect the strength or content of the exchange. Typically these indices differentiate only between relational and discrete forms. Other indices were developed from a particular economic or behaviour theoretical stream. For example, Jackson's(1985) transaction analysis of account behaviour was based on an economic view of relations; or Husted's(1994) index of trusting relationships which concentrated solely on a behaviour analysis of interorganisational exchange. All these indices do support the idea of discrimination. However, to discriminate properly between different forms and not just describe one type of relationship, it is necessary to combine behaviour and economic approaches to the study of relationships. This is close to the view of authors like Bradach and Eccles(1989) who proposed that any interaction is managed by a combination of price, authority and trust. This thesis is suggesting that a particular set of process-content variables is dominant in any particular exchange.

Other authors have developed classification schema on the basis of value system interrelationships. These ignore the content-process of exchange and rely on labels that are full of exceptions. Morgan and Hunt(1994) and Gummesson(1994;1996) classified relationships by describing the parties involved. These are useful classifications as they indicate the scope of relational exchanges but nonetheless a particular underlying set of variables will dominate any one structure. The position taken in this thesis makes it easier to understand the dynamics of a relationship. For example, there are many different types of joint venture but all have a particular set of content-process variables driving them. A similar point can be made for any other relationship type. An individual franchise relationship, or supplier partnership, can be classified under any one of the four forms presented in the next section. Classification is easier and more manageable if one concentes on underlying form of, or process-content variables that dominate, the exchange between the

organisations. The dominant variable set (key mediating variable set) gives a clear picture of the nature of the particular relationship under study. Management actions and decisions can be taken on this basis.

### 3.4.2 Taxonomy of forms

Relational forms can be distinguished from each other by measuring the extent of belief and action trust and commitment in the relationship. These measures will discriminate between four forms, two of which are based on economic theory and two on behaviour theory. The relationship strength construct is represented diagramatically in figure 3.0.

Figure 3.0 shows that the relationship strength construct, based on trust and commitment, discriminates between four relationship structures. Trust and commitment have been developed to combine both behavioural and economic elements of interorganisational relationships. Trust is a function of trusting belief, a behaviour element, and trusting action, an economic element. Trust is the opposite force to opportunism. The underlying motivation in a relationship is reflected in the level of trust. Commitment is a function of belief in the future of a relationship, a behaviour view, and committed action, an economic view. Commitment is an opposite force to power use in any relationship. It measures the strength of a relationship. Combined, these elements reflect the motivation and strength of a relationship and discriminate between the relational structures as shown in figure 3.0.

**Figure 3.0**
**Contrasting relational structures based on the relationship strength construct.**

| | High Commitment | Low Commitment |
|---|---|---|
| High Trust | Bilateral<br><br>Quadrant 1 | Recurrent<br><br>Quadrant 2 |
| Low Trust | Supplier/buyer dominant<br><br>Quadrant 3 | Discrete or opportunistic<br><br>Quadrant 4 |

Source: O' Toole, T.(1996), Thesis Research (Unpublished)

The four relationship structures or forms have been used in previous research as labels for governance structures although they do not have exactly the same meaning as they have in this thesis. Similar structures have been used in research by Ring and Van de Ven(1992) and Heide(1994) in their assessment of governance mechanisms in interorganisational exchange. This work accepts that, in practice, the boundaries between forms are blurred and it is the dominant mediating variable set that discriminates between forms. Each of the four structures will be examined in more detail in the following sections.

Figure 3.0 illustrates the proposition that relationship strength, as defined, discriminates between relationship structures. This will be tested in an empirical way in the primary research of this thesis.

### 3.4.3 Bilateral relationships

Bilateral relationships are the high relationship strength forms. They are high in both trust and commitment. This means that the belief and action elements of both these concepts are present. In bilateral relationships, partners cooperate for mutual advantage. There is openness of information sharing and collaboration at a strategic level. Both the process of interaction and the strength of its content are high. It is a complex relationship not easily copied.

Bilateral structures are governed by high levels of trust and commitment. It is a difficult form to achieve but it will be hypothesised to offer the greatest potential in the context of the performance of interfirm relationships. Bilateral relationships are conceptualised from a social exchange view of interorganisational coordination.

The type of cooperation found in bilateral relationships is sometimes described in the literature. Prokesch(1993) in an interview with Ed McCracken, CEO of Silicon Graphics which make computerised work stations, described this company's relationships with "lighthouse customers" especially in the area of product development. This interaction was illustrated by their experience with one of their customers, Nissan, the car manufacturer, where Nissan shared design information in an attempt to explain its computing needs. Kinch(1993) presented a longitudinal analysis of the relationship between Volvo, the car manufacturers, and Olofstrom, a parts supplier. While the article was developed to show how relationships can change over time, at certain points in time the relationship between the two companies was bilateral with a boundary less interaction taking place. Cunningham and Ford(1993), in a study of technology development in the European electronics industry, found cooperative relationship the key to technology development. Trust and commitment were central in developing and sustaining this cooperation. Ellram(1995), assessing mutually agreed partnerships between buyers and suppliers across a range of industries, found bilateral characteristics of relationships to be critical to partnership success. These findings were supported by Hyun(1994) in a study of plastic auto parts. There are many companies who cooperate at an intense level on the basis of social exchange assumptions.

### 3.4.4 Recurrent relationships

A recurrent relationship is a hybrid form between the pure discrete and bilateral types. Elements of reciprocity and temporal duration creep into the exchange. Partners trust one another. The relationship is open but not seen as strong by the parties to it that is committed actions are low. This may be because of firm size or the nature of the product category. Investments are low to medium in the relationship. The

partners concentrate more on the operational rather than relational domain of the exchange. This form may equate to certain just-in-time(JIT) relationships. Frazier, Spekman and O'Neal(1988), Gilbert, Young, and O'Neal(1994) and Kerwood(1995) described and empirically investigated JIT type relationships. These relationships seem to be driven by efficiency rather than by strategic considerations. Trust is important in facilitating the relationships but the commitment is operational rather than strategic. The relationships are ongoing but not as asset intensive as bilateral forms. This may be because that is all that is required by the parties. Long term contracts and a reduced supply base form part of these relational forms. These elements do not necessarily indicate a bilateral functioning as they are common across many forms. Recurrent relationships are governed by elements of social exchange such as trust but lack the strength of the bilateral form. The firms in this category may be in the early stages of bilateral relationship development.

These type of relationships are found across industry and product types. They may be more influenced by environmental characteristics than bilateral forms. The product category may be indicative of these relationships. Many regularly supplied component parts are suited to a recurrent relationship structure. However, sometimes recurrent relationships are limited by an operational vision of what can be achieved through cooperation between a buyer and a supplier. Figure 3.0 places this relationship structure in the high trust/low commitment quadrant of the taxonomy of structures based on the relationships strength construct.

### 3.4.5 Dominant partner/hierarchical relationships

Dominant partnerships are a very common governance mechanism in which a dominant partner specifies the nature of

the interaction between the partners. The weaker partner in a dominant partner relationships faces the combination of low trust and high commitment. Levels of trust are low while at the same time the partner is forced by a more dominant partner to invest in the relationship. These one-way relationships are typical of those pursued by Original Equipment Manufacturers(OEMs).

Hierarchical relationships, as described in transaction cost theory, revolve around decisions on control of a transaction. For example, there are two main ways of organising the make or buy decision: making the product internally or buying it from the market. The decision is made after an analysis of the transaction efficiency of the two methods. The nature of hierarchical supply relationships is decided on an authority basis and governed by the power-dependency balance between partners; the ability of a dominant partner who uses his/her power to exploit the resources of another. The transaction cost and resource dependence schools of thought describe these types of relationships.

Hahn, Watts and Kim(1990) described a supplier development model which was driven by a dominant buyer. The dominant firm induced the cooperation and controlled it. Brege, Brandes, Lilliecreutz and Brandes(1993) suggested a range of strategies for dealing with a dominant buyer. Dominant partners are those who use their power to gain control over the exchange transaction. Alternative assumptions, that is the non-opportunistic ones of social exchange theory, would allow them to adopt a bilateral strategy. Johnson(1992) described the supplier management strategy of the defence and aerospace contractor, Harris Corporation as a dominant partner reducing a supply base and setting the coordinating mechanism. He also outlined the difficulties in gaining an adequate supplier response in some areas. They wouldn't just do what they were told! These one-way relationships are frequently referred to as

partnerships. It is time to move away from these descriptions of partnership and to reflect on what is actually happening in a relationship made apparent by the dominant process-content variable set mediating the relationship. In this research, the main supply relationship of a buying firm will be the major focus of the empirical investigation.

Kumar, Scheer and Steenkamp(1995: a) suggested, as a result of research in the automobile industry, that powerful manufacturers might gain channel advantages by pursuing fairer strategies. This may require a change in the managerial approach to the relationship. The shift from purely firm centred to interactive modes of governance may not be easy. Dominant partner relationships are facilitated by the size and power of a buyer/supplier and the temptation must be to use this as a governance mechanism. This implication is supported in a study by Lyons, Kranchenberg and Henke(1990) of OEM supply relationship in the US. A shift from dominant to bilateral relationships may be the goal of the weaker party, and could potentially lead to greater advantages from cooperation to the dominant party. This would require a different view of exchange relationships, that is a move to a social exchange perspective, by the dominant partner. The advantage of this paradigm shift was brought out in a study of the office systems market by Gassenheimer, Calantone, Schmitz, and Robicheaux(1994) as a key conclusion to make vertical channel relationships work. Clearly, the move to more cooperative relationships remains a managerial choice.

### 3.4.6 Discrete Relationships

Discrete relationships are the lowest relationship strength performers as illustrated in figure 3.0. They have minimal levels of trust and commitment. However, they are realistic relationship types and do not correspond solely to the theoretical examples of the buying of a restaurant meal or

petrol at a remote location. In other words, there are relational elements between the parties but these are not dominant and do not govern the exchange. In business to business exchanges, the discrete relationship has to be moulded to fit practice. It could be re-labelled "arm's length" but this research has decided to stick to the language used in the governance literature.

It is an arm's length relationship strategy, largely based on the price of a particular transaction. It is governed by perfectly competitive market forces and is well described by transaction cost economics (Williamson, 1979). Opportunism dominates this approach with few, if any, ties between the parties. Discrete relationships are based on the assumption that firms make rational economic decisions as independent actors in the marketplace.

The discrete relationship is presented in works by Jackson(1985) and Sako(1992) as an arm's length relationship. Jackson described this relationship in terms of account commitments which are minimal. The relationship was labelled "always a share". Sako described a similar relationship type which was labelled an "arm's length contractual relationship" and characterised by low trust. In this thesis, these relationships are based on the efficiency of the transaction. That does not mean that the supplier concerned produces poor quality products/services or that the buyer has not dealt with him/her previously. It is a relationship that is kept at arm's length which probably suits the partners as some organisations do not want a close relationships. The contract between the parties is price based but like all supplier/buyer relationships, minimum standards have to be met. It is not characterised as a "fly by night - here today, gone tomorrow" relationship but is a serious player in the market place.

The key distinction between discrete and the other forms of governance is its low relationship strength. It is very likely that the low relationship strength is a managerial policy and that any trust-commitment building strategy would fail. This does not mean that there is no trust or commitment in the relationship but that the level is just enough to facilitate the transaction.

An explanation of the relationship strength construct has been provided in the preceding sections. It can be justified on many levels which have been detailed. We have seen that the construct is theoretically valid in that it fits with various IOR frameworks capturing the content-process of a particular relationship strategy at a point in time. It also captures the behaviour and economic dimensions of relationships, and thus, can discriminate between forms.

## 3.5 Conclusion

An analysis of previous research on relational governance indicates the need for a more integrative perspective. This research combines both behaviour and economic approaches to the study of interorganisational exchange. However, there are a multiplicity of variables influencing the structure of any relationship. The method of reducing this variables set is achieved by concentrating on those that dominate a particular interorganisational interaction.

This chapter has presented the relationship strength construct. It is conceptualised as a process-content assessment of a relationship, measured by belief and action components of trust and commitment. This construct has been shown to distinguish between relational structures on the basis of the mediating variable set that dominates the exchange. Belief and action

components of trust and commitment, as mediating variables, discriminate between four relationship structures: bilateral, recurrent, dominant partner, and discrete.

The relationship strength construct combines behaviour and economic approaches to the study of relationships. Clearly, every relationship is not going to be based on social exchange. However, it will be hypothesised that these types of relationships offer the greatest performance possibilities by comparing the performance of bilateral forms to that of the other structures. In other words, the research assumption that social exchange is the optimal coordinating mechanism for relationships will be tested.

The next chapter will outline the performance construct for the research. It will be the dependent variable in the analysis and is derived from the major theoretical schools on relational governance and, as such, will combine behaviour and economic elements of performance.

# Chapter 4 - Interorganisational Relationships: Performance Outcomes

## 4.0 Introduction

This chapter links governance structures to relational performance. Most of the theoretical streams of research into relationships specify performance dimensions. These are combined into a performance outcomes construct in this chapter.

Relational performance studies usually limit themselves to measuring outcomes that are linked to their underlying theoretical assumptions: behavioural theorists measure behavioural outcomes and economic theorists measure economic outcomes. This thesis combines both perspectives.

This combination has support in the literature. Performance is a multifaceted concept. Limiting performance dimensions to a particular set biases measurement and underplays the role of performance assessment in a relationship.

A performance outcomes construct, combining behaviour and economic measures, is also a difficult superiority test: bilateral relationships will have to perform on both behavioural and economic outcomes to be a superior mode of governance. Traditionally, they have only been linked to behavioural outcomes. This thesis will expand the scope of performance measurement of relationships for all types of governance structures.

## 4.1 On the nature of relational performance

This section establishes a general link between relationships and performance. It also shows performance to be a multifaceted concept.

### 4.1.1 Relational structure-performance linkage

In business strategy research, studies linking particular strategies to performance are common. Hrebiniak, Joyce and Snow(1989) provided a review of these studies. They asserted that linking strategy and performance was vital at a corporate level. This should also be the case for relationships. Clearly, there should be performance advantages in pursuing one type of relational approach rather than another. This thesis will contrast the performance of the four relational types presented in the last chapter. Relational structures have been linked to performance in the literature. In this section, the general link between relationship structure and performance will be established. In section 4.2, behaviour and economic studies of relational performance are investigated. They will further establish this link and also demonstrate the multifaceted nature of relational performance.

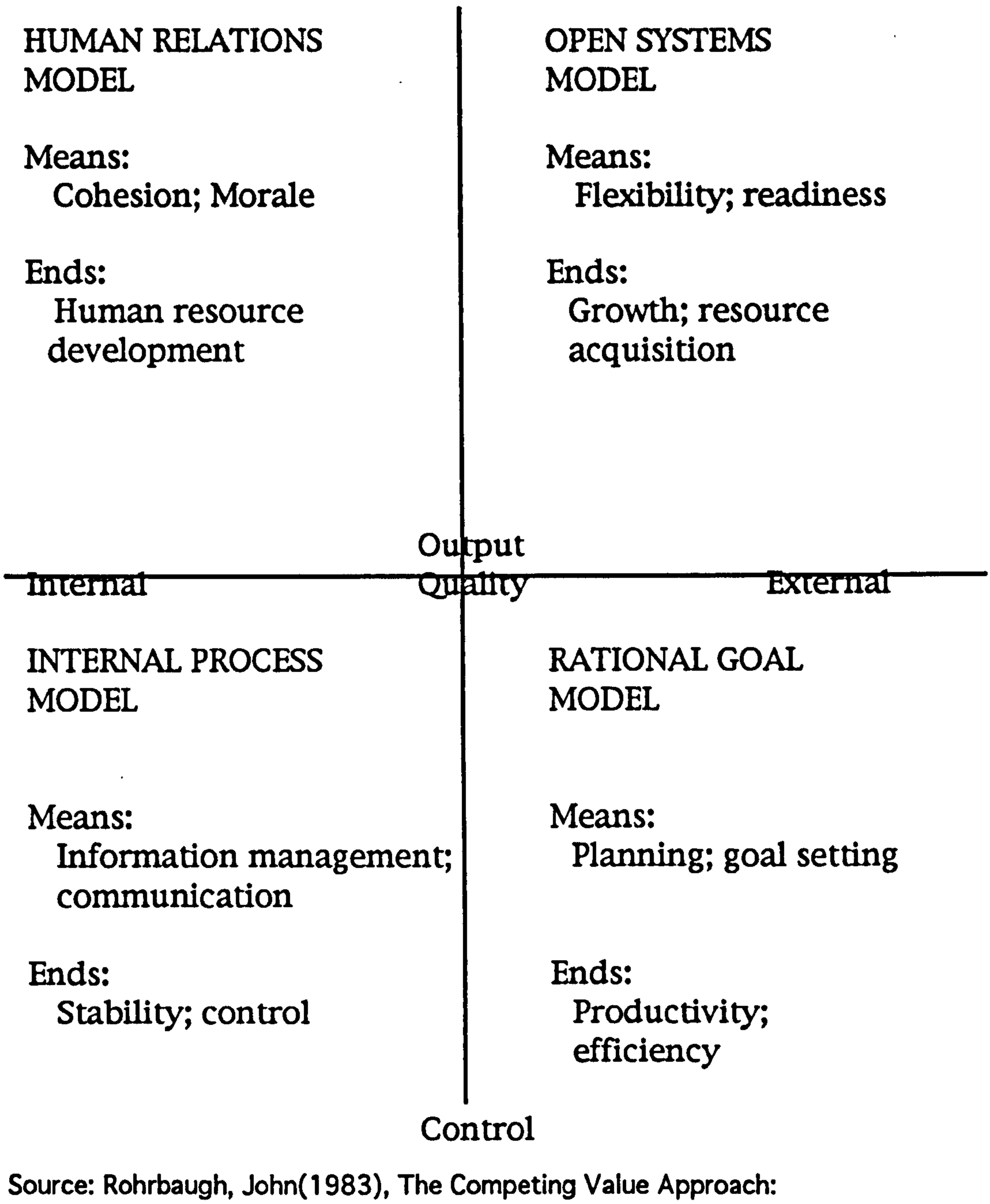
Joseph, Gardner, Thach and Vernon(1995), in a survey of distributors' perspectives of their relationships with a core supplier, found a strong link between the type of relationship and performance. Specifically, they found that distributors in strong partnership arrangements, in contrast to those in arm's length relationships, realised more profits from the supplier's account and a higher level of managerial efficiencies. Kalwani and Narayandas(1995), in a cross industry study of the effects

of long term orientation on manufacturer-supplier relationships, found long term orientation strongly related to costs and profitability in contrast to a more transactional approach. Landeros and Monczka(1989) contrasted cooperative and price-based strategic postures using qualitative data and showed each approach to have different effects on performance. Graham, Daugherty and Dudley(1994), in a study of purchasing partnerships, found that partnership rewards increase over time. The authors' measures of performance were operational and from the buyer's perspective but did reflect the link between relational commitment and performance. Their study was based on repetitively bought products. Clearly, relationships do affect performance. The exact nature of this performance and its elements are the subject of this chapter.

### 4.1.2 Multifaceted nature of performance

Hall(1987) presented a sociological view of organisational outcomes which was multifaceted and combined elements of both organisational effectiveness and efficiency. To support his view of the multidimensional nature of performance, Hall reviewed the theoretical perspectives on the topic which he classified into four groups: the systems resource model, the goal model, the participant satisfaction model, and the social impact model. Rohrbaugh(1983), in his competing value set analysis, summarised the goals of these various theoretical approaches to organisational performance. His diagram, reproduced in figure 4.0, illustrates the multidimensional nature of performance. Kumar, Stern and Achrol(1992) used this model to develop measures for assessing reseller performance from the perspective of the supplier, and suggested that a composite multidimensional approach to measuring performance was superior to concentration on single element or global measures. They are among the few authors to empirically test such a comprehensive measurement framework.

**Figure 4.0**
**A summary of the competing value sets models.**




Source: Rohrbaugh, John(1983), The Competing Value Approach: Innovation and Effectiveness in the Job Service, in Hall, Richard H., and Quinn, Robert E. (editors), Organisational Theory and Public Policy, Sage, p. 267.

Relationship literature models also support the multifaceted nature of interfirm performance. Robicheaux and Coleman(1994), in a model of channel relationships, combined behaviour and economic outcomes of relationships by drawing on political economy and transaction cost theory. Frazier(1983), in his framework on interorganisational exchange behaviour, presented a range of outcomes which combine behaviour and economic elements. These models support a broader conceptualisation of interfirm performance than one theoretical perspective on its own would provide. A multiparadigm measurement of interorganisational performance is therefore necessary in the context of this research. The structure and linkages that deliver the greatest performance benefits will then be capable of being assessed.

A multifaceted definition of organisational performance is essential to capture the scope of performance available through a particular relationship structure. The theoretical streams on the effects of relationship structure on performance will be investigated in the next section. A behaviour and economic classification of the streams will be used.

## 4.2 Behaviour and economic studies of relational performance

In advance of defining the performance construct for this research, it is necessary to review existing performance research derived from the various theoretical streams that study relationships. The links between specific relationship

structures and performance outcomes are the subject of the next two subsections.

The research linking relationship structure and performance is divided into behaviour and economic groupings that reflect an author's assumptions about the nature of exchange. These assumptions have been explored in previous chapters. Parkhe(1993) proposed that outcomes available from cooperative interorganisational alliances, such as mutual gain and interdependence, are distinctly different from those available through strictly competitive transaction-based interactions. Ring and Van de Ven(1994), in their model of developmental processes of cooperative relationships, argued for a combined outcomes perspective so that efficiency and equity could be pursued jointly. This thesis will build combined cooperative and competitive performance outcomes into its model so as to assess which measures explain the differences in the performance of the four relationship structures. This combined perspective is supported by Granovetter(1992). He viewed performance both in terms of economic and behaviour outcomes, as these aims are found side by side in organisations. A combined approach is also supported in the organisational behaviour literature by Negandhi and Reiman(1975).

### 4.2.1 Behaviour studies

The link between relationships and interorganisational performance has been made in preceding sections. These actual dimensions of performance can be examined from a behaviour and economic perspective. A selection of studies from each of these categories serves to illustrate the nature of the investigations made in past research. Figure 4.0 can be matched to behaviour and economic outcomes. The flexibility-internal set is closest to the behavioural group of outcomes and the control-external, to the economic group.

The outcomes of behaviour theory arise through the interaction process and are driven by the mutuality inherent in these types of structures. Economic outcomes develop from the focal firm perspective and are motivated by opportunism. This distinction mirrors the cooperative versus competitive approach to managing interorganisational relationships outlined in chapter 2.

The behaviour performance outcomes are reflected in the social exchange and resource-dependency schools of thought. The social exchange perspective concentrates on outcomes evaluated on a dyadic basis. Mohr and Spekman(1994) used two performance measures in their study of partnership success, typical of the social exchange school. They were dyadic sales volume and satisfaction with the relationship. The evaluations of performance outcomes in social exchange theory tend to reflect attitudes which further enhance cooperation. These evaluations also vary in their emphasis when compared to economic evaluations. For example, the difference between a social exchange view of cost and a traditional economic view is that cost is analysed from a partnership rather than from the perspective of the individual firm. Cost reduction is a partnership issue rather than one directed by an individual firm. Any resulting cost reductions tend to be shared among the partners.

Behaviour studies of performance do not usually consider economic outcomes. However, behaviour based assessments of costs and rewards such as Thibaut and Kelly's(1959) comparison of costs/benefits with what was expected in the relationship(CL) is a useful addition to behaviour performance measures, as it reflects a more rational assessment of outcomes, yet views them from a partnership angle. Satisfaction across a range of performance elements, or some form of expectations comparison, is a very common outcomes measure in studies of relational performance. For example, they were present in a

study by Gassenheimer, Calantone, Schmitz and Robicheaux(1994) on channel maintenance and in McNeilly and Russ's(1992) work on channel coordination.

Resource-dependency theory provides two important contributions to the analysis of relational performance. The first concerns resource use and enhancement in the relationship and the second, dependency. The resource use side concentrates on value added in the relationship and would be concerned with outcomes such as joint product development. Dependency, on the other hand, can be viewed in the behaviour sense as a benefit of closer integration, or in the more economic sense, as a risk of closer integration. Both interpretations will be included in this study.

Zajac and Olsen(1993) provide the theoretical argument for an assessment of the resource value of a relationship. Droge, Vickery and Markland(1994) empirically tested a resource based view of competition in their study of the furniture industry. Their work was based on a focal firm but their competency levels definition of resources is very applicable to relationships. Banerjee and Golhar(1993), in an empirical investigation of the performance of electronic data interchange in JIT and non-JIT firms, found a range of value added strategies to explain performance differences between the two groups.

Frazier(1983: a), in a model of channel behaviour, suggested that both satisfaction and power-dependence outcomes were present in partnerships. Heide and John(1992), in a study of manufacturer-supplier relations, highlighted the importance of changes in the level of aspects of relationship strength (they did not use this term) on the power-dependency balance in a relationship, in particular, investments in relational assets. Boyle, Dwyer, Robicheaux, and Simpson(1992), in a survey of

car dealerships, found influence strategies (defined as power use) to vary between strong relationships and other types.

Social exchange and resource-dependency theorists in their analysis of relationships study a range of behaviour performance outcomes. These variables are, in the main, process based and will be combined with economic measures of performance in the performance outcomes construct of this research.

### 4.2.2 Economic studies

Opportunism motivates the parties to an exchange in an economic perspective. This thesis will be using economic measures of performance but will be suggesting that they need not be driven from the perspective of opportunism. A drive to enhance the profitability of the partnership can be pursued by both partners and benefit them equally. The performance elements of the two main theoretical schools of thought on economic governance will be reviewed.

Efficiency evaluations are central to transaction cost economics. The assessment of profits and costs to the firm are the key outcomes measures. The maximisation of profits and the minimisation of costs to the focal firm are the standard performance assessment criteria. These measures are normally related to a narrow set of tangible, easily measured costs and rewards.

Relationships have been found to deliver economic outcomes to partners. Noordewier, John and Nevin(1990), in a study of purchases of repetitively used items, measured transaction costs as outcomes. They found that these costs could be reduced in close relationships. In another study, Kalwani and Narayandus(1995) found a positive link between close relationships and economic outcomes such as costs, sales, prices

and profitability of relationships. Heide and Stump(1995) also found a positive relationship between investment in relationships and economic performance.

Agency theory adds risk assessment to the evaluation of performance in a relationship. The risk of a partner exploiting the relationship is a key outcome of this school. The risks of abuse of information rights, or of an abuse of confidence, are examples of outcomes of this school. A partner's performance enhancement revolves around designing the most efficient incentive structure to avoid opportunism. A basic assumption of this school is that close relationships involve greater risks of opportunism. Therefore, theorists concern themselves with the design of incentive structures. For example, value engineering of a supplier product who is in a close relationship to ensure s/he is not charging higher prices, or publication of supplier ratings acting as a competitive mechanism to reduce the risk of opportunism. Firms in bilateral relationships will not necessarily see a risk in close information sharing or in abuse of confidence because of the high trust nature of their relationship but relationships managed from an economic perspective will be concerned with these risks. Agency theory coordinates the risk of information sharing in the partnership by building in protection mechanisms, whereas social exchange theory manages this risk through trust.

Research literature which examines the impact of transaction specific investments on relationships normally includes an assessment of the risk of such investment. The risks in an agency-principal's relationship are described from a theoretical perspective by Spremann(1987). In the context of this research, the main agency-principal risks are information asymmetry, and monitoring risks inherent in closer relationships. Agency risk assessment is a common outcome of investment decisions in relationships and is especially common

in the interorganisation information systems literature (Clemons and Row, 1991&1992; Clemons, Reddi and Row, 1993).

Transaction cost economics and agency theory study performance from an economic perspective. Economic elements of performance probably result from the content side of relationship strength rather than the process linkage of the behaviour measures. Economic dimensions of performance will be combined with behavioural ones in this research.

Studies usually concentrate on either a behaviour or economic assessment of partnership benefits and costs. This thesis will combine both perspectives to allow for an overall assessment of relational performance. This focus on multiple measures and the combination of outcomes measures from different theoretical perspectives is rare in the literature and represents an important theoretical contribution of this research. Even though this research is rooted in social exchange assumptions, it uses wider definitions and measurement approaches to test the nature of its strategy proposition.

## 4.3 Performance outcomes construct

The link between relationship structure and performance and the fact that performance includes behaviour and economic elements have been established in previous sections. These arguments provide the basis for this section which defines the performance outcomes construct of this research and the elements which make it up.

### 4.3.1 Definitional

The performance outcomes construct measures the performance of a firm as a result of the structure of the relationship. The performance outcomes construct combines the economic and behaviour elements of performance presented in the preceding section. It is a composite measure of relational performance, capturing its multifaceted elements. The performance construct measures the outcomes of varying levels of relationship strength. Therefore, it includes both process and content outcomes. A process performance measure would be satisfaction and a content measure would be higher levels of interdependence. The performance outcomes that best explain the differences between the relationship structures will be explored in the findings. Given that the performance construct is derived from the major theoretical streams on governance, that is multiparadigm and containing components from different approaches to relationships management, it would be expected that the performance elements that explain differences would diverge from previous research. For example, bilateral relationships may perform on economic, as well as behaviour, measures of performance.

The choice of the elements of behaviour and economic outcomes fits the various theoretical positions on organisational effectiveness outlined and adapts them to the aims of this research. This combination also conceptualises performance in a composite way rather than focusing on global or individual facet measures. Behaviour and economic performance adequately classify the benefits and cost to be gained from relationships, as described in the academic literature. In fact, Venkatraman and Ramanujam(1986) proposed a broader conceptualisation of performance, to include both financial and non-financial performance in what they termed "organisational effectiveness".

Future research will examine whether certain performance results from relationships can approximate to providing the parties with a competitive advantage. This research will examine the survey participants' perceptions on this point. The argument for making this link is made in the following paragraphs. If the reader accepts a relational strategy approach to managing interorganisational exchanges, the question becomes: can this then be translated into a competitive/comparative advantage? Competitive advantage is conceptualised as superiority in skills/resources and superiority in performance outcomes (Day and Wensley, 1988, Droge, Vickery and Markland, 1994). These two elements are inextricable linked. Superiority in skills/resources if properly managed can lead to superiority in performance outcomes. Given that sources of competitive advantage are hard to find and that competitors can imitate most strategies, only those high on causal ambiguity and social complexity have real long term value. Bilateral relationships are high on both these elements and therefore should be of advantage potential. Barney and Hansen(1994) argued that certain types of trust are indeed possible competitive advantages. The possession of a high rating on the construct relationship strength may be in itself a competitive advantage. However, it must also be linked to superiority in performance outcomes to be of lasting value. This superiority in performance will be tested through the performance outcomes construct in this research.

Performance and advantage definitions are rooted in the theoretical perspectives of an author's writing. In chapter 2, two different ends of a continuum of interorganisational strategy development were examined: the relational and the classical economic. Hunt and Morgan(1995) compared the traditional classical economic model of competitive advantage with a comparative model based on organisational resources. Their notion of resource based competitive advantage is

approximate to the cooperative view of this research. In fact, the relational types should match with the performance dimension appropriate to their implementation (Walker and Ruekert, 1989). For example, bilateral relationships should measure high on behaviour measures whereas dominant partner types should be lower. If advantage can be gained by firms pursuing an independent competitive strategy, it should also be possible through a cooperative advantage. In a way, this research is combining both by using behaviour and economic elements.

Whether relational performance can generate advantage is not the subject of this research. However, the argument that it approximates to this possibility strengthens its definition. The performance construct as defined in this research is multifaceted. It represents a significant addition to the analysis of relational governance due to its multiparadigm nature. If the findings support bilateral relationships as superior performers, social exchange views of relationships will be given greater empirical support. In the past, studies in this area have not measured performance as extensively as will be the case in this research. The reason for this is that they usually concentrate solely on behavioural outcomes. The elements of the performance construct will be presented in more detail in the next two subsections. These have been drawn from the major theoretical schools presented in the last section.

### 4.3.2 Behaviour elements

Behaviour elements of interorganisational performance are those outcomes which do not have a strict monetary value. They contribute to and enhance economic value but cannot, in the short term, be calculated in a narrow financial accounting sense. They may produce direct economic outcomes such as new products but in the main, are process components of interorganisational effectiveness. Behavioural performance

could be equated with effectiveness and economic performance with efficiency. Mohr and Nevin(1990), in their work on channel communication strategies, support a behaviour/economic division of performance outcomes with their use of a similar qualitative and quantitative division.

The main behaviour outcomes that will be studied in this research are satisfaction, outcomes compared to expectations, stability, conflict, value added and product performance. These variables should vary with the type of relationship between organisations. These outcomes have been developed from the behavioural schools of relationship governance. They depend for their achievement on high levels of trust between partners and future commitment to the relationship. They arise out of the social structure or interactive nature of the partnership. Certain outcomes of the resource-dependency school are economic and will be covered in the next section: changes in switching costs and dependence levels can happen from either a behaviour or economic view, that is partners can chose to, or be forced to, perform on these dimensions.

Satisfaction can be described as a positive affective state towards a partner. It can be complemented with an assessment of outcomes compared to expectations(CL). Both of these concepts have been used as measures of performance in previous relational structure research and have been found to be significant. Frazier, Spekman and O'Neal(1988) used them in a study of JIT exchanges, and Anderson and Narus(1990) in one on working partnerships. The expectation in this research is that bilateral and recurrent relationships will rate higher on these variables than the other relationship structures.

Stability is based on an organisation's evaluation of the confidence it can place in the future of the relationship. It is very important when environmental turbulence is high (Aldrich, 1979). It has been measured in the IMP Group's

research (1975-ongoing) as "institutionalisation". In this research, the measurement of stability is limited to its predictability aspect. This aspect of stability emerged as a significant measure from initial exploratory research conducted by the author. Stability can be seen as a result of the internal process model in figure 4.0.

Levels of conflict, communication and influence should also vary with relationship structures. The level of conflict has been found to be an outcome of working partnerships by Anderson and Narus(1990). Communication and influence variables will be used as independent validity checks on the statistical methods used and, as such, are dealt with in methodology.

Value creation and product performance measures are also important outcomes of relationships. Value creation and product processes that will vary with relationship structure include quality, responsiveness to problems, flexibility, contribution to new products and involvement in design. Value creation has been found to be a significant outcome of relationships in previous studies. Examples of value creating outcomes from relationships include innovation (Dogson, 1993) and "non-contractible" assets or assets with value difficult to quantify (Bakos and Brynjolfsson, 1993). Robicheaux and Coleman(1994), in a political economy model of relationship, included in their presentation of economic and polity performance many value creating and product related outcomes. Among the outcomes they included were innovativeness, influence, and quality.

The behavioural performance measures are essential in order to measure the overall contribution of process to relational performance. Behavioural performance is a composite measure as conceptualised in this thesis. Composite measures have been found to be more effective measures than global or individual

facet measures of organisational performance by Kumar, Stern and Achrol(1992).

### 4.3.3 Economic elements

The economic performance of relationships is a composite of dependence, risks, productivity, costs and sales/profit measures. The economic measures mainly arise out of the transaction cost and agency literature.

Dependence reflects one partner's perception of another's influence over its decision making. Depending on the nature of the relationship, it can be a negative or positive variable. In bilateral relationships, interdependence is an aim, as organisations can benefit from closer integration. In other relationship forms, dependence is seen as control and is viewed negatively. A company's perception of its ability to switch partners, influence them, their actual volume dependence, and their perception of interdependence, will indicate its rating on this variable. Dependence has been found to be a significant performance indicator in studies on relational investments by Heide and John(1988) and on partnership success by Mohr and Spekman(1994).

Risks arise from possible partnership abuses and usually concern the making of asset specific investment in the relationship and from information asymmetry. The measurement of risk outcomes comes from the agency perspective on relationships. Information technology was found to reduce interorganisation risk by Gurbaxani and Whang(1991) as it enabled closer monitoring and evaluation of a relationship. Jackson(1985) found risk to be reduced in closer relationships through commitment. Bilateral firms are unlikely to perceive a high risk in the relationship whereas discrete and dominant partner firms will negatively rate risks of opportunism from closer integration.

An assessment of the costs of relational coordination and productivity comes from the transaction cost theoretical stream. Coordination costs are the costs of integrating economic activities between organisations. Administration, monitoring and stocking costs can all be reduced through closer relationships. Sako(1992) found significant cost saving available in close partnerships when compared to discrete ones. Interorganisational productivity can increase with the sharing and displacement of costs in the relationship. Increased productivity should reduce lead times, costs and prices when compared to other relationships. Productivity has been found to improve in closer ties between organisations as shown in studies by Noordewier, John and Nevin(1990) on repetitively used items and Banerjee and Golhar(1993) in a comparison of electronic data interchange in JIT and non-JIT firms.

The sales/profits measures of relationship performance can reflect either a behaviour or economic view of relationships. They can be important objectives to be achieved through interaction or through a focal firm taking advantage of its partner. Return on investment, increase in bought/sold volume in a relationship, profitability and price level changes are the most common measures. These measures have been linked to performance in relationships by Kalwani and Narayandas(1995) in a cross sectional investigation of manufacturer-supplier relationships.

Taken together, economic and behaviour performance elements represent the conceptualisation of performance in this research. This conceptualisation should allow the research to assess the impact of relationship structure on performance.

## 4.4 Relationship structure and performance outcomes

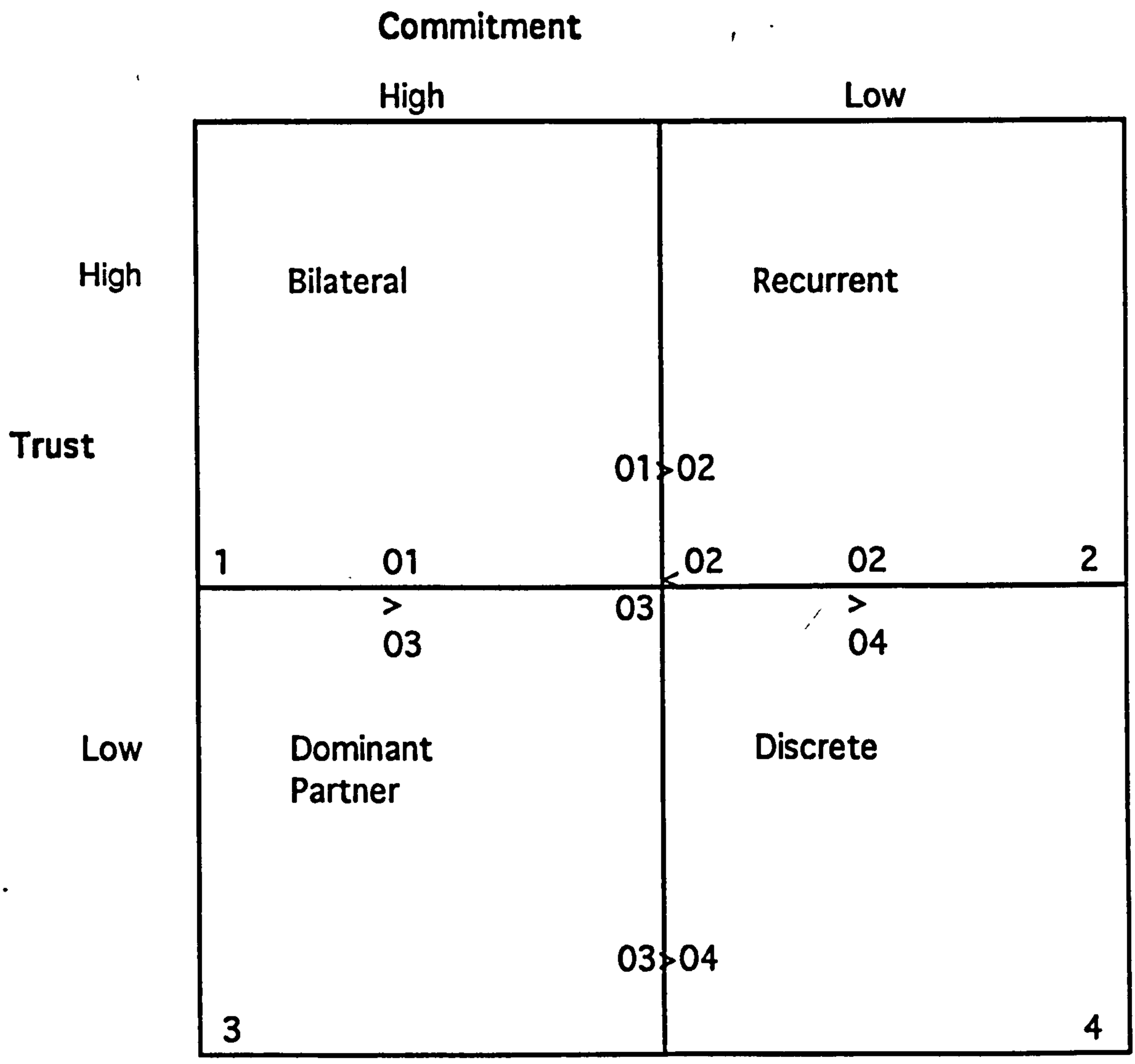
This section will bring together the relationship strength and performance outcomes constructs. It will propose linkages between these two constructs.

### 4.4.1 Relationship taxonomy and performance

The relationship taxonomy presented in the previous chapter is reproduced in this section with a performance layer added. Figure 4.1 relates the performance construct to each of the four forms. The figure illustrates the proposition that the outcomes available from bilateral relationships are greater than those available under alternative modes of governance.

Bilateral relationships have the greatest scope of performance outcomes. They are high in relationship strength and can perform well on both behaviour and economic performance measures. It is readily accepted that they should perform well on the behaviour measures of performance as they arise directly from the behavioural theoretical schools. However, it will be proposed in this thesis that they also outperform the other relationship structures on the economic measures of performance. The risks and costs will be lower in bilateral forms. If this is the case, it can be argued that bilateral relationship are the optimal mode of governance for the type of industrial relationships studied.

**Figure 4.1**
**The relationship taxonomy and performance outcomes.**




Key: 1-4 = quadrants. 01-04 = outcomes, > is sign for greater than.

Recurrent relationships will perform well on the operational measures of performance as these relations are driven by process efficiency. They should perform better than the dominant partner and discrete relations on costs but will also have the advantage of performance outcomes on behavioural measures, due to their higher levels of relationship strength.

Dominant partner relations make relatively low assessments of their relationship on the behaviour side of the performance construct. They are unlikely to be very satisfied with the relationship, as their partner dictates their performance possibilities. However, as they are high on the commitment aspect of relationship strength, they should have some behaviour performance advantage over discrete relationships. Due to their decision making processes, they may not be performing in these areas, but may be forced to act by their dominant partner. For example, they may be required to work on value added projects which do enhance their performance but may also increase their perception of relationship risk. Firms in dominant partner relationships will have mixed economic performance. They face higher risks of exploitation but should be lower on transaction cost than discrete firms. It is proposed that dominant partner relationship, as illustrated in figure 4.1, have a higher performance level than discrete relationships.

Partners in discrete relationships do not attain the behavioural benefits of the other relational forms. They may also have higher costs. The cost of transacting in an arm's length relationship could be higher than in other forms. Many transaction costs disappear in repeated transactions. Discrete partners may charge a higher price because the buyer deals with them on a contract by contract basis. However, risks should be low and the possibility of price bargaining fairly strong. It is proposed, in the context of this

research, that discrete relationships are the lowest performers of the governance structures. The next section will present the performance propositions in more detail.

### 4.4.2 Performance propositions

A summary of the performance outcomes propositions of this research is shown in figure 4.1. The overall performance proposition is that relationship structures exhibit significant differences in outcomes. Bilateral, recurrent, dominant partner, and discrete relationships should not exhibit the same pattern across the performance variables to be used. Given that the performance construct combines elements from various relationship governance schools, this is a realistic expectation.

The performance of relationship structures will also be assessed individually. Bilateral relationships will be proposed as offering the greatest performance potential as illustrated in figure 4.1. Bilateral structures are proposed to have superior performance, as measured by the performance outcomes construct, when compared to the other relationship types. Bilateral firms have higher behavioural and economic performance than other relationship forms.

After accounting for bilateral relationships, the performance ordering of the other structures is outlined in figure 4.1. This research contends that a party's outcomes in quadrant 2 are higher than those in quadrant 3 and 4, but less than those obtainable in 1. Finally, where relationship strength is low, a discrete relation exists, and this research contends that this is the lowest performer. In summary, it is proposed that recurrent relationships outperform dominant partner and discrete relationships, over the range of economic and behavioural performance outcomes measured. It is proposed that dominant partner firms perform better than discrete

relationships across the performance measures. Therefore, the overall order of performance among the various relationship structures is: bilateral, recurrent, dominant partner, and discrete.

This research also proposes that behavioural performance is more important than economic in measuring the outcomes of interfirm relationships. This proposition is not expected to hold for all the relationship types but is expected to be confirmed for bilateral, recurrent, and dominant partner. Discrete relationships are likely to focus on economic measures. Dominant partners will view the risk measures as being particularly important but should see that an improvement in behavioural performance would bring some equilibrium into their relationships. Dominant partnerships are low on the trust side of relationship strength and should view improving behavioural performance as being important due to the need to improve their trust levels to balance their relatively high levels of commitment.

Bilateral relations will have more performance outcomes potential in comparison to others which are limited by the constraints placed upon them by their choice of strategy. For example, a partner in a discrete relationship, governed by price and opportunistic behaviour, will not want to take the risks posed by greater coordination or interdependence thus limiting its performance potential. It is difficult for organisations to pursue multiple value sets (Hall, 1987). It is difficult for non-bilateral managed organisations to achieve the performance results proposed for bilateral relations and even more difficult for non-bilateral partnerships to enter into relations beyond a narrow exchange in terms of performance outcomes (Sako, 1992). Performance reflects the managerial assumptions underlying the exchange and is at its highest in bilateral relations (quadrant one in figure 4.1).

## 4.5 Conclusion

The methods of managing relationships are critically linked to performance and assumptions made about it. Decisions about resource investment, changing supplier, new products, risks and future returns, cannot be made unless an assessment of performance is conducted. The only way of establishing whether or not one structure works better than another is by measuring its performance. This chapter developed the performance outcomes construct to measure the effect the method of coordinating a relationship has on its performance.

The performance outcomes construct developed for this research is unique. In order to capture all the possible outcomes of the relationship strength construct, the performance outcomes construct combines behaviour (process) and economic (content) measures. The performance construct is multifaceted and based on a multiparadigm approach. It captures the performance outcomes of all the major theoretical streams on relationship governance and incorporates them into its conceptualisation.

The performance outcomes construct is the dependent variable in the research. It has been matched with the relationship strength construct and a series of propositions has been developed. The main one of these being the performance possibilities of bilateral relationships. They are proposed to outperform other types. In other words, social exchange theory positions are proposed to be the optimal means of coordinating exchange relationships. The performance of bilateral relationships is set at a difficult level. To outperform the other modes of governance, they will not only have to perform on the outcomes measures developed from social exchange theory but

also on the performance outcomes of the other governance schools. If they do, the performance dimensions of social exchange will have been extended.

The next chapter will control for the role of the context within which firms interact. This will ensure that the research is measuring the variables it wishes to test. The remaining research proposition will be developed and the key context variables that may affect relationship strength and performance will be incorporated into the research so as to control for their impact.

# Chapter 5 -Interfirm Relationships: The Role of Context

## 5.0 Introduction

In a social exchange view of relationships, the interaction behaviour between the parties determines the relationship. The role of managerial actions is central to the determination of the strength of the relationship. They can operate out of high trust-commitment positions or otherwise. The structure of a relationship does exist within a broader macro environment but, beyond the extent to which all firms are, may not unduly impacted by it. That is the relationship is embedded in a social structure which is driven by managerial assumptions and actions.

This chapter will propose that the context in which relationships exist does not determine their structure. Managerial actions and policies are more important. The context referred to in this chapter is the environment outside the process-content of a relationship, in particular, the role of uncertainty in influencing exchange patterns.

This chapter proposes that context variables do not have a huge impact on the structure-performance relationship. In other words, variables outside the relationship strength or process/content of the exchange do not play a major part in determining structure. Theoretical perspectives other than social exchange give the relational context a broader role.

The subsidiary role for context in this research arises out of its social exchange assumptions. The relationship is seen as being embedded in a multi-layered cooperative structure and determined by its management rather than by some outside force. In short, the role of relationship management is highlighted. It may indeed be the neglected domain of

relationship theory. The research expects to find a similar pattern between the four relationship structures across the environmental control variables used in the research and in the industries included in the sample. The determination of relationship strength may be the key to structure and not any other variable: the research model is independent of context. Social exchange propositions on the context of a relationship will be tested.

This chapter will demonstrate how the proposition concerning the role of management was arrived at and will present the major context variables to be included in the empirical research. The research will control for context.

## 5.1 The role of context in interfirm exchange

In this chapter there are two major themes in the analysis of relational context. The first is that the external context of a relationship does not have a huge impact on its structure. In other words, firms high in relationship strength exist independently of context. The taxonomy of relationship structure stands on its own. Bilateral relationships will be found in all types of companies included in the sample. The second point is related to the first and is that context is becoming similar for all firms. High levels of uncertainty, competition and change are affecting every company in industrial markets. These variables may not determine how these companies develop and maintain relationship - that may be the prerogative of management.

The current research proposes that high relationship strength companies will be found in all industry types. They will be exogenous of the environment and depend on the actions and decision of management. The role of

management in coordinating an exchange has been underplayed in previous research on relationships. Management makes the decisions that affect the relationship and the managers are the people who contribute to allowing high levels of trust and commitment to develop.

The changes affecting the business environment in areas such as technology and competition are not limited to one sector. They affect all businesses. The response to this environment can be very different. It will be for management to decide to develop closer relationships or to go it alone. This again highlights the role of management.

Oliver(1990) and Blois(1996) proposed a contingency model of relationship development. Their contingency dimensions are necessity, asymmetry, reciprocity, efficiency, stability, and legitimacy. The difference between this researcher's conceptualisation and theirs is that a different set of variables is presumed to be under management's control. Authors who use a contingency approach see most of these variables as external to the relationship whereas this research sees them as being inherent in the managerial assumptions about the relationship and under their control. The research model of this thesis discriminates between various relationship structures that contain a mix of the elements labelled "contingency" by Oliver and Blois. These variables are part of the relationship not external to it. This argument goes back to social exchange versus more economic based assumptions about the nature of a relationship; about whether you view interorganisational exchange as embedded in a social structure or as rational economic choice to be made by a firm acting independently. This thesis will test social exchange assumptions by allowing for alternative explanations. This chapter will introduce context variables as another test of social exchange positions.

At this point, it is also worth commenting on the change making role of management. It is very difficult to interchange the managerial styles required to manage the four relationship structures posited. Bilateral management requires a fundamentally different approach to that appropriate to the management of discrete relationships. The matching of style to structure is not the subject of this research but is one of its normative implications. Future research will assess the difficulty of changing from one structure to another. If it is found to be difficult, then the research proposal made in chapter 4, that strong relationship strength may approximate to a competitive advantage, may gain more support.

## 5.2 Governance theory and relational context

This section will examine the main context variables that governance schools incorporate into research and of which, it is suggested may have a main impact on relationships. Research studies on each of these variables will also be reported. It will be proposed that the management of relationships plays a central role and the research will be set up to test a social exchange view of relational context. In practice, the interaction between partners in a social exchange view of relationships acts as an environmental shield.

### 5.2.1 Social exchange and context

Social exchange, as presented in earlier chapters, develops from an interactive assumption about exchange. It views the relationship as being embedded in a social structure. It is this embeddedness which determines the structure and content of the exchange rather than the environmental

context. This research will be testing whether a social exchange position on the environmental context of a relationship holds for bilateral and other relational types. Are they more determined by their process and content, relationship strength, than by an external environmental context? This is not to suggest that the environment is not important just that it does not affect the structure of a relationship to the extent of that which has been proposed in previous research. Rather, the environmental response is handled by the partnership. It will be proposed that bilateral relations exist across all the firms in the sample.

A way of looking at social exchange solutions to managing risk and uncertainty when compared to other theories is that they prefer endogenous solutions. The response to opportunism is to reduce the need for it. The response is the key. Managers will respond in different ways to the environmental context of a relationship. The environment itself may not dictate the response but the actual management does.

The key environmental variable affecting all the theories on governance is uncertainty. Uncertainty in market conditions, quality, information, product complexity are some of the areas to which it is applied. Podolny(1994) proposed that in social exchange theory the response to uncertainty is social orientation. Partners commit to each other and in doing so reduce uncertainty risks. This was supported in a study by Kollock(1994) on uncertain quality. Lane and Bachmann(1996) argued that trust can reduce uncertainty in vertical relations. These authors are essentially suggesting that the social structure of a relationship can reduce the effects of uncertainty.

From a social exchange perspective, the only context variable found to impact on relationship structure is the length of a

relationship. Long term commitment and increased frequency of contact can deepen relations and help manage exchange. In fact, Heide and Miner(1992) found extendedness and frequency of contact to have a positive effect on cooperation. Commitment continuity has been built into the research model. The age of the relationship will be used as a control variable. However, this research will be proposing that in all the relationship structures, except discrete, the length of a relationship does not impact on the structure. Kumar, Scheer and Steenkamp(1995: a) have found no effect of the age of a relationship on its structure. However, many studies, that only include relational and discrete contracting, have found time to affect relationship structure.

### 5.2.2 Resource-dependency and context

The resource-dependency school of thought on relationship management suggests that the level of dependency is key to understanding the structure of the relationship.

The assumption about the environment is that it depends on position - your position will determine your control over partnering firms. Dependence on another partner for critical resources exposes the dependent partner to the possibility of opportunistic behaviour by the other party. The stronger party will be able to use their power to exploit their position. Levels of dependency are used to explain the resulting structure.

Dependence is measured in many ways in the literature. Size, importance, criticality, ability to use power, are some of the measures suggested. Clearly, this is one control variable that has the potential to impact on the relationship. It is suggested that companies can respond to dependence in a number of ways. They can respond by trying to offset the power of a partner, or by becoming closer can reduce their

dependence by gaining more of a share of the partner's resources. In other words, dependency may not curtail the emergence of bilateral relationships. Even where a partner is technically dependent, it may be playing an important role within the partnership. Again, it is the management who decide on the level of dependence.

One of the key context variables, important in all theories, is uncertainty. Using resource-dependency assumptions, uncertainty is transformed by a power structure and by an efficient handling of complexity by management. Lawler and Yoon(1996) emphasised endogenous processes creating relational cohesion. These processes included power perception. Molm, Quist and Wiseley(1994) found support for legitimate power in exchange relations as have other authors, for example, Kumar, Scheer and Steenkamp(1995: a) on fairness. Their views are contrary to a more rational assessment of power which views its use as something to resort to only when mutuality fails. In fact, relational performance may benefit by not using power.

Resource-dependency theory is compatible with a conceptualisation of the environment, to some extent, as endogenous, especially when a partner's power position is not abused, that is when mutuality is favoured. The research will have to take into consideration position even though it may suggest that abuse of position will lower outcomes. It is proposed that the outcomes of a dominant partnership will be lower than those of a bilateral relationship. Resource-dependency theory is compatible with a lesser role for context in determining structure, that is management should position its firm to control resources. The use of resource position will be reflected in relationship strength and in the resultant structure, probably, recurrent or dominant partner.

In summary, resource-dependency theory approaches environmental uncertainty by manipulating power position. The mechanisms for doing this may be endogenous to the relationship. The use of power position is a managerial decision.

### 5.2.3 Transaction cost economics and context

Transaction cost economics assumes that the determinants of transaction costs, and thus governance, are exogenous to the relationship. The two key context variables in the transaction cost framework that determine the efficiency of governance structures are uncertainty and frequency of transaction. Firms will reduce their dependence on any one supplier in times of high uncertainty and will produce the product internally. When frequency is high they will try and increase the number of suppliers to reduce dependence. The key to understanding the contextual response proposed under transaction cost is to begin with the fundamental assumption of the theory that firms will act opportunistically. Governance is as a result of the cost economising decisions of firms acting as independent actors. Environmental variables are critical to the appropriate structure for exchange. The uncertainly and frequency of transaction must be assessed as control variables. However, implicitly, this aspect of context has been built into the model. In instances of high uncertainty and frequency, firms can choose to have lower levels of relationship strength. It is this researcher's proposal that various relationship structures will be found across similar levels of uncertainty and frequency. That is that the research model will be independent of context and relationship strength will determine the structure of the relationship.

This research will view uncertainty as a problem for all firms and, as such, it plays a secondary role in determining the governance structure of a relationship. Some firms will choose to respond to it in a bilateral way and reduce risk by cooperating, while other firms will reduce risk by going to the market. The frequency of transaction within a particular dyad is increasing in all relationships types. It is much easier to repeat purchase in industrial markets then to go to the market each time. This perspective on frequency places it as a secondary variable under the control of management. Their response, not the variable itself, will determine governance. They will respond through the variables affecting relationship strength.

Even within the transaction cost framework, uncertainty is viewed as a transactional problem. If seen in this way, of course, it is a managerial control issue. There is uncertainty associated with the actual transaction and the environment in which it takes place. Williamson(1979) proposed that uncertainty itself can be coped with efficiently within the market, it was only when uncertainty was combined with high asset specificity that a firm should consider an alternative governance mode. When asset specificity was very high, a firm should consider an internal hierarchy and not so high, a relational contract. Heide and Stump(1995) and Stump(1995) supported this proposition in an empirical way. They did not find frequency to have as large a role as asset specificity, which they found to be the core variable determining structure. Asset specificity is a structural, not environmental, variable, and is measured in the relationship strength construct. Even transaction cost theorists focus on the nature of the transaction rather than environmental influences *per se*. Noordewier, John and Nevin(1990) did find uncertainty to increase relational elements in transactions but Pilling, Crosby and Jackson(1994) only found mixed support for uncertainty and frequency

propositions. The latter group of authors' findings are different to those above but, as already mentioned, uncertainty is very broadly conceptualised. When authors define relations and uncertainty in different ways, it is difficult to know what effect the environment has on relationship structure. It is probably practical to suggest that there are minimal levels of relationalism in every transaction but these cannot be interpreted as a sign that opportunism is not present. For example, a promise of relational continuity is seen as a sign of a relationship but in reality, businesses repeat buy and this, in itself, is no real indication of the strength of the relationship. The impact of uncertainty on relationalism is a matter of the degree to which a firm's management chooses to coordinate the transaction in the market or in the partnership. This thesis suggests that relationships are driven by factors of management rather than of the environment, even though a firm operate in a system which conditions its relationship. This conditioning role is the same for all other firms in that environmental context, for example, Britain - it is common for authors to talk of supplier relations in Britain, Europe or Japan. Having stated this, it would be unwise not to control for the major environmental variables in order to, at least, increase the value of the research model.

### 5.2.4 Agency theory and context

One of the key assumptions of agency theory, similarily for transaction costs, is that partners are motivated by opportunism. Response to environmental risk is the major concern, particularly, the problem of incomplete information. Relationships exist in a complex environment of information asymmetries. One party has information which the other does not have and wants. The response to information asymmetries is to build risk reduction mechanisms, incentives, and monitoring structures into the relationship to

avoid abuses. The greater the principal's information risks, the greater the agent's bargaining power becomes. The response to this situation could be to create a bilateral or win-win relationship or to design a governance mechanism that allows for more control over the partner firm.

The key context variable from agency theory is risk of opportunism. The response to it, as under transaction cost economics, does depend on the managerial assumptions about exchange, that is whether they are viewed as opportunistic or cooperative. According to Ring and Van de Ven(1992), interfirm interactions can be determined by combinations of risk and trust. Risks arise out of uncertainty in transactions and technology. The greater the risk, the more complex the governance structure. In a high risk opportunistic scenario, the appropriate governance form is a hierarchy. The main risk in agency theory is related to the behaviour of the parties. The broader macro environmental variables affect both parties and are essentially unpredictable. Agency is therefore concerned with partnership risks such as information asymmetry and outcomes (Spremann, 1987; Bergen, Dutta and Walker, 1992). A concentration on outcomes coordination has been found by Celly and Frazier(1996) to have a positive effect on principal-agent relationships. When a principal considered the outcomes of its partner and focused on process mechanisms for coordination, the relationship was more effective but also more bilateral. It would appear that principal-agent relations are seen as a managerial handling problem, particularly, one for the principal. Agency theory does not necessarily exclude the proposition that relationship structures are determined by managerial actions.

The effect of environment variables on governance structure seems to be mixed. The macro environment has an impact on all firms. The internal environment is a more relevant

unit of analysis but this level is integrated into the theoretical framework of this research. This research is proposing that neither macro environment nor industrial context affects the structure of relationship. The four relationship types will be found within similar environmental patterns and across the sample. The central role of management is examined in more detail.

## 5.3 The role of management.

This chapter highlights the role of management in determining the structure of interorganisational relationships. Heide(1994), in an analysis of varying governance structures, suggested that their differences required fundamentally different approaches to relationship management. Barney and Hansen(1994) proposed that certain forms of trust are endogenous to relationships and emerge even in the face of significant vulnerabilities. Trust was independent of the environment as it had been internalised in the organisations to the exchange.

Helper(1993) used an exit-voice categorisation of relational types. Exit responses are those which look for an alternative source when a problem arises and voice strategies are those which work with the source to find a solution. Significantly, she viewed these strategies as opposing managerial approaches. She argued that voice strategies were embedded in the structure and were close to the bilateral forms in this research. Helper also argued that governance conditions were not necessarily determined outside the relationship on the basis of transaction costs. Furthermore, she argued for the role of managerial strategy, even in the case of a dominant buyer/supplier, because the choice remained between selecting a buyer/supplier who offers the

best deal at a point in time and developing a buyer/supplier with improved capabilities. This choice was related to management strategy not to context.

Sako(1992), in her book which examined contractual relationship differences between buyer and supplier dyads in British and Japanese industry, concluded that relational and arm's length contracting were based on fundamentally different values and attitudes in business and that it was not necessarily easy to change from one type to another. Building trust, an essential component of relational contracting, was difficult without cultural change at an organisational and social systems level.

The role of managerial assumptions and actions is often assumed as a given. However, it is managers who make the decisions about relationship strength. They and their firms are part of a broader social system which plays a role in shaping the business environment for all firms but specific relationships are developed by their actions. Each of the four relationship structures can be assessed for the role of context. Managerial assumptions and actions are defined in this thesis at the organisational rather than the individual level.

## 5.4 Relational structures and context

Bilateral relationship structures should remain independent of environmental effects. These structures are largely determined by managerial actions. They are high in trust and commitment and should be present across all the industry sectors in the sample. They require proactive and committed actions aimed at building trust and strengthening commitment. In business in general, close relationships have been growing because of outsourcing and technological change. These relationships are

not necessarily bilateral. Relationship structures are determined by their process-content rather than by the environmental context. Bilateral relationships respond to uncertainty by developing closer ties with a partner.

Recurrent relations will also be present across the firms included in the sample. They are likely to exist where firms need a close relationship but not necessarily a bilateral one. The product category may influence this type of exchange. However, even repetitively used items have been found to have the potential to be governed by bilateral structures. Recurrent relationship may not be seen as strategic and firms may decide that, with a portfolio of relationships, some will receive more attention than others. These decision are governed by managerial intent. Recurrent relations could also be a response to environmental uncertainty. Managers may decide to reduce uncertainty by developing a continuous buyer/supplier relationship of a recurrent structure.

Dominant partner relations are governed by a partner's use of its power base. A firm has to respond to requests by a dominant partner firm. The key consideration for the weaker party is to anticipate how the dominant partner will use its power. A spirit of independence and opportunism is part of the managerial culture of certain firms and they like to control decisions and make them only within the context of their own firm. This role can be accepted by the weaker party so long as it is assumed to be fair. In this thesis, it is suggested that bilateral management of relationships may bring greater benefits than a dominant partner approach. The usual response to uncertainty in a dominant partner relationship is to position the organisation to exploit its power base.

Discrete relations are the arm's length type with minimal elements of relationship strength. They operate in the market and are open to market price bargaining. Again, it may be a

managerial choice to remain in the disrete category. Discrete firms rely on the market to manage relationships. Their outcomes are determined by a "winning some and losing some" philosophy. In some respects, these firms are most affected by changes in the macro environment, as they are closest to the market. However, all firms will be affected by environmental changes in the longer term and will cope with them within their partnership structure. Discretely managed relationships respond to environmental uncertainty by using the market to reduce risk.

The argument has been developed that relationship structure is independent of context. Context affects all relationships but does not play a major role in determining their structure. It is a variable external to a relationship and affects the trading environment of all firms. Relationship structure is determined by the process and content of the relationship. The broader macro environment affects all actors and constrains them but is a given in specific relationship structures. Managerial assumptions and action over time will determine the response to a relationship not the environmental context in which the firm exists.

## 5.5 Context variables included in the research

Context variables have been included in the research as a control. If they are found to have no effect on relationship structure, the research model will have been strengthened. The research is proposing that context variables do not have any major effects, thus underlining the role of managerial assumptions and actions. Context variables are included as a control to add to the validity of the research model.

### 5.5.1 Definitional

The variables discussed in this section will be used as a control for extraneous effects which might impact on relationship structure. They all have been chosen, from the literature on governance, for their hypothesised impact on relationships. This research will be suggesting that their impact is not as strong as has previously been proposed, and that a relationship is more likely to develop from the management assumptions and actions of the partners.

The context variables included in the research represent different aspects of uncertainty and firm specific factors. For research purposes, the context variables have been grouped into three: market related, partner specific and firm specific. Each of them will be examined in the following sections.

### 5.5.2 Market related factors

The first group of measures concerns the market/industry in which a firm competes. Market uncertainty will be included as a control in the research. Market volatility and competitive pressure may force firms to collaborate or to hedge bets by relying on the market. Whatever strategy is chosen should depend on the managerial assumptions governing the exchange. Industrial markets are becoming increasingly volatile and competitive. It would seem to this author that all firms have to deal within a very uncertain marketplace. In a systems perspective of relationships, like the political economy model of channel relationships outlined by Robicheaux and Coleman(1994), the context plays an important role in setting the conditions in which any exchange takes place. This thesis focuses on a dyadic level and, while not ignoring the broader social and economic structure, suggests that, within any sector, it plays a similar

role for all firms and, therefore, does not impact on the structure of any one relationship. The only structure in which market related variables are likely to play a more important role is in the discrete structure. The other three structures are likely to show a similar pattern across all the context variables.

### 5.5.3 Partner specific factors

In theoretical streams outside social exchange, factors external to the relationship structure, but inherent in the buyer/supplier relationship, are proposed to have main effects on the nature of the relationship. However, in this thesis, partner specific uncertainty is related to the managerial assumptions underlying the exchange. This type of uncertainty can be managed within any one of the four relationship structures. Partner specific factors are included as another test of the research model.

Porter and Millar(1985) and Jackson(1985) stressed the nature of the product as being central to the type of exchange. The degree of information intensity and technical complexity of the product was seen as impacting on the relationship. However, a supplier's product could be complex which would suggest a bilateral structure but the relationship could still be in a dominant partner structure. Product complexity is only likely to impact on the differences between discrete and the other forms. Discrete relationships may not be the optimal relationship for handling complex products, although, where requirements remain constant, a discrete relationship may be able to handle complexity. The response to product specific factors is more likely to be related to the partners' perceptions of risk and thus, their managerial assumptions. Probably more central to relationship structure is the importance of the supplier/buyer firm.

Turnbull and Valla(1986) and Krapfel, Salmond and Spekman(1991) measured the importance and criticality of the supplier firm to the buyer. It is sometimes represented in research by frequency of purchase, percentage of purchase, and volume of purchase. These variables are all central measures for assessing the dependence of the buying firm on the supplier. Importance, criticality, frequency, percentage purchased, and volume purchased, are surrogate estimates of the size and power of the supplier. This thesis is proposing that these variables do not impact on the structure of a relationship. The model of relationship structures will be independent of these variables. As argued in earlier chapters, it is a question of how managers use their firm's position rather than the position itself. However, to test the research model further, the bulk of the empirical research will include relations with main suppliers only and will thus test the proposition on managerial control at its highest level. If all four relationship structures exist in main supply relationships, then relationship strength, rather than context, must determine structure.

Social exchange positions will be expected to hold even where context variables are suggested, by theoretical perspectives, to play a major role. This research is likely to find that all the relationship structures are represented in exchanges with main suppliers and that these are independent of context variables. Relationship structures are driven by relationship strength, or managerial assumptions and decisions, not the context. All firms must deal with uncertainty in the market and with their partner. The way in which they do this is dependent on their assumptions and actions which in turn determine the strength of the relationship.

### 5.5.4 Firm specific factors

The age of the relationship has been found in previous research to have an impact on the relationship structure. It takes time to develop commitment and trust. Length of a relationship is seen as a critical factor by most theoretical schools of thought. This thesis does not expect the length of the relationship to impact on its structure. The relationship strength is more important and firms high in relationship strength have made commitment to the future. Time will not affect the level of relationship strength because high strength positions can evolve very quickly. Indeed, some long term relationships could be operating at a very discrete basis. It is a question of commitment to the future rather than the actual length of the relationship that is important. This perspective is supported by Ganesan(1994) who found long term orientation to be linked to the performance of a partnership.

Control variables on the nature of the respondent firm will be taken into account. For example, the larger the size of a buying firm the greater its potential power. Employee numbers and ownership will be included in the research. They should have no impact on the strength of the relationship. Relationship structure should be found to have no pattern across the various factors unique to a respondent firm included in the research.

## 5.6 Conclusion

This chapter has examined the affect of environmental context on the determination of relationship structure. In previous research, context has been given significance due to the nature of the relationships included in the studies. Specifically, it has

been used to contrast relational (equivalent to bilateral) and discrete contracting. In this research, four structures are included, and a concept developed to measure relationship structure that is proposed to be independent of the environment.

Context is included as a control to ensure that the proposed research relationships explain the variation found rather than some extraneous variable. If context is found to play a minimal role, the research model will be strengthened. The only relationship structure in which context might be expected to play a greater role is the discrete structure. These relationship forms are more dependent on transaction costs than other forms and respond to uncertainty by using the market to manage risk.

The research proposition deduced from this chapter is that managerial assumptions and actions play a more important role than context in determining relationship structure. In other words, the research model is independent of context effects. Other literature review chapters have presented managerial assumptions and actions as being at the centre of all the theories on relational governance, so they are expected to determine the structure. If managers view the relationship from a behavioural perspective, bilateral or recurrent forms should exist. If they approach relationship management from an economic perspective then dominant partner or discrete structures will exist.

There are many environmental variables which, potentially, could have an impact on a relationship. These have been simplified by governance theorists, reducing them to an assessment of how uncertainty should be handled. When consideration is given to uncertainty only, it is easier to accept the proposition that relationship structures are independent of the environment.

The next chapter will present the research model and the hypotheses of the research. The research hypotheses have been presented in proposition format in the literature chapters and will be drawn together in the next chapter. A re-presentation of the research model will aid in this task.

# Chapter 6 - Interfirm Relationships: Research Hypotheses

## 6.0 Introduction

This chapter integrates the literature chapters by providing the conceptual model of the research and the research hypotheses. It presents the propositions developed in each of the literature chapters(2-5) in hypothesis format. The chapter also reproduces the conceptual model of the research presented in chapter 4. The literature chapters each developed particular arguments about previous research. These arguments are referred to as propositions in this chapter.

The conceptual model developed in this thesis is a taxonomy of relationship structures (chapter 3) linked to relationship performance (chapter 4). Four out of six of the hypotheses arise out of this model. It will be compared to other literature models in this chapter and it will be shown, as in the literature chapters, that it combines behaviour and economic approaches to the study of relationship governance. This research was developed from a multiparadigm assessment of governance theories in contrast to most of the literature models which concentrate on a single theoretical paradigm.

Hypotheses 5 and 6 are not presented in the conceptual model in figure 6.0 but do underlie it. They are a further test of the social exchange positions taken in the research. The model sets up bilateral relationships to test the optimality of social exchange structure as a method of governance. Hypothesis 5 tests the proposition that behaviour based outcomes are more important than economic outcomes in coordinating interfirm relationships. Additionally, hypothesis 6 tests the social exchange

assumption that a relationship develops from managerial actions and assumptions about the exchange, rather than as a response to the environmental context (chapter 5).

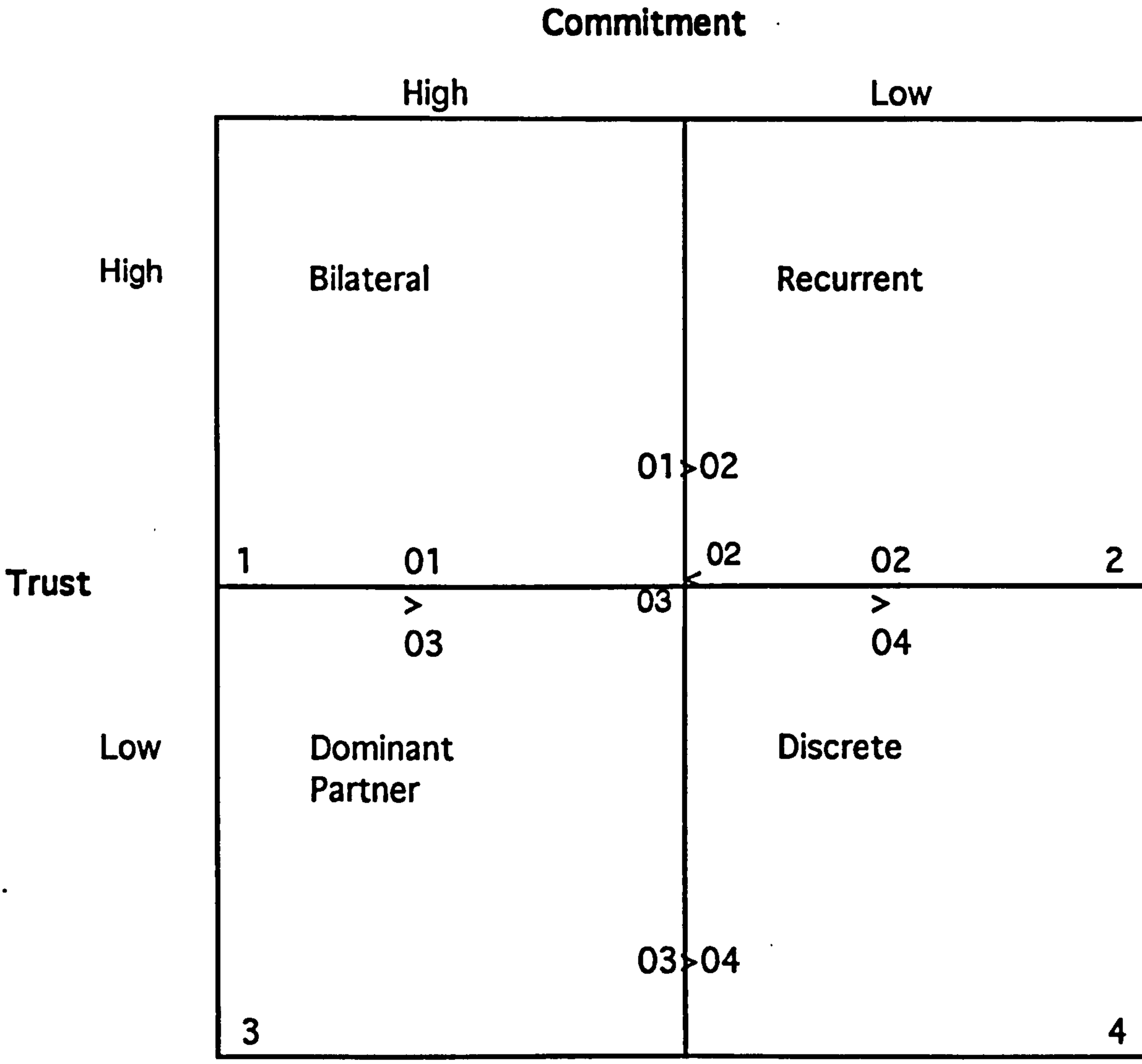
## 6.1 The conceptual model of the research

The conceptual model of the research, describing the hypothesised linkages between the relationship structures and performance outcomes, is reproduced in figure 6.0. It has been presented in chapter 4 and is based on the content of chapters 2-4.

Bilateral relationships (quadrant one) are proposed to outperform the other types on the measures of performance used in the research. These measures have been classified into behaviour and economic groups, based on the theoretical stream from which they arise. The argument, that a social exchange position (bilateral) is the optimum method of coordinating an interorganisational relationship, was made in earlier chapters.

The conceptual model of the research is a taxonomy of relationship structures and their proposed performance outcomes. The taxonomy of relationship structures is determined by the relationship strength construct which is measured by belief and action components of trust and commitment. The four relationship structures included in the research are bilateral, recurrent, dominant partner and discrete. The performance outcomes construct is represented by O1-O4 in figure 6.0 with the direction of performance given by the greater than sign. It can be seen that bilateral relationships are shown to be the highest performers followed by recurrent, dominant partner and discrete.

**Figure 6.0**
**The Conceptual Model of the Research.**




Key: 1-4 = quadrants, 01-04 = outcomes, and > is sign for greater than.
Commitment and trust measure the relationship strength construct.
Outcomes represent the performance outcomes construct.

The model presented in figure 6.0 can be compared to other models in the relationship literature. A sample of these models is compared to the research model of the thesis in table 6.0. The arguments developed in the literature chapters of this thesis referred to the authors used to construct table 6.0. Due to this fact, table 6.0 may be seen as a summary. The table was developed using a 1-5 classification system detailed below. A corresponding 1-5 numbering is also used in the table itself.

1. Author's name and date of model publication.
2. Name of model.
3. The focus of the model. Usually, this focus is either on a transaction or an interaction perspective. That is the focal firm (classical economic) versus the relationship perspective outlined in chapter 2.
4. The variable set that the author uses is also described. This aids the reader in assessing whether the model was developed from a behaviour or economic set of assumptions - a classification used throughout this thesis.
5. Finally, the dominant orientation of the model is given. It has been shown in previous chapters that models usually focus on either behaviour processes or economic content. The conceptual model of this thesis combines both in its multiparadigm assessment of relational governance. The construct relationship strength measures the dominant process-content variable set moderating a relationship. Table 6.0 clearly shows the research gap presented in earlier chapters and in fact, represents a summary justification of the taxonomy of relationship structures developed in this thesis.

## Table 6.0
## Comparison of literature models to the research model

| (1) Author | (2) Model | (3) Focus | (4) Variable Set | (5) Domin. orien. of model |
|---|---|---|---|---|
| Ross (1973) | The principal's problem | Transaction | Risks of exchange | Economic content |
| Hakansson and Wootz (1979) | Interaction | Interaction | Interacting processes | Behaviour processes |
| Williamson (1979) | TCE | Transaction costs | Asset specificity, freq., uncertainty | Economic content |
| Macneil (1980) | Contract Law | Contracting | Norms | Behaviour processes |
| Frazier (1983: a) | Channel behaviour | Relationship development | Initiation, implementation, review | Processes |
| Jackson (1985) | Account behaviour | Transaction | Switching costs, time horizon, importance, product/vendor focus | Economic Content |
| Dwyer, Schurr and Oh (1987) | Relationship development | Phases of development | Developing dependence | Behaviour processes |
| Anderson and Narus (1990) | Working partnership | Social exchange | Multiple behaviour | Behaviour processes |
| Sako (1992) | Exchange patterns | Contracting | Interdependance, time span | Behaviour processes |
| Hakansson and Johanson (1993) | Network | Multiple connections | Activities, actors, resources | processes |
| Robicheaux and Coleman (1994) | Channel relationship structure | Political economy | Internal and external system | Systems process and content |
| Thesis (1996) | Taxonomy of structures | Relationship strength | Process and content of relationships | Behaviour process and economic content |

## 6.2 Research hypotheses

The research hypotheses will be detailed in this section. They have been developed in each of the literature chapters, as research propositions, and will not be justified again in this chapter. Each of the literature chapters has developed and justified research propositions. For presentation purposes, the propositions will be converted into hypothesis by using three groups - relational structure hypothesis, performance hypotheses, and relational context hypothesis. The first two groups are presented in diagram format in figure 6.0. The relationship structure hypothesis tests the taxonomy of relationship structures (quadrants 1-4 in figure 6.0), and the performance hypotheses test these structures' linkage to performance outcomes (O1-O4 and greater than sign in figure 6.0).

At this stage, it should be emphasised that the hypotheses will be tested, primarily, from a buyer's perspective and, as such, will be tested on one side of the relationship only. The justification for this approach is outlined in chapter 7 on research methodology.

### 6.2.1 Relational structure hypothesis

H1: Relationship strength discriminates between relationship structures, as defined.

This hypothesis tests the multiparadigm approach of the thesis. Relationship strength combines a behavioural and economic assessment of a relationship to determine its structure. It does this by concentrating on the dominant process-content variable set mediating the relationship. The

discriminating variables, that can perform this function, are belief and action components of trust and commitment. Trust measures the processual side of the relationship and commitment, its content or strength. The relationship strength construct is developed in chapter 3 as is the theoretical justification for hypothesis 1.

### 6.1.2 Performance hypotheses

The performance hypotheses are as follows and are presented in figure 6.0.

H2: Relationship structures exhibit significant differences in outcomes.

H3:

H3a: Bilateral structures have superior performance outcomes when compared to the other relationship structures.
H3b: Bilateral firms have higher behavioural performance than the other types.
H3c: Bilateral firms have higher economic outcomes than other relationship types.

H4:

H4a: Recurrent relationship outperform dominant and discrete over the range of economic and behavioural performance outcomes measures.
H4b: Dominant partner relationships outperform discrete relationships across the performance measures.
H4c: The overall order of performance outcomes among the various relationship types is: bilateral, recurrent, dominant partner, and discrete.

H5: Behavioural performance is more important than economic in measuring the outcomes of interfirm relationships.

Hypotheses 2 to 5 have been developed from a theoretical perspective in chapter 4 where a performance layer has been added to the relationship structure taxonomy developed in chapter 3. Hypothesis 2 suggests that performance varies across the relationship structures. From a practical point of view, one would expect performance to vary across relationship structures as the parties concentrate on different issues in each relationship type. This focus on different elements of performance by each relationship structure is reinforced by the literature because each of the performance measures originates from a different theoretical school on governance: it would be expected that the performance outcomes that are suggested to be maximised in one particular governance theory would be more efficient for that structure than for other structures. This research takes the performance variation point further in hypothesis 3 by proposing a performance order.

Hypothesis 3 proposes bilateral relationship as the hypothesised superior performer across the performance indicators used in the research. The theoretical justification for this is made in earlier chapters. Bilateral relationships are high in relationship strength so their realm of performance possibilities is greater. They can perform well on outcomes from a process (behavioural) and content (economic) part of a relationship. The latter element is largely ignored in previous research on bilateral relations. In this thesis, bilateral relationships are argued to be the most efficient modes of governance. This represents a test of the optimality of social exchange as a governance mechanism in interfirm relationships. The performance ordering for the other relationship structures is presented in hypothesis 4

and can be justified in the same way by examining their mix of relationship strength.

Hypothesis 5 is not represented in figure 6.0 but concerns the performance outcomes construct. It is assumed that, in managing the relationship, behavioural outcomes are more important than economic outcomes. Outcomes arising from the behavioural schools of governance are more important to firms in relationship than those coming from the economic schools. This is proposed to be the case because social exchange assumptions about the relationships are proposed to be more important than economic exchange assumptions. It is this researcher's assumption that in practice, businesses put the partnership's outcomes before short term opportunistic gains they could make by abusing a particular exchange transaction. It is in their best interest to concentrate on the outcomes of the behaviour schools of governance. This is not to suggest that they do not expect a return on their commitment to the relationship. They do, but this will only happen if behaviour outcomes are high. Performance is maximised when the relationship is "right" or in good shape that is when relationship strength is high.

### 6.1.3 Relational context hypothesis

The final hypothesis, developed in chapter 5 as a proposition to test social exchange assumptions about the embeddedness of a relationship, is as follows:

H6: Relationship structure is determined more by the managerial content of the relationship than by the industrial or environmental context of the firm.

Relationships are embedded in the interaction between partners, and the structure present in a relationship has more to do with the actions of management than with the

environmental context in which it exists. The interaction between the partners creates a certain atmosphere. This researcher expects to find the four relationship structures across industry types included in the research and for them not to exhibit any particular pattern with the environmental variables included in the research. Testing social exchange explanations of relationships, that relationship structure is within the control of the management of the relationship, is important from a normative perspective. It is up to management to implement a particular relationship strategy. However, it may not be easy to move from one relationship structure to another, as the management skills and capability needed to manage a bilateral relationship are probably different to those required to manage a discrete one. This is implied in this research and will be the subject of future research if the conceptual structure is found to have empirical support.

This section has presented the research hypotheses developed as propositions in the literature chapters. The hypotheses are all testing the conceptual model presented in figure 6.0 and assumptions that underlie it.

## 6.3 Conclusion

This chapter has presented the conceptual model developed in the thesis. It summarises, in brief, the literature arguments in chapters 2-5. This concise presentation was necessary in advance of the empirical methodology and findings of the thesis.

The key research argument is that a multiparadigm approach to the study of relational governance is long overdue. Using it as a methodology, a relational structure taxonomy linked to

performance was developed in the literature chapters. Additionally, social exchange positions are assumed to be the optimal structural form for managing relationships. This outcome is only possible under a multiparadigm assessment of social exchange that is considering its behaviour and economic components (high relationship strength) simultaneously. In practice, all relationships probably combine economic and behaviour dimensions. Therefore, this thesis should enhance the understanding of relationship governance. There should be no difficulty assessing both behaviour process and economic content at the same time. The testing of the conceptual model developed in this research should establish this.

The research hypotheses test the conceptual framework and social exchange positions on relationship management. Social exchange positions assume mutuality, which places the partnership rather than the focal firm at the centre of the analysis of an exchange relationship. All relationship governance theories use a different set of analytical dimensions. The fundamental implication of this thesis is that, to understand the structure of a relationship, it is necessary to move beyond the term "relationship" and look at the nature of the assumptions and actions of the partners. It may then be easier to distinguish a "real" partnership from one in name only.

The next two chapters (7 and 8) present the research methodology and take the reader, in detail, through the stages in the research process, as applied to this thesis.

# Chapter 7 - Research Methodology 1

## 7.0 Introduction

This chapter is the first of two on research methodology. It follows the research process through to sampling. The next chapter begins with the development of measures and continues to data analysis. Two chapters are needed to comprehensively deal with the methodological issues raised by the research. The research process used was not sequential but this organisation schema was chosen to structure these chapters.

Chapter 7 will begin with an overview of the key methodological decisions. The research can essentially be divided into four phases: exploratory, conceptual framework development, qualitative and quantitative. Each of these will be briefly described so that the reader will have an overview of the content of both chapters.

The main objective of chapter 7 is to present and justify the data collection and sampling methods chosen. The personal interview was used for the qualitative research and the mail survey for the quantitative data collection. The sampling procedure for the personal interviews was non-probability judgement and for the quantitative research, stratified random sampling. All the decisions on the mail survey sampling procedure are detailed in this chapter.

The secondary objective of this chapter is to place the research methodology in its theoretical context. This research has aimed to steer a middle ground between qualitative and quantitative methods. Although the dominant methodology reported on in the findings is quantitative, qualitative research has informed every stage of the research.

## 7.1 An overview of the research process

The research reported in this thesis developed through four major stages:- stage one was the exploratory stage; stage two, the development of the conceptual framework; stage three, the qualitative research; and, stage four, the quantitative research.

### Stage one - exploratory research

The research began with the author's developing interest in interorganisational relationships, particularly in an industrial context. This stage of the research was heavily influenced by the Industrial Marketing and Purchasing Group research and by network theory developed in the United States. The research assumption that social exchange positions could be used to manage interfirm interaction effectively and efficiently developed in this phase. It appeared to the researcher that businesses were increasingly using mutually cooperative mechanisms to coordinate interfirm exchanges. The research used a core group of businesses to test the research ideas on an ongoing basis. Talking to practitioners confirmed the possibilities for social exchange as a mechanism for managing interfirm relations. However, this did not necessarily correspond with the theories in the literature on interorganisational behaviour.

### Stage two - the development of the conceptual framework.

It became necessary to develop a framework to test the research ideas. It was clear that major divisions existed in the literature on interorganisational relationships, most especially between the social and business scientists. Economic gain,

dependency, and opportunism were at the heart of the business explanation. However, there was a developing view that human relations could be applied to organisations. Social exchange could possibly be as efficient as economic exchange. When concerned with business, social exchange theorists seem to believe that there is always the fear that business will use this mechanism of cooperation for exploitation of consumers or other covert collusion. This researcher was convinced that the latter explanation was not completely valid in a modern competitive environment and felt that cooperation as a coordination mechanism could drive efficiency in this type of business context. To test this view, alternative theories had to be included in the research to see if they explained more of the variation found in levels of interorganisational cooperation than social exchange views. The conceptual framework had to reflect different theoretical positions on interfirm relations. It did this by making an assessment of the assumptions of the major theoretical approaches and found that a core set of variables contributed to the understanding of each stream. From this, the relationship strength construct was developed which allowed for divergent variable sets driving a relationship. As the name implies, it measures the strength of the relationship. Low strength reflects minimal interaction and high strength, the opposite. The conceptualisation of the research problem in this way enabled the research to develop a taxonomy of relationship structures based on the key driving processes in an interorganisational exchange. This has been shown in the literature chapters. The relationship strength construct allowed relationship structures to be classified. It was also necessary to measure the performance of each of the structures to see which one maximised relational outcomes. A multifaceted performance outcomes construct was developed for this purpose. Each of the theoretical schools contributed to this concept which, for social exchange to be established as an optimal coordination mechanism, would have to perform across

all performance dimensions not just those coming from its own theoretical domain.

Thus, in this stage a meta-theoretical perspective was established to test assumptions grounded in social exchange. Allowing for alternative explanations is a major strength of this research. The conceptual framework as presented was received enthusiastically by the practitioner group.

**Stage three - the qualitative research.**

On the basis of the conceptual framework, a set of hypotheses were developed and tested, using a series of qualitative research interviews. In this way, firms could be questioned on the nature and performance of their relationships. Critically, they could also be shown diagrams of the conceptual framework and from this, definitions and measures could be tightened up. Qualitative research was used throughout the first three stages with different degrees of formality. The research framework was made more robust by these stages which made possible its testing in a larger empirical context.

**Stage four - the quantitative research.**

The quantitative research proceeded to test the research hypotheses in a large scale empirical setting. A mail survey of 500 UK industrial buyers was used to collect data on their relationship with their main supplier. A study of this type will allow for greater generalisability of the research findings and will provide wider support for the research conceptualisation. Once this stage is completed, a researcher must go back to the beginning and further develop methods and concepts. It is a never ending process of investigation. To this end, further research opportunities will be outlined in the overall research conclusions.

The content of the findings chapters is the result of stages 1 through 4. The empirical research objectives are the subject of the next section.

## 7.2 Problem definition and research objectives

The main problem to be answered by the field research is whether it is possible to classify interorganisational relationships on the basis of their dominant underlying form (relationship strength construct), and if so, whether the resulting structures have differential impacts on the performance of the relationship.

Primary research objectives:

1. To test the validity of the taxonomy of relationship structures based on the relationship strength construct: bilateral, recurrent, discrete, dominant partner.

2. To determine the impact of relationship structures on the performance of interorganisational relationships.

3. To examine whether context specific variables have an impact on the type of relationship structure.

Subsidiary objectives directly arising from the main objectives:

1. To examine the viability of social exchange theory as a mechanism for managing interfirm relationships.

2. To establish a meta-theoretical position as worthy to investigate interorganisational relationships.

3. To determine whether a multifaceted definition of performance captures the scope of relational outcomes.

4. To explore the possibility of certain types of relationship being able to deliver comparative advantage.

5. To develop critical paths for further research among the variables measuring relationship strength and performance, and between the relationship strength and performance constructs.

These objectives will be assessed primarily from the buyer's perspective. In advance of examining how these research objectives will be achieved (research process), it is necessary to make some comments on the nature of the research inquiry. In the course of doctorate research, it is valuable to examine the philosophical perspective underpinning all research methodology. There are no answers provided to the great research debate in this thesis. In fact, the research has taken a middle course, blending both qualitative and quantitative methods. Having stated this, the researcher is aware of the assumptions behind the methodologies and has chosen those most appropriate to provide data on the research conceptualisation presented in the literature chapters.

## 7.3 Nature of the research inquiry

This section sets out to place the research methodology in its theoretical context and to show how the chosen process can be justified in the broader domain.

### 7.3.1 Multiple theoretical and methodological paradigms: response to the research question

The literature review has demonstrated that many researchers have tried to classify relationships and that most writers are driven by one particular theoretical perspective which determines their conceptualisation. This research also tries to classify relationships but diverges from previous research by pursuing a multi-paradigm approach. Using this method, relationships are classified by focusing on the dominant underlying forces (process-content variable set) that drive them. The research has its assumptions but, unlike other research approaches, allows for competing explanations. In fact, it builds them into its model so as to get as close to the "real world" as possible. A multiparadigm perspective on theory building is taken.

All research should be aware of its assumptions but should test these in a way that includes alternatives which may explain a greater proportion of the variation found. In this research, a social exchange view is taken, proposing that bilateral relationship coordination is the optimal management structure for interorganisational exchange. The research process used has developed in response to the research question. The combination of theory approaches is detailed in the literature

review chapters, and the various different research methodologies are considered in this chapter.

### 7.3.2 Strategy content versus process research

A distinction should be drawn between behavioural research that is processual in nature and research which investigates the content of a strategy. This research has taken a strategic view of the management of relationships. In this context, this research may be said to be testing a relationship between strategy and performance. According to Melin(1987), typical for these types of studies is the advance identification of the strategies to be examined, and the measurement of causal relationships between each single strategy and its performance. This is the case in this research. Relationship structures, and their impact on relational performance, are being assessed. The methodology appropriate to this type of research is quantitative. Melin(1987) argued that this was the dominant method of research in strategy and more processual alternatives should also be considered. This was very pertinent to Melin who was writing on strategic change.

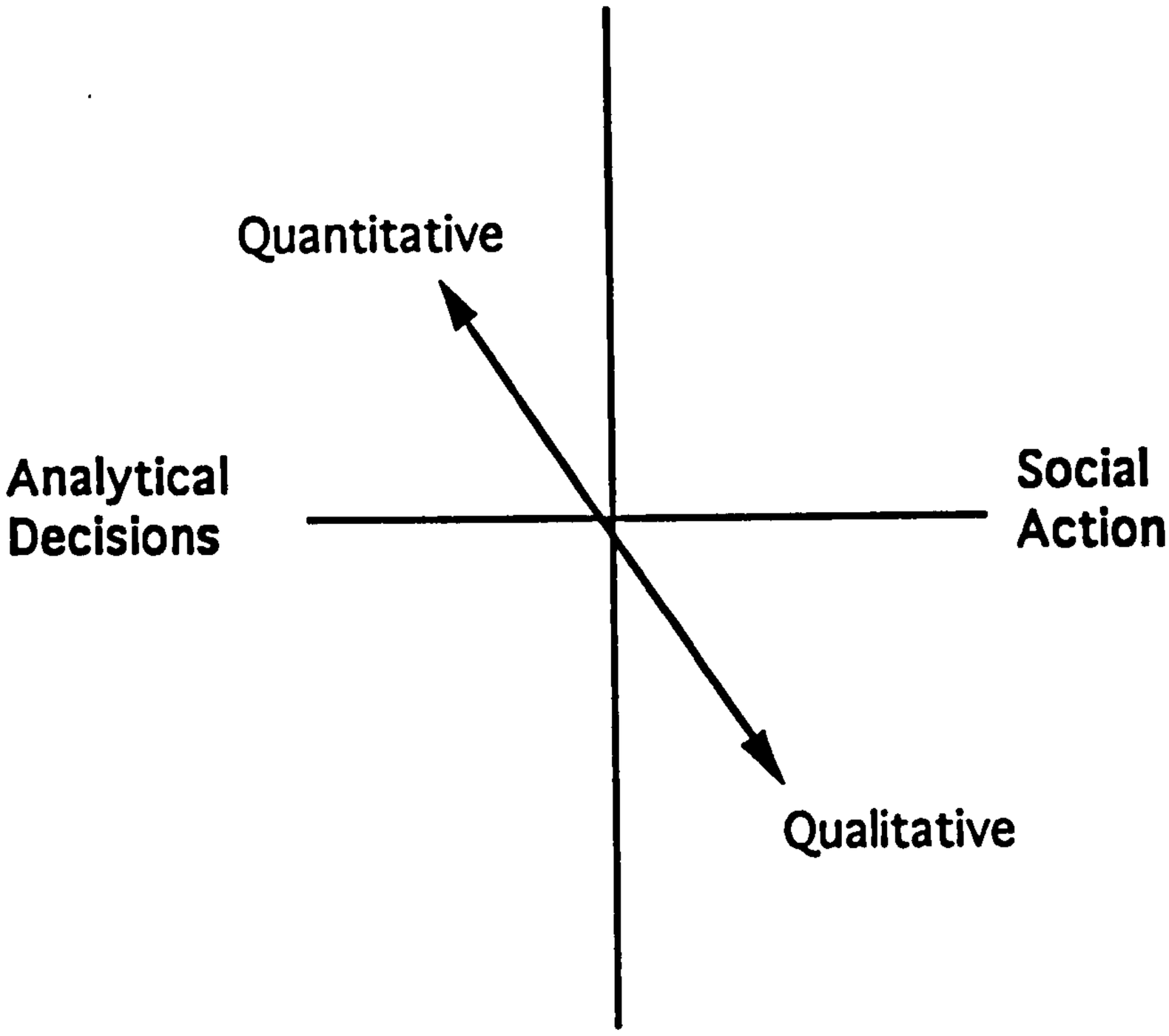
Arising from this, it can be argued that there are two approaches to measuring strategy research: (a) the process of formulation - how it happened and (b) the content of what is actual present - what has happened. The method chosen depends on the conceptualisation of the research problem. This research focuses on the content of a particular strategy at a point in time. If the content were to vary across structures, then it would be possible to go back and examine the process of its development. Qualitative research was used throughout the research to establish the differences between relationship structures included in the research model. The qualitative research pursued a process focus to achieve this. While the findings largely report on a quantitative study, the qualitative

work informed all stages of the research. In fact, a combined approach was used. This combination can be illustrated by adapting Melin's(1987) positional diagram for strategy research (see figure 7.0).

Figure 7.0 has two axes. One reflects the content-process dimension already discussed, the other the rational analytical decision model versus the social action decision model. This research takes the view that organisations are embedded in their social context. Nevertheless, this social context does give way to a coherent strategy in the interorganisational setting and a method of managing the relationship. The qualitative and quantitative approaches of this thesis have been placed in the figure to demonstrate the combined perspective manifest in the methodologies chosen. The quantitative research is in the quadrant typical of most strategy research. However, the development to the point of using quantitative research required an assessment of social processes and action.

This research will mainly be reporting on findings from a quantitative methodology. This is due to its focus on the content of particular strategies and an assessment of their impact on performance. The methodological decisions were driven by the nature of the research questions.

**Figure 7.0**
**A position diagram for strategy research**




Source: adapted Melin, Leif(1987), Commentary on Chapter Four, in Pettigrew, A.M., The Management of Strategic Change, Basil Blackwell, p. 162.

### 7.3.3 Subjectivity and objectivity ("outside in and inside out")

When making a decision on methodology, a researcher must decide whether to focus on the research problem as an observer or as a participant. The observer assesses the research problem from the "outside looking in" whereas the participant sees it in a more grounded, "inside out", perspective. To decide on one of these approaches, a researcher must examine both the empiricist and emergent methods of data collection. Evered and Louis(1991) argued that good research should combine both approaches. Similarly, Hassard(1991) looked at multiple paradigm analysis and confirmed the view that subjective (emergent) qualitative research should be matched with objective (empirical) quantitative research. Both approaches have different ontology, epistemologies, and view human nature in very different ways and therefore, require different approaches to methodology. This research is drawing on both. However, the main part of the findings will be reporting on a quantitative study. This method was chosen after the research conceptualisation and measures had emerged from a qualitative investigation.

Once the empirical study has been completed, future research will return to qualitative research to gain insights into the questions raised by the quantitative work. Research is a continuous loop with methods informing one another. Qualitative research brings research questions to a stage where it is necessary to ask whether relationships are unique or may be combined into taxonomies and whether an objective judgement may be made on their structure and performance. It is imperative for the researcher to "stand outside" the research and test the assumptions, judgements, and qualitative research findings on the nature of the problem. In other words, the research reaches a stage were a quantitative methodology is

necessary. Rather than being dictated by the researcher, the research drove the method decisions.

### 7.3.4 Some criteria for a "good" research idea

At the end of any piece of academic research, readers must ask themselves whether the research question was worth investigation. Rosenthal and Rosnow(1991) outlined three criteria for a "good" research idea. These are correspondence with reality, coherence and parsimony, and falsification.

On examination of the main research questions in this study, it can be claimed that the research meets at least the first two criteria and possibly, the third.

1. Correspondence with reality

The research has developed through a process of feedback from a core group of business people. It was subjected to review, expert comment, formal qualitative and quantitative research. This process has given it realism. In addition, the claims made on the basis of its findings have been thoroughly and pragmatically evaluated for their normative and practical implications. The research has proceeded with caution.

2. Coherence and parsimony

The research does fit into a logical and coherent framework and the conceptualisation appears to hold together well. The processes, outlined throughout these method chapters, have made it parsimonious. The superfluous has been cut away and the ideas put through the scientific process. While, no idea is ever perfect, there is an appealing internal logic to those proposed in this research.

3. Falisification

The falsifiable criteria is the most difficult for any research idea to pass. Do the research ideas seem to be a better explanation than those which have preceded them? All the researcher can suggest at this point is that judgement be suspended until the actual findings are read. The theoretical framework does allow for alternative explanations. Also, theory assumptions of the research are being tested at their most difficult level. It will be harder for a social exchange perspective to meet falsifiability criteria when relations with main suppliers are considered. Will bilateral relationships be significantly different at a level where all firms perform well? Will the relational structures in the taxonomy emerge from the quantitative study? If these questions are answered in the affirmative, the research will have gone a long way towards falsifiability.

Academic research, at this level, must use and develop ideas with the goal of adding to existing knowledge. This is the main reason for pursuing such an endeavour.

### 7.3.5 Combined approach - qualitative and quantitative

The previous section had a reflective flavour. It is included so that the reader is made aware of some of the issues studied, while the research was being framed. It acknowledges the limitations of all research. At the same time, it demonstrated the researcher's commitment to the research method and willingness to explore alternatives.

The research ideas developed from the literature and from an investigation of practice. It evolved to the point where it was capable of being tested in a larger empirical setting. Initially, the concepts were passed through the filters of experience, followed by the application of more formal methodologies.

Above all, a combination of qualitative and quantitative methods was used to pursue answers to the research questions and objectives.

## 7.4 Type of research study

Bennett(1991) described four levels of management research which he viewed as semi-hierarchical. They were descriptive, classification, explanation (causation), and prediction. As one moved through these types, the level of scientific rigour increased. The methodologies also varied with this movement. Qualitative and narrative approaches increasingly became more quantitative, and description ultimately became testing causal relationships among variables, as one moved through the levels. Most management studies do not get past the descriptive stage as they merely describe relationships between variables.

The first level of this research was descriptive. It was concerned with describing the characteristics of interorganisational relationships and performance. Much research has been conducted by the author of this thesis into the nature of the various relationship structures included in the study. Descriptive research has allowed a group of variables which have the potential to discriminate between relationship structures to be developed. It would correspond with stage one and some of stage two of the research as outlined in the first section of this chapter.

The next level of the research is classification. The classification aims of the research are central to its ability to examine the structure-performance hypotheses. Examples of management research concerned with classification would be studies classifying managers according to style or consumers into segments. This research will attempt to do this with

relationship structures. The taxonomy of relationship structures based on the relationship strength construct is essentially a classification study. However, this classification is also used to test differences in performance outcomes between relationship types. This brings the research into the evaluation of causation. Do different relationship types result in observed performance differences, the independent variable being the level of relationship strength and the dependent variable, performance?

The structure-performance relationship examination is one of explanation or causality. The research will be making an assessment of relationship structure and performance. Is there any relationship between these variables? Can a particular relationship structure result in (cause) a certain level of outcomes? Some of the hypotheses in the research are causal. A causal level has been added to the relationship structure taxonomy by the addition of the performance outcomes construct. We are expecting the relationship structures to be the reason for the differences in interorganisational performance. Control variables have also been included to ensure something else has not caused the variation. The study does have explanatory capabilities.

This research will be attempting to determine if X (the level of relationship strength) causes Y (the differences in interorganisational performance). The use of causation in this research is in the probabilistic sense: the inference of causation is probable. This probability will be established from the association of variation in the relationship strength construct with that of performance and through the elimination/control of other possible causes. This association will be possible due to sample design and the introduction of control variables into the research. This research accepts the difficulty in establishing causation outside an experimental context and without an analysis of the time order of the effects. Much management

research faces this problem. If causation is established, it should allow future prediction to be made.

The research began through a process of description to developing a taxonomy (classification). This taxonomy will be tested for its explanatory power, that is, difference between relationship and performance. However, predictive associations will only be suggested. The taxonomy of relationships may be developed to a causal path model for further research. Bennett(1991) argued that prediction was the highest level of scientific investigation. The type of research study and the research methods chosen are consistent with those that have been used in previous strategy research in the development and testing of theory (Snow and Thomas, 1994).

## 7.5 Exploratory research

The exploratory stage of the research has been described in an earlier section. This discussion will limit itself to the range and depth of exploratory research done for this thesis. The literature review and the contribution of practice to the development of the research will be examined.

### 7.5.1 Literature review

A bibliography is provided at the end of this thesis. It provides a picture of the extent of the literature review conducted. The research tried to review relationships in the business and other social science literature. It also examined the role of applied fields of research into interorganisational exchange, especially the impact of information technology on relationships. In terms of the theoretical construction of the research, the main contributions came from industrial economics, resource dependency, agency and social exchange schools of thought.

The applied areas of academic research that use these particular streams also provided useful insights. Some of these areas included research on inter-governmental agency exchanges, channel management, the analysis of business transactions, network contexts of a variety of industries, and just-in-time and other means of coordinating industrial relationships.

Electronic media were an important source of material for the research. In particular, the accountancy and business information(ABI-INFORM) and the social science citation index(SSCI) cd-rom databases. They provided access to journals unavailable in libraries used by the researcher and allowed key author searches to be undertaken.

### 7.5.2 The input of experience

The experience study is an essential component of all qualitative research. Research ideas and frameworks were tested out on a core group of practitioners. The research evolved from the researcher's ideas, the input of literature, and a group of business people who acted as sounding boards and allowed the researcher access to their businesses. This interactive element was informal in terms of methodology but probably vital to the rigour and relevance of the research questions that emerged.

## 7.6 Primary research

The stages of investigation that make up this research were described at the beginning of this chapter. This section will present an overview of the primary methods used in testing the research problem and hypotheses. The actual procedures used to design, collect and analyse the primary research data will be detailed elsewhere in this and the following chapter.

### 7.6.1 Qualitative study description

The qualitative research took the form of personal interviews with seven firms using a semi-structured research instrument. This interview guide, in turn, formed the basis of the quantitative questionnaire. These interviews provided the researcher with a flexible and penetrating data collection procedure appropriate to this stage of the research.

The flexibility to rephrase questions and explore ideas, concepts and measures was necessary to determine the validity of industry respondents' reports and the adequacy of the measurement instrument's ability to capture the concepts of interest.

The opportunity to probe respondents permitted a level of detail very suitable to the development and testing of constructs and measures.

Since the personal interviews were structured, with the researcher following a definite line of questioning, they corresponded with Easterby-Smith, Thorpe, and Lowe's(1991) idea of a positivistic approach to interviewing. They suggested

that these interviews may provide a degree of confidence in the response that would not be available in questionnaires.

The qualitative interviews followed a structure designed to test the hypotheses while, at the same time, flexible enough to get behind the responses in order to gain insights into the constructs and measures used. Other details of the personal interviews will be provided in forthcoming sections.

### 7.6.2 Quantitative study description

The quantitative study used a mail survey as its data collection technique. The sample consisted of 500 UK industrial companies with more than 100 employees. The managing director was used as entry point for all firms. The study was followed-up by a second mailing four weeks after the first.

## 7.7 The personal interview

The qualitative research used a structured interview procedure and a semi-structured interview guide to conduct the personal interviews. Hart(1991) outlined a procedure for managing the interview process for collecting data from senior managers. When using a semi-structured interview guide, a tape recording was recommended for accuracy. This process was used in this research. The interviewer had prior experience in this type of interviewing. Normally, the critical difficulties are ensuring concentration on the research issues and unbiased evaluation of company policy. Concentration on the research topic is a matter of preparation and questioning but the unbiased collection of data is a more significant challenge. Continual probing, use of more than one company respondent, and careful post-evaluation of content are all important elements in reducing bias. In the case of more than one interview, a process of

comparison and pattern evaluation can be put in place to reduce bias. The next chapter will describe the method of evaluation of the qualitative research.

The interview guide used in the qualitative research is similar to the one used in the mail survey except for the scales and structure inherent in this type of questionnaire. Also, the qualitative research used diagrams of the conceptual framework of the research. The main areas covered by the interview guide were relationship strength, performance and control and context questions. The organisation of the interview into a series of coherent stages facilitated analysis.

Weiers(1988) compared the various survey methodologies (personal interview, mail and telephone) across a variety of criteria. Since this research is using both personal interview and mail surveys, the advantages of both are gained. The critical advantages of the personal interview, at the stage it was used for in this research, was its flexibility, the use of visual aids and the possibility for in-depth discussion of topics. Jobber and Bleasdale(1987), in a study of industrial research practice, found that researchers perceived values and limitations in both qualitative and quantitative methods. Clearly, reliance on any one method is a limitation. The design of the quantitative mail survey is the subject of the next section.

## 7.8 The mail survey

The mail survey technique was used as a method for collecting the quantitative data for this research. It is suitable for research on the content of a strategy as outlined. Combining qualitative and quantitative methods was argued to be a worthwhile exercise in research of the nature reported in this thesis. This section examines the appropriateness of the mail survey as a data collection technique, the design of the mail survey, and the response inducing strategies used.

### 7.8.1 Appropriateness

The advantages of the mail survey as a method of data collection are detailed in Weiers(1988). Its main advantage is the capability of its results being generalised. This is because of its empirical nature. The other advantage of the mail survey is the reduction in bias caused by the interviewer and interviewee interaction present in personal interviews. It is an objective method for collecting data. The research was able to guarantee confidentiality which gave the respondent freedom to fill out the questionnaire as s/he chose. The probability of response bias is greatly reduced in comparison to personal interview.

The mail survey was also appropriate given the research questions that needed to be answered and the stage of testing reached by the research. The research questions required large amounts of data to test them. They also required objective data to test the relationship structure taxonomy and its linkages to performance, as it already had been through a series of qualitative processes.

An empirical study of this type was the minimum necessary in order to verify or otherwise the research hypotheses. All aspects of the mail survey design, implementation, and evaluation are detailed in proceeding sections and in the following chapter.

### 7.8.2 Mail survey design

Dillman(1978) developed the Total Design Method(TDM) for survey research using the mail and telephone. It has been defined as follows:

> *"The Total Design Method(TDM) consists of two parts. The first is to identify each aspect of the survey process that may affect either the quality or quantity of response and to shape each of them in such a way that the best possible responses are obtained. The second is to organise the survey efforts so that the design intentions are carried out in complete detail."*
>
> (Dillman, 1978: p. 12)

Dillman(1978) suggested three methods of response encouragement. These were rewarding the respondent through interest and appeal, reducing the cost to the respondent both in terms of money and effort, and establishing trust. Every effort was made to use strategies which encouraged response. The actual process of organisation/administration of the survey's design and implementation also followed Dillman's procedure. On an overall basis, Dillman suggests the TDM is not mechanical but a design for good practice that is flexible enough to respond to the requirements of the research situation. This was indeed found to be the case.

Cragg(1991) applied a very strict interpretation of Dillman's(1978) procedure in a research study of small

engineering firms. Comparing this research to Cragg's application, it is possible to say that his process was followed except for the non-use of booklet type questionnaire, first class post, and exact follow-up method. The strategies used included those for the cover letter, for example, personalisation and the researcher's signature, and those for the instrument design, for example, vertical answer formats.

The booklet format was not used due to cost considerations and size of questionnaire. The final questionnaire was only eight A4 pages (including title page) with plenty of spacing between the three sections. The instrument was developed by a specialised data editor and printed. A copy of the questionnaire is provided in the appendix to this thesis. Second class post was used which is quite acceptable for an academic sponsor. However, adhering to a recognised design procedure is a reflection of good methodological practice.

### 7.8.2 Response strategies

Scott(1961), in a classic article, outlined the main factors affecting the response rates. Follow-up and non-response strategies will be dealt with in other sections. This discussion will limit itself to response strategies inherent in the design of the instrument or those that precede the receipt of the questionnaire. The main areas outlined by Scott were length, survey sponsorship, return envelope, cover letter and anonymity.

The length of the questionnaire was a significant issue brought up by the panel who reviewed the questionnaire prior to pilot testing of the original instrument. Short questionnaires seem to work better. The final questionnaire used in this research received positive feedback on the basis of its length. The experience from the panel and piloting allowed the questionnaire to be shortened. Scott(1961) found length to be

insignificant but things have changed in the intervening period even if the response strategies have not. The high response rates of the early mail surveys, in the 90% range, can only be envied today.

Schneider and Johnson(1995) found that university sponsors achieved higher response rates in market surveys of business professionals. A university sponsor combined with a help the sponsor appeal was even more effective. This research used this appeal in the covering letter.

A business reply envelope was included in the mail package to stimulate response. A pre-paid envelope is an effective strategy and almost a courtesy in gaining response. However, first class stamps are normally preferred to business reply. Again, as in the case of monetary incentives for a university sponsor, the appeal itself may be enough.

The cover letter followed the design criteria as outlined in the previous section. One of Scott's(1961) conclusions on response strategies was the need to convince respondents of the importance of the study. All the members of the expert review panel of the mail instrument thought the subject matter to be important and likely to be of interest to the respondent group. The respondents were offered an opportunity to receive feedback summary of the research results - a courtesy, as Kalafatis and Tsogas(1994) found it made no difference to response rates. Respondent interest cannot be guaranteed but is vital to a successful mail survey. Some other methodology should be chosen if the respondent is unlikely to be immediately interested. At the present time, most companies, due to necessity and strategic reasons, place heavy emphasis on managing buyer/supplier relationships - the title used in the study.

This research was able to provide a confidentiality assurance to respondents and ensured anonymity to the point of only using an identification code for the follow-up mailing. Companies were not required to provide details that would identify them unless they were interested in further research on the topic. They were informed about the coding procedure and assured of confidentiality. Jobber and O'Reilly(1996), in a literature review of industrial mail response, suggested anonymity to be a very effective strategy, especially when combined with confidentiality. This researcher felt that full anonymity would be a waste of resources, forcing a follow-up to all sample members which would be an irritant to people who had already responded. In fact, the researcher received two letters on this topic. There were two companies whose response crossed in the post with the second mailing. They sent letters informing the researcher of the fact that they had already filled out the questionnaire.

Many other issues were considered as response inducing strategies, for example, day of dispatch. Even though this has not been found to have an effect on response, all questionnaires were sent out to be received in advance of Friday afternoons and to avoid Monday mornings. It was felt by the expert panel and through prior experience that these times were sub-optimal. In addition, colour was investigated as a strategy and found to make no difference (Greer and Lohtia, 1994).

Research inquiry into interorganisational relationships is a sensitive topic because companies are being asked about a third party. Every effort was made in the design of the research to avoid non-response. The design of the questions will be covered in the next chapter. Non-response analysis techniques and response strategies that do not concern design are addressed in the section on sampling.

## 7.9 Sampling

The major elements of the sampling procedure used in this research are described in the following subsections.

### 7.9.1 The qualitative sample

A total sample of seven firms was chosen on a non-probability judgement basis. The criteria for the judgement was the researcher's knowledge of the industry and the fact that all of the firms had been supported by various governmental industrial promotion agencies either in monetary or other ways. The type of support given is only applicable to firms with a successful track record. This acted as an external validation of the choice. A range of firm size and ownership profiles was sought, with an external perception (researcher and agencies) that they were successful in their sector. The two state agencies contacted were Forbairt (the Irish agency responsible for all industrial promotion) and the Irish Development Authority (responsible for inward investment). The firms chosen had the following characteristics:

1. They were all precision engineering firms, supplying components to their buyer, or buying material and/or components from a supplier. With a small sample, it was necessary to concentrate on a single industry to obtain any comparability.
2. Access was gained to all the managing directors, but other managers were also interviewed.
3. The companies sampled included two small to medium sized enterprises in close buyer-seller relationships, two subsidiaries of multinationals who were dependent on intragroup sales, and three multinationals who had decision making flexibility, and

dealt directly with customers, on whom they were closely dependent.
4. In all, four companies focused on their relationship with their buyer and three on their supply relationship. The diversity of this within sector sample added to the objective of testing the validity of the research constructs and associated propositions.
5. They were all located in the South East of the Republic of Ireland which has a concentration of the type of firms described.

Seven firms were enough as each relationship structure was represented and patterns in the data were emerging by this point. This is the "snowball effect" sampling decision rule to discontinue adding new interviews when a similar response pattern becomes evident. It is worth pointing out at this stage that all relationship types were evident even though all firms were perceived as being successful. Relationship structure may be independent of firm and environmental characteristics and embedded in the management culture of the partners.

The other subsections refer to the mail survey. The qualitative data collected informed the decisions made in these sections.

### 7.9.2 Justifying a buyer's perspective

All the quantitative research in this thesis is from a buyer's perspective. Buyers, or in this case, manufacturers, are making an assessment of the structure and performance of their relationship with their main supplier. This section reviews why this perspective is suitable to the current research and why a buyer's perspective was chosen as the research focus.

The research is proposing that a firm's relationship strategy can be classified by measuring the strength of a relationship. It is also proposing that different approaches to managing a relationship result in different levels of relational performance.

From a normative perspective, the research is about getting firms to focus on their assumptions and action in a relationship and to decide on the appropriate strategy for managing the exchange. Relationship management as a strategy was compared to an economic alternative in chapter 2 of this research. It diverges from traditional approaches in its conceptualisation and implementation and is, therefore, an option for managing a relationship for an individual firm. It is within this context that this research is assessing the management of a relationship from one-side only. The method of management used in a particular relationship is up to an individual firm like any other strategy decision. This does not mean that a firm has full control but, like any other strategy, it can make choices, especially, longer term ones. This research is assessing what firms do and, in common with other strategy research, focuses on the individual firm. In the end, it is an aim of the research to produce a taxonomy of relationships which will be of use to firms in managing relationships.

In section 7.3.2 of this chapter, research in strategy that takes a process orientation and a content one is compared. Most research in strategy is argued to be content in nature. That is the content of a particular stategy is measured at a point in time. This research fits into this category. It is not measuring relational processess but the content of a firm's relationship strategy at a point in time. How a firm classifies its relationship with its main supplier at present and rates the performance of that relationship. The perception of the firm about its relationship structure and performance with a main supplier is what is at issue in this research: can a firm's relationship be classified into the taxonomy and are there performance differences in relationships? This content focus makes the research testable using a buyer's view. It is a commom method applied across research in other areas of business strategy.

In chapter 8 the detail of the research methodology for this thesis will be completed. At the end of that chapter, in section 8.7, the research methodology of this thesis is compared to that of other researchers who have studied industrial relationships. The reader is referred to that section. At this stage we are still justifying sampling choices and have not examined the research method of the current research in total. However, it is suffice to say that the current research methodology is compared to a range of European and American authors and approaches and is adequate given its objectives and the methods used in previous studies.

The choice of a buyer's perspective is reinforced by the fact that suppliers and buyers view any particular dyadic relationship differently. This was illustrated in Anderson and Narus's(1990) study of manufacturing firms' and distributor firms' working partnerships. The authors developed a different process model for each group, on the basis of their findings. Ellram(1995), in a study of buyer-supplier relationships, found that there were differences in the perceived importance of partnership success factors among both groups. The mismatch between supplier and buyer's relational expectation is interesting but not the focus of this research. It may be one of its normative implications. In situations where a buyer is pursuing one strategy and a supplier another, it would be appropriate for either party to make relational adjustments. Therefore, future research potential exists in the extension of the structural analysis proposed here to assess mismatches between buyers and suppliers' relationship management strategies. The fact that relationships can be viewed differently by the parties makes the testing of the taxonomy from this perspective impractical in its initial stages of testing. However, if a supplier measured its relationship strength and found itself in one quadrant of the taxonomy and a buyer doing a similar assessment found itself in another, a mismatch would have occurred. This mismatch is not the focus of this research.

The research reported in this thesis measures the performance of a relationship from a buyer's perspective. Performance is conceptualised as being multifaceted and defined in terms of its behaviour and economic components in chapter 4 of this thesis. All the major measures of relationship performance, that is from the main research schools, are included in the research and their justifcation and origins detailed in chapter 8. Most previous researchers who measure relational performance, a infrequently research concept as already outlined, measure it from the perspective of one side of the relationship only. This is also the case in this research. As in the structual measurement, there may also be mismatches in performance perspectives of parties to a relationship.

In addition to concentrating on one-side of a relationship, the research also took a buyer's perspective. The buyers in question represent manufacturing firms in catogories detailed in this chapter. The majority of the findings (apart from four of the qualitative interviews) report on the buyer's perspective of a relationship with a supplier . The reasons for this focus is to increase comparability and reliability of data. It is easier to compare findings and to generalise them on the basis of the assessment of one respondent type. Respondents were also focusing on main suppy relationships which helped in the comparability process.

There are few comprehensive studies on the issues in this research from the manufacturer's perspective. For example, Morgan and Hunt(1994) used tyre retailers' perceptions on their manufacturing supplier. Mohr and Spekman(1994) and Joseph, Gardner, Thach and Vernon(1995) used similar methods for studying relationships of computer dealers and a broad cross section of industrial distributors respectively.

The choice of the buyer's perspective for the mail survey is accentuated by trends affecting the management of supply relationships. These trends, summarised by Krapfel, Salmond and Spekman(1991), included increased levels of partnering and reductions in the supply base. Companies are using outsourcing to manage a web of partners and are becoming quasi-firms in the process. Strategic management of supply relationship and the resulting growth in the importance of purchasing makes this research timely and necessary.

The focus on a buyer's perspective allowed for adequate testing of the conceptual framework of the research as described in chapter 6. The reasons for the choice of a buyer's perspective are detailed in this and the other sections cited here. Other options were considered and alternative approaches based on the findings of this study will be given in the conclusions. A large scale study of the type undertaken was needed to meet the research objectives.

### 7.9.3 Stratified sampling and criteria for choice of supplier

The sampling method chosen for this research was proportionate stratified random sampling. A probability rather than a non-probability sampling method was chosen to allow for objective testing of the research questions. It also added reliability to the findings. In practical terms, this choice was possible due to the existence of an adequate population frame.

Parasuraman(1991) defined proportionate stratified random sampling as

*"Sampling in which the sample consists of units selected from each population stratum in*

*proportion to the number of units in the stratum."*

Parasuraman(1991: p. 510)

The proportionate sample was chosen on the basis of membership of a standard industrial classification(SIC) group. A proportionate number from each group was chosen from the total number of the population in that group. The actual numbers will be discussed in section 7.9.4. In comparing different probability sampling methods, Parasuraman(1991) considered proportionate random sampling to be more efficient than simple random sampling. It has the added advantage of enabling a comparison between sample groups. This will be done for the various SIC categories used (see section 7.9.6 for detail).

The respondents were asked to choose a supplier on the basis of it being their main supplier. They were also asked to list the criteria on which they made this choice. These criteria are likely to be either volume bought, importance or a combination of both. This strategy was used in relationship studies by Heide and John(1988) who used the biggest principal agency as a criterion for choice and Joseph, Gardner, Thach and Vernon(1995) who focused on the core supplier as their method of selection.

It was felt that if relationship structures proposed were found when companies assessed their main supplier, it would add to the model's validity. Choice of main supplier also makes it possible to generalise the findings and compare relationships because everybody is focusing on the same type of relationship.

At different stages of the sampling process, other options were considered of which certain elements were tried out in pilot testing. The pilot test findings are reported in the next chapter.

The chosen options reported in these sections are based on a series of literature, experience, qualitative and quantitative tests.

### 7.9.4 Sampling frame and size

The population frame was obtained from Dun and Bradstreet's online marketing service. This company also produces the Key British Enterprises directories series. The total sampling frame consisted of 1,800 firms with employee size of greater than 100 in SIC codes beginning 34, 35, and 36. The number of firms in the sampling frame was reduced by assessing their line of business to exclude primary industries and focus on manufacturing. Firms that remained were selected in proportion to their group size. A third of all firms in each SIC category were mailed with SIC codes 34 and 35 representing 50% of the sample and SIC code 36 the other 50%. The detail of these choices will be presented in the forthcoming paragraphs.

Dun and Bradstreet have the largest available database of firms in the UK. It is larger than the total number of manufacturing firms reported in the Central Statistics Office's(1995) figures on size of UK businesses, based on VAT registration. In fact, this database size of 1,800 is larger than the total number of firms in all the 30 plus digits of the British SIC codes, as reported by the CSO, for employee sizebands greater than 100. This shows the representativeness and the up-to-date nature of this database. The collection procedures may be different for the two organisations. This sections aims to demonstrate the adequacy of the database used. A low returned, not at this address, rate would also show the up-to-date nature of the population frame.

Advice was sought from academics and business librarians about the representativeness of company listings. In doing so other alternatives were assessed. Kompass's industrial listing

manuals were smaller than Dun and Bradstreet and critically, do not classify on an SIC basis. Other specialist lists were consulted such as Dial. Alternative databases include the FAME (financial analysis made easy) database but this did not appear to be as extensive. Finally, an assessment of industry associations was made to determine if their lists could be used. This resulted in a few possibilities, for example, the Chartered Institute of Purchasing and Supply, but all these options were rejected on the basis of representativeness. Their membership list is self selected, that is it only represents those individuals who have joined. Some of the associations would also reduce the researcher's control. They may insist on posting out the letters which makes non-response control virtually impossible. These sources may provide good opportunities for further research. However, they were rejected due to the strict need for the highest possible levels of reliability and validity imposed on this research. This does not mean that these sources are unusable or would provide poor data, only that they are unsuitable on the objective scientific criteria.

The total sample frame was 1,800 firms. This was reduced to 1,500 by excluding firms in primary industries, for example, extractive industry. It was possible to reduce the database size by checking the line of business of the firms and by reference to the Key British Enterprise and Kompass directories.

An employee size of greater than 100 was decided on after the pilot test. It was chosen for reasons of higher response rates for larger firms and critically, on account of the nature of the research. Small firms generally do not have the time and resources to complete questionnaires, due to the responsibilities of a small management group. The material under study requires a level of knowledge and resources that may not be present in the small firm. The two small firms in the qualitative study had under 100 employees but were successful and strongly involved in developing relationships. Again, the

application of the model to small firms is an area for further study.

The SIC codes were chosen on the basis that they primarily represent manufacturing firms selling in industrial markets or to other firms who sell on their product to the consumer market. Many of the SIC codes included in the sample represent firms who face a high level of market volatility and uncertainty, for example, the telecommunications and computer sectors. Firms respond to high levels of uncertainty by outsourcing and forging relationships to reduce risks. However, if all relationship structures are present with these types of environmental conditions then the theory will have been tested at a very demanding level. Relatively stable and mature SIC codes were also included for comparison purposes. The SIC codes detailed in this section are based on the American classification (Dun and Bradstreet use the American SIC codes). The UK(1980) nearest equivalent is given in brackets in this section. The UK is currently changing its statistics to SIC codes based on a 1992 update.

The 34(31/32) group represents engineering firms. The SIC codes break down into four digit codes. The random selection was based on the first two or group classification. A post selection check indicated that no one four digit category was over represented. Industry sectors include precision engineering, and auto parts. Typical firm's names are Ralin Group, Delta Fluids, 3M Neotechnic. The names of firms given in this section were chosen at random and may not have been included in the sample. They are just present to give the reader a "feel" for the sample. A promise of confidentiality was made to all respondents.

The 35(32/33) group consists primarily of electronics firms manufacturers of computers and associated office equipment,

and machine tool companies. Some firms in this category would include OKI Europe, AT&T, and Kennamental Inc..

The 36(34) group is also an electronic group but focuses on electronic components, and radio and telephone communications. Some examples of firms in this category include Toshiba, Racal, Westinghouse, Pioneer. This was the largest sample category representing 50% of the total sample frame. The various SIC codes will be compared in an analysis of the variability within the sample in the findings. It is a research assumption that relationship structure is independent of industry type.

It can be seen that the choice of firms does represent a variety of industry life cycle and types while at the same time being limited in terms of total manufacturing industry to manufacturing firms selling to other manufacturing firms or to the "secondary" industry sector.

The sample size for the study was 500. Given that the total frame was 1,500 this represents 1/3 of all firms. The criteria for choosing sample size usually concern decisions on the extent of precision needed, the amount of risk allowable, the amount of variability in the population, the cost and time, and the size of the population itself. Sekaran(1992) presents Roscoe's(1975) table for determining sample sizes from a given population. For a population of 1,300, a sample of 297 is appropriate. As a rule of thumb, for most business research a sample of between 30 and 500 is adequate. In fact, going by the table mentioned, a population of 1 million only requires a sample of 384. So why the large sample size in this case? The following represents the reasons:

1. Statistical precision was important in testing the hypotheses. Precision is increased with a large sample size.

2. Statistical confidence was also important and to avoid the trade-off between it and precision, a large sample size was chosen.
3. Most experts indicate that the population under study is over surveyed and low response rates are the norm. This indicated a need for a larger sample.
4. There was an assumption that to include discrete and bilateral types in the study a larger sample would be needed. It was felt that most relationships might be recurrent or dominant partner. To increase variability, a larger sample size was chosen.
5. The use of multivariate statistics requires large numbers of respondents. The sample has to be many times the number of variables. Since this research is relying on multivariate analysis (see chapter 8), it needs a larger sample size.
6. Reliability is important for the research. It will form the basis of many future studies by this researcher.

For all these reasons a larger sample size was chosen. The number 500 fitted in with the database. Any range around this number would have been acceptable.

The database on the sample includes the name and address of the company, its line of business, SIC code, number of employees and telephone number.

### 7.9.5 Purchasing and MD respondents: strategy research needs and information needs

The information was obtained by using a key informant method. A cover letter and questionnaire were sent to the managing director of each company who was asked to complete it or get the most appropriate senior manager to do so. The most appropriate senior manager, after the managing director, was mentioned as being the procurement/purchasing manager.

A multiple informant method was tried in the pilot study but was unsatisfactory. The research has tried to balance the strategic information needs with the operational ones in its data collection method.

The study used John and Reve's(1982) and Campbell's(1955) criteria for informant choice. The criteria for choice are whether or not the informant occupies a role that make him/her knowledgeable about the issues being researched and his/her ability and willingness to communicate with the researcher. The results of John and Reve's study found the key informant method to be reliable for judgements about structure but not as good for sentiment. However, they were testing interorganisational interinformant reliability which one would expect to be different. A supplier's view of a relationship is likely to be different from that of the buyer. Critically, where intrafirm respondents were compared, reliability was found. This researcher was satisfied that the key informant method would produce reliable information.

The managing director was chosen as the point of entry into an organisation, as seeking his/her approval would ensure cooperation. Also, as some of the information required was about strategic issues, s/he may have been the most appropriate person to ask. However, in many cases s/he could judge that another senior manager would be equally informed. This use of the managing director as entry point was confirmed as the best route by industry experts and was successfully tested in the mail pilot.

Due to the use of a large firm size, greater than 100, the most knowledgeable person about interorganisational relationships is likely to be the procurement manager/director. S/he will also be working at a senior level which would make him/her aware of the organisational strategy.

The key informant methodology will be tested in the research by asking respondents about their job title, testing the differences in response between the various manager types and by any notes or annotation on the questionnaire made by respondents. It will be expected that the majority of respondents will be in purchasing roles with titles such as director of procurement, senior buyer, purchasing manager or materials manager.

Using key informants requires that the most knowledgeable person completes the questionnaire. The best person to make this judgement is the managing director who is likely to choose a purchasing manager as respondent in the majority of cases. The managing director is used as an entry point as the completion of this particular questionnaire would probably require approval at this level.

### 7.9.6 Testing sampling distribution: confidence and precision

To test the variation in the sample used, a number of tests will be performed on the results and reported in chapter 9. These tests are as follows:

1. Split-half difference in means. The first 50% of respondents will be compared to the second 50%.
2. SIC difference. The three SIC codes will be compared for differences in mean responses across variables, and to see if their response rates approximated with their numbers in the sample.
3. Comparison with known population values. The sample respondents will be compared to manufacturing firms in general, using the ownership and employee number variables.
4. Subjectivity analysis. Are respondents more interested than non-respondents, and therefore contributing to bias?

5. Extrapolation of results. The successive waves of respondents will be compared with each other, in the case of this research, the first mailing with the second. Also, the time of response trends will be analysed. The first week will be compared to the second week of the first wave, and these will be compared to the first and second weeks of the second (follow-up) mailing.

The procedures numbered 3 to 5 above are recommended by Armstrong and Overton(1977) as methods for estimating non-response bias in mail surveys. They developed these methods as benchmarks on which to estimate bias in responses to mail surveys. They tested these methods by comparing their results to the known value in the particular study that is they tested them on studies that were already complete. Use of their procedure improves reliability of data and aids in evaluating any mail survey research. If the data in this thesis passes these tests we can be confident that non-response bias was not a problem.

These tests will be completed for a range of items in the questionnaire. However, the main variable that will be used is the length (age) of the relationship. This has been classified into four lengths and will be the dependent variable in the tests (test variable). A length measurement produces metric data. When the grouping variable has two groups, a t test will be used and when there are more than two, some of the variables above will have more than two groups, an anova procedure will be used. The grouping variables, for example, time of response, are generally non-metric.

The t test will be examined for differences in variance by the Levene's test for equality of variance.

Some of the tests will not have equal mean sizes. This is normally a problem with anova but SPSS (statistical package for

the social sciences) adjusts for this automatically using a harmonic means procedure. As anova reports on overall significance between all combinations, a Scheffe test will be used to see if any significant means are being masked by the procedure. Where appropriate, these tests will be reported for the reader. The Scheffe test is recommended as the most conservative *post hoc* analysis of type 1 error by Winer(1971) and Tabachnick and Fidel(1983). Test values reported will be rounded to two decimal places.

Frazier(1983) and Dwyer, Schurr and Oh(1987) argued that length of relationship had a significant impact on the structure and performance of a relationship. Therefore, if early respondents are in longer relationship, a non-response bias might exist. There should be no difference in relationship lengths between firms in the sample. This is a very strict test of response patterns and if the results are not found to be significant, the confidence in the reliability of the research reliability is much improved. The tests will also be conducted for other variables but relationship length will be reported.

### 7.9.7 Non-response strategies

The strategies reported on in the previous section will estimate non-response bias but other strategies will also be used to reduce non-response in the mail study. The main strategies to be used are detailed here and analysed in the findings.

1. Follow-up.
After four weeks a new cover letter and questionnaire will be sent to the non-respondents.
2. Analysis of unusable responses.
An assessment of unusable returns will be made and reported. Also in the pilot study, follow-up interviews were conducted with non-respondents to assess reasons for non-response.

Finally, in the second mailing, respondents will be given an opportunity to state their reasons for non-response.

3. Item non-response.

Non-response to items of the questionnaires included in the analysis will also be assessed for patterns. Every effort has been made in the study's design to reduce this as it could be a potential problem given the sensitive nature of the topic.

Section 7.9 has reported on the sample selection and sample analysis methods for this research. The aim was to pursue a rigorous procedure and validation methodology.

## 7.10 Conclusion

This chapter presented some of the key methodology decisions of the research. It analysed data collection methods and sampling and placed the research methods within their theoretical context. In overall terms, the research has gone through four stages and uses a combination of qualitative and quantitative data collection methods.

The conceptual framework and hypotheses of the research required a varied approach to methodology. Two main structured data collection procedures are utilised: personal interview and a mail survey.

The overall design and sampling processes of both methods were the main issues in this chapter. Many tests were set-up to validate the mail survey sample. The results of these will be presented in the findings.

The next chapter will examine the remaining elements of the research process of this research. To conclude this part, it could be argued that the conceptual framework of the research

emerged from an informal experiential process. This then required more formal data gathering techniques to test it. The personal interviews allowed the researcher the flexibility to test the hypotheses and further tighten-up on the measures and concepts. The mail survey provides a test of the wider generalisability of the research framework.

# Chapter 8 - Research Methodology 2

## 8.0 Introduction

This chapter is the second on methodology. Its main aim is to detail the method decisions made in design and development of the measurement instruments, reliability and validity, and data analysis.

The chapter begins with the measurement process. Churchill's(1979) procedure was used to develop measures of the constructs. Since this research pursues a multiparadigm approach, it has had to develop a series of measures that integrate literature perspectives.

The components of the interview guide used for the personal interview and the mail questionnaire are outlined. In turn, the validity and reliability of the mail survey are discussed. In particular, the aim for construct validity and high levels of internal reliability are detailed. The results of the validity and reliability tests will be given in the next chapter.

The data analysis procedure to be employed by the research is also given. The personal interviews are analysed using many methods and presented in aggregate format. The mail survey relies on multivariate techniques, particularly, cluster analysis and multivariate analysis of variance. These procedures are outlined and the process of validating them detailed.

Finally, the chapter will compare the methodology of this research to other similar studies. Some of these authors have been referenced in other parts of the methodology but are presented in greater depth here. A presentation of the methodology of previous research will validate the methodology of this research. This presentation will also show

that the current research compares well to existing research on relationships.

## 8.1 Measurement Development

The measurement development component of research design is divided into four subsections for analysis purposes: scales used, construct measures development process, operationalisation, and the nature of the variables. By the end of this section, the reader will know how the research constructs have been measured.

### 8.1.1 Scales used

The scales used in a questionnaire depend on the specification of the problem and the ability to develop measures of it. Most questions in the mail questionnaire used a five item Likert scale or a seven point importance scale. This produces data of the type needed for the statistical tests. Metric data was necessary. Likert scales approximate to interval scaled metric data. Non-metric data or data collected on nominal or ordinal scales was avoided where possible.

The relationship strength and the performance construct were measured using a five point Likert scale. This scale ranges from strongly agree to strongly disagree. It is a standard for measuring attitudes which is the type of data that needs to be collected on relationships. Sako(1992) substituted "hard to say" for "neutral" in a study of relationships. This substitution was also followed in this study as business people found it more appealing. Nunnally(1978) described the advantages of Likert scales as follows:

1. Follow from an appealing model,

2. Are rather easy to construct,
3. Usually are highly reliable,
4. Can be adapted to the measurement of many different kinds of attitudes, and
5. Have provided meaningful results in many studies to date.

The actual statements used in the research went through a series of stages of development which will be described later in this section. The overall research constructs were measured using multi-item measures. Churchill(1979) argues that multi-item measures diminish a range of measurement difficulties which include:

1. The specificity of the items can be averaged out when they are combined.
2. By combining items, one can make relatively fine distinctions among people.
3. The reliability tends to increase and measurement error decreases as the number of items in a combination increases.

The use of Likert scales and multi-item measures enables the research to make distinctions fine enough for the research purpose. The aim of the relationship strength construct was to place firms into four groups, therefore, at least four grades in the instrument were necessary. It is important to point out that the number of statements were kept to a minimum and only chosen to discriminate between relationship structures or different elements of performance.

All the context and control questions were collected on Likert scales or the more powerful seven point interval scale. Some items were ratio scaled, like number of employees and length of relationship. In general, the control and context were single items. They do not represent attitudes and are more factual in nature.

### 8.1.2 Construct measure development process

Churchill(1979) specifies a procedure for developing better measures of marketing constructs with a recommended evaluation methodology at each stage. It is a process rather than a series of stages. This research attempts to follow it while realising that the ultimate completion of his methodology is beyond the needs of the research because its prime purpose is theory development. Churchill's(1979) measure development process is reproduced in figure 8.0 with the corresponding process of this research on one side of the diagram. The current research is shown to have followed a rigorous process of development and testing. Figure 8.0 will be discussed in more detail in a commentary on the stages in the process, as outlined by Churchill(1979), applied to the current research.

1. Domain specification

The literature was reviewed in order to analyse the elements that previous studies had used to define and manage relationships. There is a gap in the literature for a measure that discriminates between relationship structures by combining theoretical streams. Thus, the relationship strength construct was developed. The performance construct was developed on a multifaceted basis to reflect the key measures used in different theoretical approaches to the study of relationships. This multi-theoretical perspective is recommended by many researchers, for example, Gioia and Pitre(1990) and Zaheer and Venkatraman(1995).

Figure 8.0
Measurement Development Process.

| | Recommended Coefficient or Technique | |
|---|---|---|
| | Churchill (1979) | Current research |
| 1. Specify domain of construct | Literature search | Literature search |
| 2. Generate sample of items & 3. Collect Data | (Literature search, experience survey, insight stimulating examples, critical incidents, focus groups) | (Literature search, experience survey, insight stimulating examples, qualitative research) |
| 4. Purify data | Coefficient alpha, Factor analysis | Pilot survey and Qualitative results |

**On completion of this stage it is recommended to go back to Stages 1 and 2 again.**

| | | |
|---|---|---|
| 5. Collect Data | | Mail survey |
| 6. Assess realiability | Coefficient alpha, split-half reliability | Coefficient alpha, split-half reliability |

**This can lead the researcher back to number 2.**

| | | |
|---|---|---|
| 7. Assess construct validity | Multitrait-multimethod and criterion validity | Factor and discriminant and predictive validity |
| 8. Develop norms | Average and other statistics summarising distribution of scores | Similar process of comparison |

Source: Adapted from Churchill, Gilbert A.(1978), A paradigm for developing better measures of marketing constructs, Journal of Marketing Research, Vol. 16, February, pp. 64-73.

## 2. Generate sample of items

An experience survey and literature review were used to generate a sample of items to measure the constructs. The experience survey used a group of business people as a sounding-board for the research ideas. In generating a sample of measures, a series of critical incidences was described and the sounding-board group were asked to respond. This method was useful in reducing the set of measures to determine the strength of the relationship. Performance measures were developed from the literature and the sounding-board group was presented with sets of measures and asked to respond. It was obvious that some of the measures were too detailed and not readily understood or analysed in practice, so these had to be combined into overall measures which reflected their content. For example, the cost of running the relationship was measured by Sako(1992) through the cost of conducting a transaction, cost of serving a relationship, and costs of adjusting to change in a relationship. These elements were not readily analysed by companies and if used, they might not have provided accurate responses in a mail survey. The item generation process reduced this kind of problem.

The measures of the constructs were tested qualitatively, not in focus group interviews as recommended by Churchill(1979) but through the use of personal interviews. The editing process allowed the research to reduce the number of items measuring relationship strength to 15, including two items to test for discriminant validity. Performance measures were reduced to a set of 22, covering the dimensions of behavioural and economic performance.

3 & 4. Collect data and purify measures

Data was collected through 2 above and through a pilot mail survey to purify measures. When both of these were combined, there were small numbers which made the coefficient alpha and factor analysis statistically unreliable but the concepts did appear to discriminate as hypothesised. Some of the items in the scales were revised as a result of this process.

5 & 6. Collect data and assess reliability

The mail study was used to collect data and reliability was assessed by both of the methods recommended by Churchill(1979) outlined in figure 8.0.

7. Construct validity

This research did not use the process recommended by Churchill(1979) for construct validation but was equally precise. Churchill used the multitrait-multimethod matrix to determine the extent to which the measure correlated with other measures designed to measure the same thing, and used criterion validity to assess whether the measures behaved as expected. This research used discriminant validity to measure the former, and predictive validity to measure the latter (measured by the hypotheses tests).

Other methods of validity and reliability were also used and are detailed in section 8.4 of this chapter.

8. Developing norms

This research will be able to develop standards for the management of relationships both in terms of relationship

strength and performance. One relationship structure can be compared to another. Scores for each structure will be aggregated through cluster analysis and examined for variance across the performance measures. However, as this stage of the current research was concerned with theory testing, it may not fully correspond to the development of definitive norms of behaviour. It will suggest avenues for developing them in further research. Some elements of validity and reliability are only capable of being established over time and with multiple groups. The primary goal of this research was not to develop new measures but to develop new theoretical insights. The limitations of the process are recognised but the adherence to good practice followed.

Churchill's measurement development process is one of iteration, the completion of one stage requiring the researcher to return to earlier stages. The process of construct validation in reality is a complex one and rarely ever achieved by one researcher (Nunnally, 1978). One of the key elements in developing valid measures is the inclusion of in-built tests in the data collection procedure. They have been incorporated into this research. The recognition of the importance of a structured construct measurement development process is central to empirical research.

Hinkin(1995), in a review of scale development practices in the study of organisations, emphasised a similar process to that of Churchill in 1979 . Hinkin concluded that the need for rigour had remained the same in the intervening period and so had bad reporting practices. Hinkin's addition to Churchill's suggested procedures is the use of modelling techniques for construct validity testing. In social science research, construct validity is often seen as the ultimate goal. This research has used a multi-theoretical approach to develop its key constructs and measures. It accepts that the validation process of the measures is by no means complete. However, best practice has

been followed. This adherence, given the research focus on items that discriminate and its process of reducing the measures to the minimum necessary to differentiate between groups, is important and will enhance the end result of the research.

### 8.1.3 Operationalisation

The operationalisation of the two main research constructs was outlined in the literature section. The purpose of this part of the research is to translate this broad operationalisation into specific measures. This is achieved by grouping the measures used in previous research around the constructs of this research's, the presentation of the actual measures chosen, and a selection of construct operationalisation and measures from a number of research articles in the area. This subsection can be divided into three areas: relationship strength construct, performance construct, and context/control variables.

#### 8.1.3.1 The relationship strength construct

The relationship strength construct has been operationalised through belief and action components of trust and commitment. This section presents the measures of trust and commitment used in this research. It also considers how each of these variables has been previously measured. It is possible to combine belief and action trust and commitment into the construct, relationship strength, and these variables work in the same way for a given relationship structure. Each of these variables has been measured in previous research but not used in the combination or purpose of this research.

The relationship strength construct has been operationalised as belief and action trust and commitment. Examples of the

measures used for these variables and their definitions are examined.

Trusting belief has been operationalised in previous literature. This thesis has placed its measures into three groups. At least one measure from each group was chosen to test the concept (choices underlined). The measures picked concentrated on organisational evaluations rather than personal ones.

a. Keeping promises/dependable/reliable/consistent
b. Not taking advantage/fairness in raising and lowering prices/honest/open about motives
c. Personal relationships/friendship/bonds/ties

The choices made by the researcher were tested (see preceding section) and used in the quantitative mail survey as follows:

a. "Our supplier always keeps to its promises".
b. "Our supplier will take advantage when it can" (R).
c. "Our supplier always gives us a fair deal".
d. "Our supplier is like a friend".

Item b was reversed (R) and all items were measured using a Likert scale as explained. They were also combined in the same question with the other elements of relationship strength. Most of the statements have been used in previous research.

Trusting action has been measured in previous research by five groups of measures. These are:

a. Response to unanticipated problems/response to uncertainties/helps in emergencies,
b. Flexible in response to requests/resist request/responds to requests.
c. Problem solving/harmonisation of conflict/proposal for compromise/style of dispute resolution.

d. Informal agreements/supracontract norms.
e. Communication openness and information sharing.

The final set of items used in the mail survey is underlined and the statements were as follows:

a. "Our supplier helps us out in emergencies".
b. "Our supplier tends to resist our requests for changes in supply arrangements" (R).
c. "When a dispute arises it is resolved jointly".
d. "Our relationship is managed primarily by an informal agreement".
e. "We share information on a need to know basis" (R).

Items b and e were reversed. Two other items measuring communication with and influence over the supplier firm were added to test the construct's ability to discriminate (test of discriminant validity). These are detailed later in this section.

Some examples from the literature offer support to the chosen measures and operationalisation. They also show how much of a funnelling process had to be gone through to classify measures from previous work into the various measure groups and to make the choices of the measures for the final research. These choices were made on the basis of their potential to discriminate. The research avoided using measures that were too similar. The elements making up the relationship strength and performance constructs have been measured in previous research using many more items than used in this research. Measures were chosen and grouped according to their ability to discriminate between relationship structures and performance. Inclusion of items that measure very similar dimensions of a variable was avoided. The research is developing new constructs and they represent a departure from previous research. They also represent organisation evaluations of the relationship. The definition of the constructs needs to be

continually in ones mind when reading this work. Bearden, Netemeyer and Mobley's(1993) handbook of scales and many articles were reviewed for measures. Bearden et al review articles on individual commitment to organisations and many inter-intrafirm issues. This research borrowed from them but found no one suitable instrument in previous research. Some measures and definitions of trust from previous research are compared to that of this research.

Sako(1992) viewed trust as being an uneasy mix between (a) a capital asset in which people invest for self interest and (b) a social norm. This broadly corresponds to the definition used in this research, (a) close to the idea of action trust and (b) similar to trusting belief. Norms were not measured in the research. Sako's measurement of trust comprises of three types: competence, which more readily approximates to the capital asset conceptualisation, goodwill trust, close to the idea of social norm, and contractual trust.

Sako(1992) measured contractual trust by assessing whether a partner adhered to specific written or oral agreement predicated on both trading partners upholding a universalistic ethical standard, namely that of keeping promises. Competence trust was measured through expectations of role competency. Competence trust is becoming a minimum requirement of all main supply relationships today. It has become a common standard on which every firm has to do well rather than an element that can discriminate between firms. Goodwill trust was defined as a willingness to do more than is formally expected and was measured by assessments of pledges to accede to a request from a trading partner or to an observed opportunity. Finally, contractual trust was measured by evaluating risks taken, for example, never starting production until a written purchase form is received. In Sako's measurement procedure, a firm would receive a high or low rating, which on aggregate would allow the classification of a

relationship as close or arm's length. Relational contracting was the basis for the development of measures and a focus on norms is therefore apparent.

Morgan and Hunt(1994) conceptualised trust as existing when one party has confidence in an exchange partner's reliability and integrity. Trust was measured on a seven element reflective scale. An example is as follows:

> *"In our relationship, my major supplier (anchors: strongly agree/strongly disagree - 7 point scale)*
> *1. ...cannot be trusted at times.*
> *2. ...can be counted on to do what is right.*
> *3. ...has high integrity".*

(Morgan and Hunt, 1994: p. 35)

Morgan and Hunt(1994) viewed trust as trusting belief. The measures that they used were very similar to one another. Respondents may find it difficult, in practice, to see the difference between a battery of words, which reflect different definitions of the same concept, rather than varying measures which may account for its elements.

Mohr and Spekman(1994) used the following measures for trust (strongly disagree/strongly agree scale):

> *"We trust that the manufacturer's decisions will be beneficial to our business. We feel that we do not get a fair deal from this manufacturer. This relationship is marked by a high degree of harmony".*

(Mohr and Spekman, 1994: p. 152)

They also use a covariate measure for strategic partnership called "closeness" of which measures are similar to the current research:

> *"In this relationship, the parties work together to solve problems. The manufacturer is flexible in response to requests we make. The manufacturer makes an effort to help us during emergencies. When an agreement is made, we can always rely on the manufacturer to fulfil all the requirements".*
>
> (Mohr and Spekman, 1994: p. 152)

Mohr and Speakman(1994) clearly concur with the measures grouping in this research.

The final literature example is Ganesan(1994) who saw trust as a willingness to rely on an exchange partner in whom one has confidence. An important aspect of this definition was the notion of trust as belief, a sentiment. The definition was operationalised using two components: creditability and benevolence. Both of these elements reflect norms of behaviour and are suitable when measuring individual trust. They come close to the ideas contained in both trusting belief and action. This is particularly apparent in the measures which are reproduced for retailer trust in a supplier:

Retailer trust in vendor (vendor creditability):
1. This resource's representative(rep.) has been frank in dealing with us.
2. Promises made by this resource's rep. have been reliable.
3. This resource's rep. is knowledgeable regarding his/her products.
4. This resource's rep. does not make false claims.
5. This resource's rep. is not open in dealing with us.

6. If problems such as shipment delays arise, the resource's rep. is honest about the problems.
7. This resource's rep. has problems answering our questions.

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

The problem with these measures is their individual rather than organisational assessment. They cross both areas of trusting belief and action and can be compared to the measurement used in this research.

In summary, the measures of trust were chosen for their ability to discriminate between relationship structures. They were developed to measure the structure of the relationship at an organisational level. Trusting belief and action must be combined with commitment to fully measure relationship strength.

Committed belief and action have been operationalised in many different ways in the literature. The measures are grouped and summarised below. Those used in this research are underlined.

Committed belief is usually measured on the following two dimensions:

a. Interest in making the relationship last/long term contracts/efforts at maintenance/durability.
b. Loyalty/repeat purchase continually.

The final statements used in the mail survey were:

a. "It is in our best interest that this relationship lasts".
b. "We feel a strong sense of loyalty to this relationship".

Committed action measures were grouped into the following categories:

a. Resource specific investments in people, assets, lasting procedure, training, management assistance.
b. Adaptation of product, process, production planning, stockholding, payment terms, organisational structure.

The measures of committed action used were global in the attitude question measuring relationship strength. The reliability of this type of question was validated by including two additional questions about the specific resource investments and adaptations made in the relationship. These are reported in the findings. The statements used in the Likert instrument measuring relationship strength were:

a. "We have made resource investments specific to this supply relationship".
b. "We have made a lot of adaptations to this relationship".

All the statements measuring the relationship strength construct have been presented. Relationship strength was developed to discriminate between the four relationship structures. Some examples of measures of commitment from the literature are provided.

Hardwick and Ford(1990) measured commitment, for standard products as: developed commitment, buyer loyalty, and commitment continuity; and for special product purchases as: buyer loyalty, and developed commitment.

Mohr and Spekman(1994) measured commitment through future orientation on a scale of strongly agree/strongly disagree using the following statements:

1. We'd like to discontinue carrying this manufacturer's product.
2. We are very committed to carrying this manufacturer's products.
3. We have a minimal commitment to this manufacturer."

Committed belief comes across in these measures but the use of the word "commitment" is tautologous and, as it is a concept, may vary in terms of its assessment by different respondents.

Shemwell, Cronin, and Bullard(1994) measured continuance commitment (committed belief) through scaled assessments of the following statements:

1. The probability that I will remain with my present (service provider type).
2. The chance that I will continue my relationship with my (service provider type).
3. I plan to continue my relationship with my (service provider type).

These authors were measuring service commitment and the difference between the various components is very little. This research narrowed down the range of items to be included in the evaluation of the key elements of commitment.

Dwyer, Schurr and Oh(1987) defined commitment as committed belief but suggested that this alone was not enough to distinguish between firms. They provided three measurable components of commitment: inputs, durability and consistency. The durability and consistency elements are close to the belief

measures chosen in this research and the input dimension reflects adaptations and investments.

Hallen, Johanson, and Seyed-Mohamed(1991) maintained that one important way of showing commitment was by adapting to the other party. Their measures of adaptation were - customer adaptation (product, process, production planning) and supplier adaptation (product, production process, stockholding). The relationship strength construct measures overall adaptation and investment in a relationship. However, the mail questionnaire of the current research includes separate measures of the specific dimensions of adaptation and investments made in the relationships. Hallen et Al's dimesnions were used as an input to the development of these measures.

In summary, the elements measuring commitment for this research and some examples from the literature have been presented to demonstrate the choices made, in the development of the measurement instrument, for the mail survey.

### 8.1.3.2 The performance construct

The performance construct was conceptualised as having behaviour and economic components arising directly from the various theoretical streams on interorganisational relationships. The measures of the construct are also grouped into behaviour and economic categories, on the basis of the theoretical school from which they originate.

The main measures and operationalisation of behavioural performance in the literature can be grouped into the following categories, with the measures chosen underlined:

a. Satisfaction - <u>happiness</u>/happiness with various aspects of the relationship.
b. Comparison of benefits(CL) - <u>overall benefits assessment</u>

c. Stability/flexibility.
d. Value added - involvement in design/joint projects/value difficult to quantify.
e. Product quality/lead times/speed of response to problems.
f. Conflict levels - hostility/disagreement levels.

The actual measures used in the research are underlined and the Likert scale statements will be presented. It was not possible to narrow the performance measures down to the same degree as for relationship strength. This is due to the fact that performance is not regularly measured, and when it is, tends to focus on a narrow range of measures, limited to one theoretical perspective. At the end of this research, the performance measures which best discriminate between relationship structures, and those that are most important for each structure, should be known. It is one of the main propositions of the research that bilateral firms perform better across all performance measures. The behavioural statements are (items marked (R) were reversed):

a. "We are happy with this relationship".

b. "The overall benefits of the relationship are better in comparison to other relationships we are in".

c.
"One of the main advantages of this relationship is its stability".
"One of the main advantages of this partnership is its flexibility".

d.
"This supplier is involved in the design of our products".
"We are constantly working on joint value added projects in the relationship".

"A lot of value that is difficult to quantify has been created in this relationship".

e.

"The quality of this supplier's product is higher than others".

"The lead times for this supplier are shorter than for others".

"The speed of response by this supplier is quicker than others".

f. "The level of conflict in this relationship is higher than others" (R).

The economic outcomes have been conceptualised in the literature and can be grouped into the following categories:

a. Relative dependence(CLalt) - switching/interdependence/replaceability.
b. Risks - risks in information transfer/sunk costs/risk of confidence abuse/loss of resource control/sharing of information risk.
c. Costs - cost of running/costs of transaction/cost of serving/coordination costs/costs of adjusting.
d. Productivity - cost sharing/cost avoidance/cost displacement.
e. Sales/profits - return on investment/ sales volume/profit/prices.

The actual measures used are presented. Measures reversed scaled are marked (R):

a.

"It would be difficult to switch to an alternative relationship".

"The more interdependent we are in this relationship the better".

b.

"This relationship makes it easy for an abuse of confidence to happen" (R).
"This relationship has meant that we have to share a lot of information and knowledge that we would normally resist" (R).

c. "The overall costs of running this relationship are lower in comparison to others".

d.

"The costs we have avoided in this relationship are less than in similar ones" (R).
"More costs are shared equally in this relationship when compared to others".

e.

"Return on investment(ROI) is higher in this relationship than in others".
"The bought volume in this relationship is higher when compared to others".
"The long term profitability of this relationship is higher in comparison to alternatives".
"The prices we pay in this relationship are lower than in comparable ones".

The behaviour and economic elements of performance were measured in a Likert scale format. The economic elements were measured in one question and the behaviour elements in two. It is worth re-emphasising that the measures of relationship performance of the major theoretical schools are represented. Every relationship structure has a chance to perform well on its group of measures. This research is suggesting that social exchange or bilateral structures will still outperform these structure on their measures. Some examples

of performance measures from the literature are described and act as a back-up to those chosen.

Thibaut and Kelly's(1959) concept of CL and CLalt began the theorisation that parties assess the overall costs and rewards(CL) from the total association and the level of outcomes available from alternatives(CLalt) outside the association. This conceptualisation was supported by Dwyer, Schurr and Oh(1987), and in Anderson and Narus(1990) operationalised as

> *"... a standard that represents the overall quality of outcomes (economic, social, technical) available to the firm from the best alternative exchange relationship...Outcomes given CL is defined as a firm's assessment of the results (rewards minus costs incurred) from a given working partnership in comparison with expectations based on present and past experience with similar firms' relationships".*
>
> (Anderson and Narus, 1990: pp. 43-44)

Anderson and Narus(1990) measured both these concepts. CLalt (measures relative dependence), for distributor firms, was computed as the difference between 1 and 2:

1. In your judgement, the total costs to your firm in switching to a competing manufacturer's product line would be___ (five point scale: prohibitive/negligible).

2. In your judgement the total cost to manufacturer X in replacing your firm with another distributor in your trade area would be ___(five point scale: prohibitive/negligible).

For CL, for the distributor firm, an example measure was:

The financial returns our firm gets from manufacturer X's product line are_____ and these are what we look for in distributing a product line (five point scale: greatly above/greatly below).

CLalt and CL come from the resource-dependency school. Each of them was measured in the current research, one as a behaviour measure and the other as an economic one.

Anderson and Narus(1990) also supported satisfaction as a measure and defined it as

> "Satisfaction has been defined as a positive affective state resulting from the appraisal of all aspects of a firm's working relationship with another firm".
>
> (Anderson and Narus, 1990: p. 45)

They also provided the following measure of satisfaction from the distributor's perspective - our firm's working relationship with manufacturer X has been an unhappy one (seven point scale: strongly agree/strongly disagree). The current research uses a happiness measures of satisfaction.

Mohr and Spekman(1994) measured interdependence on a scaled question (strongly agree/ strongly disagree) by asking firms - if they wanted to, could they switch to another manufacturer's product quite easily and if the manufacturer wanted to, could they easily switch to another reseller? The research reported in this thesis measures switching but also measures interdependence as a separate variable.

Sako(1992) focused on relational efficiency measured by transaction costs which included search, costs of drafting and

negotiating agreement, cost associated with managing the product flow (holding stock, transport, monitoring delivery and rescheduling, and monitoring quality), costs to service ongoing relationships (building up confidence or going to law), and costs of adjustment associated with changing business or technological conditions (included costs involved in changing product design, in re-negotiating prices and contractual terms, and in switching or not switching trading partner). This thesis measures many elements of Sako's conceptualisation but not always from a cost perspective, as businesses do not compute exact measures of cost for all of these items. Sako's measures can be compared to an industrial economic view of relationships.

Clemons and Row(1992) operationalised transactions risk as the cost associated with the exposure to being exploited in the relationship. Clemons, Reddi, and Row(1993) give an example of information asymmetry - a supplier who has agreed to provide a component of a certain quality may actually provide one of an inferior quality if the supplier knows that it is difficult for the firm to measure the quality of the delivered product. These types of agency risks are measured in the performance outcomes construct of this thesis.

Banerjee and Golhar(1993), in a study of EDI implementation in JIT and non-JIT firms, used the following factors to measure implementation success ( significant measures in brackets):

a. Customer related factors.
b. Communication-related factors (quick response and access to information, reduced clerical error, better communication with trading partner, speedier communication with partner, reduced paperwork).
c. Peer pressure-related factors.
d. Productivity-related factors (increased productivity, increase internal efficiency, assistance in accounting).

e. Cost-related factors (cost efficiency, reducing administrative cost, reducing manufacturing cost, reducing number of employees, reducing inventory costs).

Again, their measures fit within the economic and behaviour classification used in this research.

Mohr and Spekman(1994) measured dyadic sales volume of the referent manufacturer's product by using the following measures:

1. What is your approximate volume of sales of this manufacturer's product, on a monthly basis? (seven categories).

and by multiplying the result of the following two questions

2. What are the total monthly sales of your product dealership? (seven categories).
3. Of the total sales of your dealership, what percent comes from this manufacturer's product?

The current research used volume bought, and percentage of purchases accounted for by the supplier, as measures to capture these dimensions of performance.

Droge, Vickery, and Markland(1994) used the following as performance outcomes to measure competitive advantage: return on investment (ROI), ROI growth, market share, market share growth, return on sales (ROS), and ROS growth. This thesis has applied these types of measures to relationships.

Robicheaux and Coleman(1994), in outlining a political economy framework for relationships, delineated the economic performance outcomes of relationships as being

1. Efficiency -marketing expense ratio, inventory turnover, profit margin.
2. Effectiveness -sales growth, market share, product/service quality, customer satisfaction.
3. Adaptability.
4. Innovativeness.

They also defined polity performance (equivalent to behaviour performance) as being influence (control), commitment, satisfaction, and relationship quality [solidarity (trust), flexibility, continuity expectations, goal compatibility]. The conceptualisation in the current research concentrates on structure. Some of Robicheaux and Coleman's outcome variables are part of the ongoing relationship structure. Other of their dimensions have provided input to the performance measures developed, as they apply to a buyer's perspective of his/her relationship with a main supplier.

Kalwani and Narayandus(1995) used the relational performance measure of sales increases with the supplier over time, inventory holding and control costs (inventory turnover was defined as the net sales of a firm over its average beginning and ending inventory levels - any increase in the level of inventory turnover would reflect lower inventory holding and control costs), selling prices, and profitability(ROI). These authors focused solely on economic performance. This thesis views performance in a broader context.

Due to the fact that the the performance construct is measured in a multifaceted way, by combining various theoretical approaches to its definition and measurement, the end product is probably closer to the performance measures used in practice than has been the case in previous research. Clearly, a relationship is evaluated in many different ways, combining elements of behaviour and economic performance. On aggregate, the measures of the performance outcomes construct

provide a very reliable assessment of the outcomes of any given structure.

#### 8.1.3.3 Context and control: operationalisation and measures

The variables discussed in this section are used as a control for extraneous variables which might affect relationship structure. They all have been chosen from the literature for their hypothesised impact on relationships. This research is suggesting that their impact is not as strong as previously proposed, and that a relationship is more likely to develop from the management actions and policies of the partners.

Each variable will be presented with a citation from previous literature which considered its impact on a relationship. The measures and operationalisation are quite straightforward, as many of the variables are factual rather than attitudinal. The context and control variables are placed in four groups for presentation and analysis purposes: market related, supplier related, firm specific, and discriminating.

Group a - market related variables

The first group of measures concerns the market/industry in which a firm competes. Transaction cost economics (Williamson, 1979) sees uncertainty as a key variable in the determination of governance structure. Uncertainty can be classed as volatility, extent of competitive pressure and size of key competitor. These are measured in this research as follows:

a. Volatility of customer market (high/low, seven point scale).
b. Extent of competitive pressure (high/low, seven point scale).
c. Size of main competitor comparison (4 comparison possibilities).

Group b - supplier related factors

Factors inherent in the supplier firm are proposed to have main effects on the nature of the relationship. Porter and Millar(1985) and Jackson(1985) stressed the nature of the product as being central to the type of exchange. They proposed measures of information intensity and technical complexity. Turnbull and Valla(1986) measured the importance of the supplier to the buying firm. The proposition being that the more important the supplier, the closer the relationship. Krapfel, Salmond and Spekman(1991), in addition to the measures of the actual product, suggested a measure of the criticality of the product to the buying firm. This was measured on an overall basis with the area of the buyer's business where the product had a critical impact not asked. Frequency of purchase is central to the transaction cost economic framework (Williamson, 1979). Percentage of purchase and volume of purchase are measures typical of the resource-dependence school of thought (Frazier and Rody, 1991). Importance, criticality, frequency, percentage purchased, and volume purchased are all surrogate estimates of the size and power of the supplier. Finally, an attitudinal assessment of the competitive advantage of the supplying firm was sought using Porter's(1980) typology.

A summary of the measures of supplier related factors used in the mail questionnaire is as follows:

a. Information intensity of supplier's product (high/low, seven point scale).
b. Technical complexity of supplier's product (high/low, seven point scale).
c. Importance of supplier considering other supply relationships (important/not important, seven point scale).

d. Criticality of supplier's product (critical/not critical, seven point scale).
e. Frequency of purchase (4 options - daily, weekly, monthly, other).
f. Percentage of purchases of product category from supplier (3 options - 1-20%, 21-50%, greater than 50%).
g. Volume of total purchases represented by product category of supplier (3 options - 1-20%, 21-50%, greater than 50%).
h. Supplier competitive advantage in the opinion of buying firm (3 options - cost, differentiation, focus).

Group c - firm specific variables

Relationship structures are proposed to be time dependent. It takes time to develop commitment and trust. Time is seen as a critical factor by most theoretical schools of thought. Examples, from the literature, of authors who argued for the central nature of time are Easton and Araujo(1994) and Ganesan(1994). Also, control variables on the nature of the firm must take into account size. The larger the size of a buying firm the greater its potential power. Employee numbers were used as an estimate of its size. To ensure respondent accuracy, ownership and respondent details were sought as was the market served. They were all factually based questions and as such did not involve any difficulties in their operationalisation.

The firm specific factors used in the mail questionnaire can be summarised as follows:

a. Length of the relationship (4 options - 1-3 years, 4-6 years, 7-9 years, 10 years or more).
b. Number of employees - approximate number requested but to be placed into three groups on a post receipt basis.
c. Classification of served market (3 categories measured - consumer, industrial and other to be specified).

d. Ownership - companies were asked to specify the nationality of ownership of the company. The nationalities will be grouped on a post receipt basis.
e. Respondent profile - respondents were asked to state their position (job title) in their company. These will also be classified on a post questionnaire receipt basis.

All the control/context questions were left to the last section as it was feared companies might perceive them to be of a sensitive nature and might therefore, not answer them or bias their answers to the remaining questions. Great care was taken to avoid asking direct questions on sensitive company information. For example, actual monetary values were avoided. This was the case because the critical information was on the nature of the relationship, and given that this is fairly sensitive, every effort was made to avoid non-response. A final point to this section is that if control/context variables are found to have significant effects, the argument on relationship structure is considerably weakened and alternative explanations would have to be accepted.

Group d - discriminating variables

Communication and influence were included in the research as control variables that should vary with relationship structures. Communication is central to a social exchange view of relationships and high levels of communication would be found in firms with close relationships. Influence on the other hand is related to the economic schools of thought on relationships. Influence is particularly related to power. Measures of communication and influence have been incorporated at an overall level to check the validity of the research procedure and are only reported in the findings as a check on the clustering procedure. Churchill(1979) and Nunnally(1978) recommend the addition of such variables to improve validity. Studies which measure the effects of communication in

relationship include Anderson and Narus(1990); Boyle, Dwyer et al(1992) and influence in relationships, Keith, Jackson and Crosby(1990); Frazier(1983).

The measures of communication and influence included in the mail questionnaire are

a. "A high level of communication characterises this relationship" (measured on Likert scale).
b. "We have less influence over this supplier than others" (measured on Likert scale - results reversed).

The previous section has presented the measures of the research constructs and context and control variables. The next section presents the nature of the relationship between the main categories of measures.

### 8.1.4 The nature of the variables: independent and dependent

The final stage in the development of measures is to specify their relationship to each other. The conceptual framework of the research has suggested the linkages between the groups of variables.

The relationship strength construct represents the independent variable in the research. The level of strength in the relationships affects the outcomes of the interaction. Therefore, the performance variables are the dependent set. Relationship structures are hypothesised to have differential effects on performance. Performance may also reinforce the strength of the relationship and thus its structure. However, as outlined earlier, this research is assessing the content of a relationship strategy at a particular point in time. Organisations continually evaluate performance. The relationship structure impacts on this assessment each time it is made. Therefore, the

performance variables are dependent. They are also conceptualised as such in most management research (Venkatraman and Ramanujam,1986). Business performance is seen as a measure of organisational efficiency and effectiveness.

The type of research study being conducted was detailed in the previous chapter. Parasuraman(1991) provides three criteria for establishing causality. In other words, the classification of variables into an independent and dependent set.

They are

1. The temporal ordering of variables. This has been argued throughout. Relationship strength comes before performance at any point in time.

2. Evidence of association. All previous research on relationships uses this ordering. Performance comes after the particular relational activity being measured.

3. Control of other causal factors. The inclusion of control and context variables into the research allows us to meet this criteria.

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It was necessary to classify the variables into dependent and independent groups for analysis. Multivariate techniques will be used and require this classification when data is being processed by them. The causality of variables is difficult, if not impossible, to prove absolutely. The establishment of inference is the aim of this research.

## 8.2 Measurement instruments

Additional details on the measurement instrument used in the personal interviews and the mail survey are provided in this section. Much of the content of the instruments has been presented in previous sections.

### 8.2.1 Interview guide

The interview guide used for the qualitative research was a semi-structured instrument which acted as a guide for the discussion as well as the collection mechanism for factual data on the company and its relationship with its main supplier/buyer.

It was divided into three sections: relationship strength, performance, and control/context. Respondents were asked open ended questions about the concepts, in the first instance, followed by questions directed at specific dimensions of the main constructs. It was also possible to use visual aids, for example, the relationship structure matrix, in the interviews. This was produced at the end so as not to bias the interview.

### 8.2.2 The mail questionnaire

The content of the questionnaire was dictated by the conceptual framework and the research hypotheses. It was organised around three sections: section 1 on the measurement of the strength of the relationship, section 2 measured relational performance, and section 3 contained the control/context measures. The sequence, in which the questions were ordered, was logical and fully informed the respondent of the purpose of each question and section. The content and sequence of the

questions was aided by the professionally designed physical appearance of the instrument. The mail questionnaire is provided in the appendix. Questions were grouped under headings and use of Likert scales meant that there were only 12 questions spaced in six pages with each of the 3 sections starting on a new page. Each section was two pages long. The questionnaire was, therefore, easy to fill out and would take a relatively short time to complete. The instructions were given on the title page. Respondents were asked to focus on a main supply relationship, informed that they were contacted as a key informant, and told that the questionnaire was directed at senior managers only. Respondents only needed to tick answer boxes or circle an appropriate answer category that best represented their opinion. They were asked to only complete questions which they felt able to answer. Respondents were also given the opportunity of receiving a summary copy of the results. The content and sequence of the questions, and the physical appearance of the questionnaire, were designed to be user friendly.

The question types used have been outlined in previous sections. Likert scale measured relationship strength and performance with most of the context/control questions measured on 7 point scales. The reasons for choice of these question types has already been detailed. The concepts went through a development process which allowed them to be measured in this way and the type of analysis to be used required collection of metric data.

The wording of the questions has been outlined in preceding sections. This wording was developed to measure organisational attitudes toward its relationship with a main supplier. The wording of each statement was tested and analysed before being used in the final instrument. Clear, unambiguous wording was the goal in developing the questionnaire. In addition, measures that could cross check and

validate others were included in the research. The main concern with question wording was that the actual content was sensitive. Information was being sought about one company's relationship with another. This is a highly confidential area. The control/context questions were left to the end of the questionnaire to avoid non-response. Companies were also assured of confidentiality. This may encourage the disclosure of information and is important due to the sensitive nature of the content of the questionnaire.

The final element of questionnaire design and development was pilot testing. The next section discusses the impact of the pilot test on the development of the questionnaire.

## 8.3 Pilot testing

The pilot test of the research can be divided into two areas: the contribution of the qualitative research and the actual mail survey pilot test.

### 8.3.1 Qualitative contribution

The measures development section of this chapter gives an overview of the different roles played by the qualitative and quantitative research. Two elements of qualitative research had a major input in the pilot testing of the research framework and measurement instruments. The first element was the seven firm qualitative research and the second, the contribution of the 11 person expert review panel.

The qualitative research tested both the concepts and the measurement systems that underlie them. It enabled the researcher to judge which measures worked best. The findings chapters report the results of this part of the investigation. The

qualitative research did make an important contribution to the narrowing down or funnelling process of items to be measured. It also added validity to the overall research propositions and ideas. As already mentioned, a group of business people, the "sounding board" group, was used throughout the research process as an input into each stage of development.

Once the personal interviews were analysed, an initial mail measurement instrument was developed and tested, using personal interviews, with 6 academic and 5 industrial experts. They were all given the instrument in advance to review. This process also played a role in content validity. The discussion in this section will be limited to the input of this process to the development of the mail questionnaire. There are three main areas in which it made a contribution: the evaluation of the overall instrument, choice of supplier to focus question answering on, changes to covering letter and questionnaire.

All the reviewers felt that the instrument was well designed but the industrial reviewers felt that the instrument was too long. Interest in the topic and ease of answering the questions were the main reasons cited to explain the interest in design. Major work was undertaken on the reduction of the instrument to the size described in a previous section. The researcher had been very cautious and ended up asking many surplus questions and repeating questions adequately covered in alternatives. By revisiting the main hypotheses, the amount of data sought was reduced.

To aid in comparison, a strategy of asking the buyer to focus their answering on a supplier of a particular product category was used. This strategy was chosen to reduce the effects on the research of the supplier's industry conditions. The product categories approach was felt by the industrial reviewers to be far too narrow and they stressed that a lot of data on a very small supplier, in terms of volume and importance, would be

collected. It was decided to retain the product-focus choice but widen the products among which the supplier could be chosen. The main choices were in electronic components product categories.

In terms of actual question content, the review made substantial contributions. There were no major changes in the cover letter or title page of the questionnaire. A couple of examples will serve to illustrate the changes made to the instrument. In the relationship strength section of the questionnaire, the questions were asked in such a way that the buyer had to consider their perceptions of the relationship and their supplier's view of them. This two-way focus was removed to measure only the buyer's perceptions. Other changes were on statement wording, for example, two statements were double-barrelled, asking about more than one dimension of a variable. These were split into two questions. A rating question was altered to a top three as opposed to rank all items. Terms were changed like "copyable" to "transferable" and "feel" to "believe". In short, an opportunity was taken to re-examine every question for precision and necessity.

The review process was completed when a new mail questionnaire was developed and pilot tested using the post.

### 8.3.2 Testing the mail survey

The mail survey was pilot tested with a sample of buyers following a similar sample strategy for the main research except that smaller firms (fewer than 100 employees) were included. To avoid any bias on the main survey, the pilot was conducted on companies in Scotland, Northern Ireland, and Wales. A total of 70 firms was chosen on a random basis. The main findings are outlined, covering: response rates, sample and respondent strategy, changes in questionnaire.

19% of the sample returned the questionnaire. In addition, some more responded by saying that the supplier categories were not important to their business. Since the response rate was low, an analysis showed that smaller firms were not responding. The employee numbers of all the firms were on the research database. To analyse the reasons for non-response in more detail, a follow-up telephone interview was conducted with 12 firms, biased towards smaller firms. This brought the percentage of respondents up to 36%. The main reasons for non-response were time and resources among the smaller companies. They were interested in the research topic but had not really considered their supplier strategy in the detail they perceived to be sought by the research. The larger firms had no obvious pattern to non-response except company policy and "meant to do it". It was decided on the basis of this to exclude smaller companies from the main survey and limit the research to organisations with over 100 employees. Two small companies were included in the qualitative research but they were pursuing a buyer/supplier strategy that had a major input into their success. These companies were chosen because of their success but they indicate the potential for the research to be applied to smaller companies.

The response strategy, based on selecting a supplier from particular product categories, did not work. In addition to companies not buying any products in the product categories, they received many of the products from one supplier and ticked multiple boxes. The obvious implication being that the strategy was not working. The response strategy was changed to a main supplier. The strategy of choosing a supplier of a particular product may work in a larger market like the US where this approach was successfully used by Noordewier, John, and Nevin(1990), in a study of buyers of bearings. It did not work for this study. Also, a multiple-informant method was pursued to this point in the research process. There was a page of the questionnaire asking the respondent for names of

others in the company who would have a lot of information on the topic. This strategy was chosen to improve reliability. Inter-informant reliability would have been analysed. This section remained incomplete in all questionnaires. The initial reviewers also thought it would not work. It was dropped from the main study and other methods of ensuring reliability, outlined in the next section, were adopted. This may have been a rare test of this strategy in a mail study in the UK. It had been successfully applied in relationships studies by Anderson and Narus(1990) and Ganesan(1994) in the US. It did not work for this study.

Finally, other than those mentioned in previous paragraphs, there were few changes in the questionnaire as a result of the pilot. The space saved in not getting buyers to specify a a supplier's product category, and the deletion of the multiple-informant section, reduced the length of the questionnaire even further. The changes in the content of the measures of the research constructs were minor to reflect items that seemed unrelated to others and those that did not discriminate between firms. The sample was too small to make main changes on the basis of alpha reliability and factor validity tests. The overall validity and reliability tests to be used on the main mail survey will be outlined in the next section.

Overall, the methods of pilot testing proved vital. The final response rates and results of the questionnaire were enhanced because of the piloting.

## 8.4 Reliability and Validity

Research can be said to be reliable when its results are consistent. Reliable research reduces the possibility of non-systematic errors or random error being present in the research. Validity, on the other hand, is concerned with whether the research measures what it is supposed to measure. Valid research has little systematic error, or error that results from directional bias, in the conceptualisation, design, and measurement, of the research. Reliability, in essence, is important for generalisability of research findings. Validity is crucial in order to be able to draw conclusions about the issues that have been measured. Reliability and validity are examined in the context of this research in the proceeding sections.

### 8.4.1 Reliability methods and tests

Selltiz, Jahoda, Deutsch, and Cook(1966) outlined two approaches to reliability assessment: stability and equivalence. The current research uses their framework in organising this section.

Stability refers to the idea of test-retest and as such is not an option open to many researchers and often, to avoid measurement error, requires an experimental design. Stability is rarely achieved in one study. Normally, it is a conclusion reached over time by combining the results from many different studies. If a study is to mirror the "real world", its results should be consistent over time. It would be unusual for the results of a management study to remain static but the instruments on which the data is collected should produce consistent data when used in different settings. The qualitative

research used in this study produced similar results to the quantitative, which gives an indication of stability. In addition, the first and second waves of respondents to the research will be compared for reliability in the analysis of the sampling methodology. Previous research will also be used as a comparison benchmark in the conclusion and implication to the research in chapter 11, although the current research is expected to differ from previous research in the area. However, it is recognised that long term stability is an objective beyond the attainment possibility of any one piece of research.

Equivalence concerns whether different research instruments or investigators yield the same results. Since this research uses personal interviews and a mail survey, two sets of results and instruments can be compared. However, the main test of equivalence is split-half equivalence where items are divided into two and their scores compared. This is the closest most research can come to this type of reliability. Nunnally(1978) outlined a procedure for testing split half reliability which involved comparing scores by grouping odd and even numbered variables measuring a construct. The results of this analysis for the relationship strength construct are detailed in chapter 9.

Nunnally(1978) suggests that one of the most vital elements of reliability is the internal consistency of the measures. The best indicator of this type of reliability is coefficient alpha. Internal scale reliability will be the main form of statistical reliability assessment used in this research.

Internal consistency analysis will be used to determine the reliability of the measures of the various constructs underlying the research. The method of scale reliability assessment is Cronbach's(1951) alpha, and correlation where there are only two items measuring a variable. Cronbach's alpha is recommended for multi-item scales by Sekaran(1992). It

should be noted that the research constructs were developed to measure differences between firms. Items that measured the same aspect of a construct were removed. Therefore, scale reliability will be used to detect items that are totally unrelated to the others. Differences between the items are expected but where these differences arise from error they need to be identified and removed from further analysis. Scale reliability analysis helps in this process.

If the research hypotheses hold, it will be possible to use the reliability analysis to give an indication of which measures should be developed in further research. Items which are found to discriminate significantly between relational structures can be developed into multifaceted measures and items common across groups given a lower weighting. While reliability will be used to assess the presence of random error in the research, it will also make a contribution to further research.

Cronbach's alpha estimates the coefficient alpha and as such is the basic statistic in determining the reliability of a series of measures of a construct. A low coefficient alpha indicates that sample items are not good at capturing the construct which they are supposed to measure. Items can be deleted and the coefficient recalculated. Churchill(1979) suggests that when alpha is low, items should be eliminated with very low correlation. According to Nunnally(1978), an alpha level of 0.7 is acceptable, and is adequate in the context of this research, given that the measures were developed to capture differences between respondents. However, all the items used are related to the same construct even if they measure very divergent aspects of it.

### 8.4.2 Validity methods and tests

Selltiz, Jahoda, Deutsch, and Cook(1966) outlined two approaches to validity measurement: pragmatic and construct. Again, their framework is used to organise this section. The pragmatic validation looks to issues external to the construct to validate it while construct validation looks to the internal structure of the construct itself.

The pragmatic approach tries to assess the ability of a measurement instrument to predict some other behaviour or characteristic of an individual or organisation. Differences on current behaviour are referred to as concurrent validity and differences on future behaviour as predictive. This method requires an external criterion of success or the accurate prediction of some future event or behaviour. In essence, pragmatic validity looks "outside" the research for its validation. In this research, pragmatic validity is enhanced if the measures are found to divide firms into groups, on the basis of their relationships and if these groups then discriminate between different performance levels. Also, the inclusion of control and other independent measures can help to improve this type of validity. Overall, it must be stated that all of the analysis contributes to validity, not just the techniques mentioned in this section. In other words, if the research hypotheses hold, the model of the research has pragmatic validity: relationship structures can be measured and they vary on performance. The reader will be able to judge the pragmatic validity by the end of the research.

Construct validity assesses whether the measures are accurate reflections of the core construct being measured. When a researcher is examining construct validity it is appropriate to ask: (1) To what extent do the measures reflect the core

construct being measured? (2) Are the measurements obtained consistent with the type of behaviours expected?

The first element of construct validation would normally be achieved by using the measurement instrument in different contexts and comparing the results; an assessment of the convergent validity of the measurement instrument. To the extent that qualitative and quantitative research has been used with a similar set of questions, this type of validity is enhanced. The real test of this validation procedure will be in the future. Most construct validation is not achieved in any one study as the development of a construct is a complex process that starts with an expert assumption, that it has validity at the outset, which then can be disproved (Nunnally, 1978). The first question concerning construct validation will be examined through the use of factor analysis in this research. Factor analysis can play a role in all types of validity measurements (Nunnally, 1978). In terms of construct validation, it can help determine internal structures of sets of variables. However, the main role of factor analysis in this research will be to compare its results with the results of the cluster analysis, to help determine which variables work best in distinguishing among relational forms. Factor analysis will be returned to later in this section.

The second question, concerning consistency of measures with expected behaviour, is key to acceptable construct development. Are the results achieved the product of hypotheses produced using the construct? The construct is validated to the extent that it confirms hypotheses from its theorised set of relationships. The only method of measuring this is by setting standards of expected, against unexpected, behaviour. The construct is tested on the basis of its ability to discriminate. This research is all about discriminant validity. In common with other elements of validation, if the hypotheses are accepted, then construct validation is also improved. In

addition, multiple discriminant analysis will be used to test the hypothesised clusters for discriminant validity.

Selltiz et Al(1966) also mentioned validation that is self evident. This is usually referred to as content or "face" validity. Expert judgement will be used to assess the adequacy of the research model and instrument. Both academic and industrial reviewers were used to assess the mail questionnaire. The research model was reviewed by academics, and on each of the qualitative research interviews, respondents were asked to comment. In addition, two other processes are worth mentioning at this point. The research has evolved by using various business people as sounding boards for ideas, and in the initial stage of instrument design, a construct and measures citation index was created by abstracting construct definitions and measures from the literature and creating a reference database. All of these elements should lead to a high content validity in this research.

The main item to be reported on in the validity section of the findings is, therefore, factor analysis of the measures, to see if they are related to the constructs which they propose to measure, and to the results of the content validation of the overall research. The factor analysis is also linked to the tests of the hypotheses, in the main body of the findings, to develop avenues for future research.

The role of factor validation is to improve the validity of the measurement process. It is used in this research to validate the measures of the various constructs underlying the research. Exploratory factor analysis of this type improves construct validity, and is the main form of statistical validity assessment in this research. A note of the type of factor analysis to be used follows.

The procedures followed in developing and interpreting factor analysis are taken from those outlined by Tabachnick and Fidell(1983) and Kline(1994). Factor analysis assesses the underlying structure of the scales used. It is very helpful in this research as something is known about the conceptualised structure of the variables measured. When factor analysis is applied to validity testing an exploratory factor method is appropriate.

Factor validity confirms whether or not the theorised dimensions emerge. A high correlation (factor loading) between the variables leads to their being associated. The principal components method is used to extract factors which are rotated, to aid in interpretation, using the oblimin rotation method.

Non-orthogonal rotation (oblique) is used as it is assumed, as in most behavioural research, that factors do correlate with each other and are not completely orthogonal. When one considers concepts such as trust and commitment this seems perfectly sensible. In fact, Hair, Anderson, Tatham and Black(1995) stated

*"...if the ultimate goal of the factor analysis is to obtain several theoretically meaningful factors or constructs, an oblique solution is appropriate. The conclusion is reached because realistically, very few variables are uncorrelated, as in orthogonal rotation".*

(Hair et AL, 1995: p. 384)

Factor analysis is used to assess the validity of the scales and select variables for further analysis (help eliminate outliers) and it will contribute to the understanding of other

multivariate tests and to the testing of the conceptual hypotheses.

In conducting factor analysis, the number of cases (respondents) needs to exceed the minimum 100, set out by the authors referenced at the beginning of this note. As is common practice, the item values in the pattern matrix are those that will be analysed and presented to the reader. A loading in this matrix of .71 is excellent, .66 very good, and .55 good. Correlation is used to see which variables are suitable for factor analysis. Correlation of .3 or greater is significant as large sample sizes produce smaller correlation.

Due to the degree of difference expected in the measures chosen to represent different aspects of each construct, a 50% plus explanation of variance by the factors will be accepted as adequate. This is normal practice for social science research.

### 8.4.3 Build-up of evidence

The reliability and validity methods presented, and the use of Cronbach's alpha and factor analysis in particular, contribute to the analysis of all statistical tests in chapters 9 and 10. Without using them, many of the multivariate methods to be used could easily show spurious relationships. Therefore they will make a key contribution to further analyses. When using multivariate methods, a researcher needs to ensure a systematic validation procedure is pursued. Cronbach's alpha and factor analysis contribute to the build-up of evidence needed in this type of research to ensure confidence in the results.

Reliability and validity cannot be established by isolating them to one section of a thesis. Assessment of them must be made by an evaluation of the research process in total. Many sampling tests and analyses contribute to the reliability of the research. If the relationship taxonomy is found to distinguish

between the performance of firms then the validity of the research is enhanced. The research aims to be practical in its assessment of the significance of relationships between groups and other variables. It tries to avoid exaggerated claims and to be rigorous in its procedure so that by the end, the reader will be content that a high standard of validity and reliability has been followed throughout the research process.

## 8.5 Qualitative study analysis

The seven firm study, using the personal interview method of data collection, was analysed on an aggregate basis. Each of the main hypotheses, constructs and measures was analysed across all interviews. This method was necessary due to the huge amount of data.

The evaluation process was as follows.

Each interview was taped and a master copy typed version prepared. In some cases, more than one person was interviewed. The amount of data from each firm was on average 1 hour of taped material. During the interviews, the researcher took notes and afterwards, wrote up the interviewer's evaluation of what was said. This was done to avoid interview bias in evaluation and to record the insights gained about the research topic. Once this was complete, a manual analysis of the data using a procedure similar to the one outlined by Hart(1991) was used. This analysis was compared with the researcher's evaluations. Content analysis was also used for testing measures. It was not used for the rest of the analysis as the sections were pre-specified and thus the categories of analysis decided in advance, on the basis of the hypotheses.

When this was completed, further analysis of the interviews was necessary because of the mass of data. The content analysis of measures could be developed further with a process of grouping words and pieces of data. This was outside the capabilities of manual analysis so a computer package was used. The Nud*ist package for evaluating qualitative data was chosen and all the data inputted, that is the raw interview data and the interviewer's assessment. The main hypotheses findings did not change as the package was primarily used as an organisation framework to analyse patterns in the measures of the core variables. Its theory building capabilities were not utilised to its full potential. It did prove valuable in developing and testing the measures of the research constructs. The package made it possible to group related words, sentences and phrases across interviews. This allowed a much more in-depth analysis of the meaning behind individual measures and gave the research more confidence in its overall approach. The results of all the qualitative interviews are presented in chapter 10 of the findings.

## 8.6 Quantitative data analysis

This section details the main quantitative methods used in the analysis. It presents them and provides a justification for their use. The data was analysed using the Statistical Package for the Social Sciences (SPSS), windows version 6 (Norusis, 1993).

### 8.6.1 Types of relationships being examined

Hair, Anderson, Tatham, and Black(1995) outlined a procedure for selecting multivariate techniques. The first major data analysis decision was to decide on how to analyse the relationship strength construct. Four relationship structures were hypothesised. The technique chosen was cluster analysis

because this allows grouping of cases (respondents) on the basis of the underlying structure of the interrelationships among the variables that make up the relationship strength construct. This having been done, the next questions was how to use this data to evaluate the hypotheses on performance. The cluster groupings became non-metric data for the rest of the analysis. The procedure used for clustering is outlined in the next subsection.

All of the performance variables were metric and were capable of being tested in groups rather than singly. These dependent variables were to be predicted on the basis of the clusters which were non-metric. The technique for analysis, recommended in this case, is multivariate analysis of variance. This is also detailed in section 8.6.3. Other tests were conducted using single analysis of variance, that is where no relationships was presumed among the dependent variables. A few tests using the chi-square technique were appropriate for the control variables measured on a nominal scale. In that case, the two groups of variables to be analysed were nominal or categorical and this test was appropriate.

### 8.6.3 Cluster Analysis: procedure and validation

One of the main aims of the empirical side of this thesis is to test the taxonomy of relationship structures measured using the relationship strength construct. Cluster analysis helps determine whether they exist - the structure hypothesis, and sets them up to test their relationship to performance.

Aldenderfer and Blashfield's(1987) definition of cluster analysis is reproduced to explain the technique. These authors support the ability of cluster analysis to test a taxonomy or classification and to test predictions based on the resulting groups.

*"'Cluster analysis' is the generic name for a wide variety of procedures that can be used to create a classification. These procedures empirically form 'clusters' or groups of highly similar entities. More specifically, a clustering method is a multivariate statistical procedure that starts with a data set containing information about a sample of entities and attempts to reorganise these entities into relatively homogeneous groups".*

(Aldenderfer and Blashfield, 1987: p. 7)

This research uses the quick cluster method in SPSS to specify its clusters. This method uses the k-means algorithm. In this procedure, cases are assigned in turn to the nearest cluster centre. The location of the cluster is updated after each case is added. This method belongs to a group of cluster methods which differ from hierarchical procedures which give too much emphasis to early effects. A comprehensive presentation of the differences in these approaches can be found in Everrit(1974). The quick cluster is appropriate where there is an *a priori* expectation of group membership as is the case for this research. Hair et al(1995) confirm the increasing popularity of the non-hierarchical methods. The key to using any cluster method lies in validation.

The main problem with cluster analysis lies in its validation. It has no in-built process on which its validity can be assessed. It is simply a classification methodology. Cluster analysis produces a non-metric (nominal variable) variable set which the analyst must validate.

The validation procedure to be used in this research can be compared to Singh's(1990) method of developing clusters for a typology of consumer dissatisfaction response styles. He used

factor scores as an input into the k-means cluster method. This research departs from that input because of our *a priori* expectations of cluster membership but uses a similar process to validate. The validation procedure to be used is adapted from Saunders(1994) and Hair et al(1995).

Essentially, the process of validation is:

a. Cronbach's alpha on the relationship strength construct to identify its reliability combined with factor analysis to remove outliers which can skew cluster groupings.
b. Normalisation and *a priori* expectations. The research has been designed for cluster analysis and all scales were normalised as Likert scales in advance of data collection.
c. Number of clusters. This research expects four clusters and uses an alternative hierarchical cluster method to confirm whether they exist. It is proposed to use Ward's cluster analysis method and analyse it using the resultant dendrogram.
d. Split variables to confirm groupings. Different combinations of the variable groups will be used to test if a similar cluster grouping is produced.
e. External validation 1. The clusters are validated if they discriminate between the performance measures that are used in the research. They are not used in the cluster analysis and therefore, act as an external control on cluster validity. If the performance hypotheses of the research hold then the clusters are also shown to have predictive validity. The results of this validation procedure are presented in the sections on performance hypotheses tests.
f. External validation 2. External validation using discriminant analysis on variables known to differ between the groups. Communication in the relationship and influence over the supplier firm were included in the research to act as a test of cluster membership or the ability of the relationship strength construct to discriminant between relational forms. These variables have been shown to differ across relationship

structures and should therefore show significant difference across groups. The discriminant analysis procedure followed uses the methodology outlined by Hair et al(1995). Since the two variables will be included together, a multiple discriminant analysis will be used.

The multiple discriminant analysis is tested for significance. The tests for significance of the analysis that is reported are threefold. The Wilks' Lambda significance of each variable, as it is entered into the analysis, is given. This provides the information about their predictive power. Each variable is expected to be significant. Secondly, the predictive power of the explanations (the discriminant functions) is assessed for significance based on the Chi-square test of significance. Finally, the predictive accuracy of the classification (explanation) by the two variables is assessed. The percentage of cases correctly classified (the hit ratio) is tested on the basis of the maximum and proportional chance criteria, and the Press's Q statistic to assess its true effectiveness. If it exceeds these values, the clusters can be accepted as having external validity.

Cluster analysis is central to the testing of the research taxonomy of relationship structures. When validated it can prove to be a powerful technique. The findings should validate it as a research methodology for this research, that is if differences are found among the groups, it adds validity to the initial classification.

### 8.6.3 Testing the relationship between relationship structure and performance: Multivariate analysis of variance (Manova) and other tests.

There are two main types of analysis of the variation in cluster membership and performance. The first examines the variation from the perspective of the performance variables, and the second, the variation across the cluster groups.

1. Significance of variation in performance

Multivariate analysis of variance (Manova) is used to assess whether an overall difference is found between groups (clusters) on all the dependent variables (performance measures). This enables this research to determine if cluster membership and performance vary. Univariate f tests are also used to assess whether each performance variable is significantly different across the clusters. Each of the performance variables' individual contribution to the overall explanation of the difference found, will be examined through a stepdown procedure. These procedures will allow the researcher to test the hypothesis that performance and cluster membership vary and allow the researcher to determine which performance variables contribute most to this explanation.

One of the main propositions of the research is that relationship structures vary in performance. This cannot be assessed variable by variable as its sum is greater than its parts, which makes manova a necessity in this research. Some of its characteristics will be described at the end of this section. The next paragraph outlines the overall process in more detail.

Manova is used to test the relationship between cluster membership and the behavioural and economic performance

categories. A univariate f test is then used to assess the significance of each individual performance variable. An assessment is also made of the dependent variables to determine which of them contributes to the overall differences, if any, indicated by the statistical test. This research uses a stepdown analysis (Roy-Bargman f test) to assess the individual differences in the dependent variables. In this way, a control for intercorrelations among the performance variables is put in place. If each variable contributes unique variance to the explanation then it shows significance in this test. If it does not, its effect is likely to be included in its correlation with earlier variables. All of these approaches test the hypotheses on whether relational structures vary on overall and individual performance outcomes.

A detailed presentation of the Manova procedure can be found in Hair et Al(1995) and technical points relevant to its use in the context of this research are outlined in this paragraph. Manova is sensitive to outliers, as are other of the multivariate tests. These are eliminated through the reliability and factor analysis tests. When using Manova, it is important to test for significance. SPSS gives an automatic significance test of the test statistics (f test in this case) for the univariate performance and the multivariate individual t tests of between cluster group and performance difference. For the overall Manova significance level, this research uses a range of significance tests but it is proposed to report in the findings on Wilks' Lambda, as it is the most popular method and the one most immune to violations of the assumptions behind Manova, while retaining its statistical power. If significance is found, then the null hypothesis, that there is no difference between cluster membership and the performance variables, can be rejected.

2. Individual cluster membership and performance variation.

Multivariate individual t tests are used to identify differences between the clusters on each performance variable using bilateral relationships as the comparison group. The results of these tests combined with *post hoc* tests and cross tabulations are used to discuss the relationship between relationship structures and each individual performance measure. This analysis enables the research to test hypothesis on the performance of each cluster group and the ordering of any variation found.

Multivariate individual t tests are used to assess the differences between groups (clusters) and individual performance measures. For example, relationship structures may be found to be significantly different from the variables that represent behavioural performance and each of these variables found to contribute unique variation to the explanation but the difference between groups on each of the variables needs to be analysed. However, after the set of tests outlined in 1, this issue, about the exact direction of the relationship between each cluster and dependent variable, still remained unanswered.

Cross tabulations and *post hoc* statistical methods are also used to achieve this latter objective. The Scheffe test and multiple range test, based on the least squares difference, are used as *post hoc* statistical methodologies, and to confirm any differences found, the result is compared to the cross tabulations of the dependent variable and the clusters groups. Combining this with the t test's score and sign, the researcher knows, for example, that, when asked about satisfaction with the relationship, bilateral firms were in stronger agreement than discrete firms and discrete firms registered a higher negative satisfaction. *Post hoc* methods, on their own, cannot

be relied on due to the number of groups in the test and the sample size in each group. Practical as well as statistical significance must be established.

This section has outlined the methods of analysis of the research hypotheses. The results of these tests are presented in chapter 10 of the findings. To draw the two chapters on methodology to a close, it is proposed to compare the research methodology of this thesis with that of a number of other studies in the area.

## 8.7 Comparing relationship studies' methodologies to the current research

In this section, a few previous studies have been chosen and their methodology compared to the one in this research Many authors have been outlined in the two chapters on methodology to support and justify the process chosen. An extensive and rigorous approach has been followed. However, to draw the discussion on methodology to a close, a comparison is appropriate. Some of the main authors that have studied industrial relationships are reviewed.

The Industrial Marketing and Purchasing's methodology is detailed in Hakannson(1982). Their work focuses on the interaction concept and has been developed through the case method with both relational parties. Their data base of cases covers many European countries and is very extensive. This research developed from their approach but is a progression to a more quantitative methodology and is making an assessment of the content of a relationship strategy rather than the process orientation of the IMP group of researchers.

Anderson and Narus(1990) tested a working partner model using distributor firms and manufacturing firms in a multiple informant methodology with an end total of 1,363 informants. A mail study was utilised. The multiple informant method was not successful in the pilot of this research. They used a modelling procedure for the analysis. The main issue in their study was the fact that the two perspectives were different and the data had to be presented separately. Manufacturing and distributor firms did not view the relationship similarly. The working partner model was measuring process rather than structural variables. Relationship structures were not the subject of comparison. Supplier and buyer firms did not perceive relationships in a similar way and comparison as an analytical technique must be used with caution. The mail survey in the current research uses only the buyer's perspective.

A similar methodology to Anderson and Narus' was used by Ganesan(1994) in a study of long term orientation of retail buyers and suppliers. Informing the retail supplier that their name was obtained from the buyer might have impacted on the results. The findings were also different across the two groups. Only 5 retail organisations and 52 supplier companies were included, although a multiple informant approach was employed. The main problem with these types of studies is the effects of measurement error. Without some form of experimental design with control groups, the question must be asked whether the effect was caused by the method of selection of supply/buyer by their partner and the subsequent knowledge of same affecting supplier/buyer response. Both those studies were US based. A similar study was conducted in the UK by Sako(1992) using 3 customer companies and 36 supplier companies. Only single informants were used for the latter and case analysis for the former. Again, this study represents a much wider empirical test of relationship structure.

The final group that one can use for comparison is the studies which use a similar approach to the one taken here. It is by far the most common empirical approach. Example studies include: Noordewier and Nevin(1990) testing a transaction cost explanation; Frazier and Rody(1991) on power use; and Morgan and Hunt's(1994) assessment of the trust-commitment theory of relationship marketing. None of the studies uses a multiple paradigm perspective, such as is used in this research, nor fully tests assumptions of social exchange. Neither do they measure performance in such a comprehensive way. This is the first study of its kind that tests the relationships between structure and performance and that encompasses all the major theoretical approaches as alternative explanations. However, these groups of studies did use a mail method and did get respondents to focus on a main supplier/supplier, albeit as already outlined, in the case of Noordewier and Nevin(1990), this supplier focus was on the basis of a product they supplied. None of the data analysis procedures are similar: cluster analysis has not been used, as no previous study has attempted to empirically classify relationships into the four groups of this research.

To summarise, this research does not aim to make a methodology contribution. It is concerned with theory building and normative explanations. A sample of previous studies shows that each of them has particular strengths and weaknesses. The procedures followed in this research are equally rigorous and in some cases, better than prior investigation. Most of the methodology issues explored in previous research also have been analysed in this thesis and the methods chosen were best fitted to the research objectives and were workable in practice.

## 8.8 Conclusion

This chapter aimed to present the decisions made on the elements of research design not included in the preceding chapter. The main decision areas were: the measurement instruments, reliability and validity and data analysis.

The measurement instruments have been developed through an extensive validation process. Their theoretical content was presented through an analysis of the construct measurement development process outlined in Churchill(1979). They have been also subject to pilot testing. The mail survey passed through many filters of piloting and was also piloted by post. The research can be confident of its ability to measure what it is supposed to measure.

The capabilities of the mail questionnaire and the research in general will also be subjected to a reliability and validity procedure. The results of these tests are reported in the next chapter, as are the tests of the sampling methods. The sampling tests have been outlined in the first chapter on methodology. Reliability and validity are not linked to any one section of a piece of research and cut across all areas. The scientific method must be applied to every aspect of a research endeavour. It is the process which points a researcher to the "right" questions to ask about his/her research. The thesis follows a strict methodology process. This means it is reliable and valid but does not mean that "quality" answers have been found. They become apparent from the results of the data analysis.

The data analysis has been structured around the research framework and hypotheses detailed in chapter 6. Its results

are presented in the main chapter on findings, chapter 10. Cluster analysis and multivariate analysis of variance are the main hypothesis testing procedures employed. They are validated and their significance determined. Their usage reflects the research questions. The iterative nature of the research process is brought out as data analysis brings one back to the objectives and measurement instrument. Has the data, needed to analyse the hypotheses, been gathered? This can be answered in the affirmative for this research.

A final conclusion to this chapter is that this research, while trying to add to knowledge in the area of relationships, does not aim to make any methodological contributions apart from following a rigorous scientific approach in both its qualitative and quantitative methods. This has been shown to be the case in the two chapters on methodology. The final comparison to previous research methodologies reinforces this point. The findings can now be analysed with confidence.

# Chapter 9 - Managing Buyer/Supplier Relationships: Reliability and Validity

## 9.0 Introduction

This chapter is the first of two that present the findings of the research. It is essentially an analysis of the reliability and validity of the sample and data structure. Reliability and validity are critical to every research project. They provide an indication of the quality of the data collected in terms of its internal consistency and its representativeness. They also contribute to the understanding and interpretation of the hypotheses tests results detailed in the next chapter.

The first part of the chapter presents the results of the analysis of the sample which is shown to be free of measurable error. The two main components of analysis are non-response strategies and non-response bias. The latter will rely heavily on Armstrong and Overton's(1977) procedure for estimation non-response bias. The former depends on comparisons to previous research and guidelines for industrial mail surveys.

The second part of this chapter reviews the internal consistency of the data. The accuracy of the definitions of constructs and their measures is assessed. The results of split half analysis and Cronbach's alpha are the main measures of reliability. Factor analysis is used to test the validity of the constructs and provide the research with a base on which to develop and interpret the findings on the hypotheses. Other aspects of validity and reliability are contained in chapter 8.

## 9.1 Sampling distribution analysis

The following subsections examine the sampling distribution covering the test areas that were outlined in chapter 7, section 9. Response rates, non-response and the variability of the sample are analysed.

### 9.1.1 response rates

The response rates to the mail survey and pattern of response are detailed in table 9.0. The response rate for the study was 47% after one follow-up mailing.

Table 9.0 shows the response rates and pattern of response to the mail study. As table 9.0 confirms, the mail survey achieved a response rate of 47% and a usable response rate of 42.4%. This compares favourably with previous studies in this area. The "n" value will be used to refer to the number of questionnaires used in the analysis by the authors cited. Noordewier and Nevin(1990), in a buyer focused relationship study, gained an overall 31% (usable 29% with n=140) response rate which was produced after an initial telephone call to get a key informant. Frazier and Rody's(1991) study on power achieved a 36% response rate (usable 33% with n=300). Evans and Laskin(1994), in a study of health industry professionals, had a usable response rate of 13.6% (n=276) across four industry groups having a sample size of approximately 500 in each group. They used no follow-up in their study of the relationship marketing process. Mohr and Spekman(1994) gained a 25% (usable 22%, n=124) overall response rate by using a sample size and follow-up strategy similar to that of this research, in a study of partnership success. Joseph, Gardner, Thach and Vernon(1995), in a study on industrial

distributors' partner arrangements with their supplier, achieved a response rate of 22% (n=221) using a post card follow-up three weeks after the initial mailing. Kumar, Scheer and Steenkemp(1995: a), in a study of auto dealers' perceptions about the fairness of their suppliers, gained a response rate of 19% in the Dutch survey (usable 18%, n=289) and 28% in the US study (usable 25%, n=417). There was a follow-up in the US study and none in the Dutch study. The research reported in this thesis achieved a much higher response rate and usable response rate than previous studies in the area.

Jobber and O'Reilly(1996) suggest an average follow-up percentage of 12% for industrial mail surveys. The rate in this study was 17.2%. An academic researcher's rule of thumb would indicate a 50% reduction in the number of responses between the first and second mailing. This percentage was exceeded in this research giving confidence in the follow-up pattern. The higher relative percentage of unusable responses received in the follow-up is probably due to the second cover letter's invitation to non-respondents to give reasons for non-response.

In addition, industrial experts felt that the response rate would be low because of the sector being studied. They felt it was being over targeted. Obviously, a concern for academic research, or some other reason, meant that this was not a problem in practice.

This research did not use any other follow-up methodology beyond a second mailing. A telephone follow-up would probably have further increased the response. This would have involved telephoning over 260 companies which would have been resource prohibitive and possibly would not have changed the pattern of response. Many non-response bias estimation strategies will be explored in this section. Also, a telephone follow-up was used after the pilot mail survey which indicated

no significant non-respondent differences. This researcher was satisfied with the response rates, especially when compared to other studies and to that which could be expected.

## Table 9.0
## Response rates and Pattern

1. First wave (1st four week period):

| | | | |
|---|---|---|---|
| Total number returned | | | 149 |
| Sample size | 500 | | |
| % Returned | | | 29.8% |
| Unusable responses | 11 | | |
| Unusable % | 2.2% | | |
| Usable response % | | 27.6% | |

2. Second wave (2nd four week period):

| | | | |
|---|---|---|---|
| Total number returned | | | 86 |
| % of total sample | | | 17.2% |
| Unusable responses | 12 | | |
| Unusable % | 2.4% | | |
| Usable response % | | 14.8% | |

1 + 2 Overall response pattern:

| | | | |
|---|---|---|---|
| Overall response number | | | 235 |
| Overall % response | | | 47% |
| Unusable response % | 4.6% | | |
| Usable response % | 42.4% | | |
| Total usable questionnaires (n) | 212 | | |
| Total questionnaires used in analysis | 200 | | |
| Responses received post data analysis - not included | 12 | | |

### 9.1.2 Non-response and analysis

The strategies suggested in section 7.9.7 are examined to assess the non-response to the study. This section presents the results of the application of the strategies for reducing non-response, and the next one, non-response bias. These sections can be taken together so the reader can assess whether non-response is a significant issue in this research. The three strategies for reducing non-response are assessed in detail.

1. Follow-up.

After four weeks a new questionnaire was sent to the non-respondents. The results of this mailing strategy are given in table 9.0. An overall survey response rate of 47% was achieved which compares favourably to what can be expected in industrial mail surveys and to that which has been obtained in previous research.

2. Analysis of unusable responses.

A phone round to the non-respondents was used after the mail pilot to assess whether non-respondents were different to those who responded. No significant differences were found. In the main survey, the questionnaire was remailed after four weeks to the non-respondents. Also, in the second wave of the study, respondents were invited to give reasons as to why they did not respond. The unusable response analysis results are presented in table 9.1.

The overall unusable response rate in the mail study was 4.6%. The most frequent non-response reason was company policy. This is a standard many companies use in reply to any study. The unusable responses would have been lower if the research had not specifically targeted the non-respondents in the second

mailing. There were other companies who responded in equivalent SIC codes and of equal company size to the unusable group reported in table 9.1. No variation can be detected between this group and those who responded. Further, in a follow-up telephone survey of the mail pilot, time, resources, and company policy were the main reasons given for non-response. In addition, all questionnaires that respondents attempted to complete were usable and an analysis of item non-response follows.

**Table 9.1 Unusable responses analysis**

| Reasons: | Number |
|---|---|
| Claimed was returned | 1 |
| Returned no reason | 1 |
| Business closed/moved | 4 |
| Complexity | 1 |
| Against co. policy | 7 |
| Time | 2 |
| No appropriate supplier | 2 |
| Size | 1 |
| Lack of resources | 1 |
| Actual supplier | 1 |
| In process of completion | 2 |
| Total | 23 |

3. Item non-response.

Non response, to items in the questionnaire, was assessed for patterns. Every effort has been made in questionnaire design to reduce this, as it could be a potential problem given the sensitive nature of the topic. No questionnaire was rejected on the basis of item non-response. Item non-response was virtually non-existent and not significant given the size and sensitivity of the study. However, the number of respondents used in the statistical tests will be reported when they do not add up to the total number included in the analysis.

Section a of the questionnaire, which measured the relationship strength construct, had no item non-response. Due to this, all questionnaires were included in the analysis, as one of the key objectives of the research was to test the relationship taxonomy.

Three respondents accounted for the majority of non-response in section b of the questionnaire, on relational performance. In addition to these, a small number of items had a maximum of 1-2 non-responses, which appeared at random. In a few cases, these respondents placed a question mark opposite the item but in most cases, it looked as though they had just missed an item. This seems to be the case as some of them attached letters to the questionnaire expressing interest in the research.
Therefore, only the three respondents who did not respond to this section are reported on. The first of these non-respondents answered half of the performance questions. It appeared that they had unstapled the questionnaire and happened to miss half of section b. The other two respondents completed none of the performance questions. All three respondents filled in section c and did not differ on a manual analysis of the first 10 respondents, and the 5 respondents preceding and 5 after their

response, on any of the control variables. Thus, they were included in the analysis.

In section c, only one respondent answered no control questions. Otherwise a random pattern of a maximum 2-3 item non-responses emerged. There was only one item with a larger number. The response to the item on size of competitor had a non-response of 8. These non-respondents exhibited no pattern as they filled out the rest of the questionnaire. Again their responses were compared manually to a range of other respondents.

The item non-response exhibited no pattern and was not high enough to do statistical analysis. The SPSS analysis excludes respondents by item if not answered. The low item non-response rate also reflects well on the questionnaire design.

### 9.1.3 Variability within sample

The variability within the sample is analysed using the five strategies presented in chapter 7, section 9.6. When it is combined with the previous section, a total picture emerges which shows the adequacy of the sampling procedures used in this research. The analysis in this section relies on Armstrong and Overton's(1977) procedure for analysis of non-response bias in mail surveys, as outlined. The five test results are examined.

The reader is alerted to the fact that there are no specific confidence and precision analyses presented, as the standard error for each item was low due to the sample size. However, probability analysis (p values) will be detailed for tests as appropriate, using the p values generated by SPSS. This gives the reader the significance levels and error probability. The five tests of sample variability are:

1. Split-half difference in means. The first 50% of respondents are compared to the second 50%.

2. SIC difference. The three SIC codes are compared for differences in response, and to see if their response rates approximated with their numbers in the sample.

3. Comparison with known population values. The sample respondents are compared to manufacturing firms in general using the ownership and employee number variables.

4. Subjectivity analysis. Are those that responded more interested than non-respondents and therefore contributing to bias?

5. Extrapolation of results. The successive waves of respondents are compared with each other, in the case of this research, the first mailing with the second. Also, time trends are analysed. The first week of responses is compared to the second week of the first wave, and these are compared to the first and second weeks of the second mailing.

1. The respondents were divided into two equal groups and tested using the length of relationship variable. The t test, at the 95% confidence level, found no difference among the two groups. The Levene test for equality of variance had an F ratio of .52 with a p value of .473 confirming this result. The mean relationship length for the first 100 respondents was 2.8 years and for the second group, 2.6 years. This was not a significant difference and does suggest that there is no difference between the first and later groups of respondents.

2. The three SIC categories were tested for differences in the length of their relationships. A one-way anova was appropriate, with the length of the relationship being the dependent variable. The calculated f ratio was 1.92 and the f

prob .15 showing no significant difference in the length of the relationship between SIC codes. The Scheffe post hoc test confirmed this result at the .05 level. It measured the difference between each pair of variables as an anova analysis only reports on overall difference. A difference in any two groups could therefore be masked by this procedure.

The actual SIC response of the 200 firms included in the analysis was 43% in codes 34/35 and 57% from 36. Both groups had a 50-50 selection and therefore, more firms responded from the 36 SIC code. This 7% difference (1.5% of the total sample) may be explained by a variety of factors such as survey fatigue in the other SIC codes especially, computers and machine tools. However, it is reasonable to assume that the response pattern is random.

3. The sample respondents can be compared to known population values.

Firstly, there was no difference between employee size of the firms who responded, and those who did not, on the basis of the research database's employment figures. The database used in the sampling procedure included employee numbers for all the firms. Also, a question was asked about numbers of employees in the measurement instrument.

Secondly, there was no difference within the four digit SIC codes responding and not responding beyond the overall sample pattern outlined in 2 above. The 34/35/36 codes are not masking significant differences within each of their categories.

Thirdly, as outlined earlier, the research database compares in magnitude to the Central Statistics Office's(1995) figures on number of firms in the employee sizebands in the study's industrial categories.

Finally, using figures produced by the Scottish Office(1994), based on 1990 data, the ownership patterns of the responding firms would appear to match the profile of UK manufacturing firms in general. Since only 60% of the respondent companies were owned by UK companies, one would expect them to be different from the average UK ownership of 79%. However, the classification which corresponds to the majority of firms in this study, namely, electrical and industrial engineering, is only 57% UK owned. Therefore, the profile would appear to match. It is not possible to make an exact comparison as the CSO's figures are not broken down by SIC codes.

The analysis of known values, to the extent that it is possible, would appear to reduce the problem of non-response bias and contribute to the reliability of the study.

4. Armstrong and Overton(1977) found no significant difference between their interested judges and the estimates of others in terms of reliability. Judging interest is a subjective estimate of non-response and therefore, not the most scientific, and they recommend other approaches. Later in the findings, it will be demonstrated that this research found significant differences in relationship structures between firms. Firms that are not very committed to relationships still filled out the questionnaire. The other tests in this section show no significant differences within the sample and between the sample and known population values. The interest hypothesis would seem to be rejected. Furthermore, in a 'phone interview follow-up of the mail pilot study, no differences were found between respondents and non-respondents. Given the sample size, the probability of the interest hypothesis holding is much reduced. It would appear that managers are interested in the research but may not have the time and resources to participate in it. An effort hypothesis might be more appropriate in research using managers! By definition managers are interested in

information that may help them improve their methods. Lack of time and resources may be the prohibitive factor.

5. The first wave of respondents (n=138) was compared with the second wave (n=62). Since there are two groups, a t test was used taking the length of the relationship as the test variable. No significant difference was found at the 95% confidence level. The Levene test of equality of variance values was f=.03 and p=.86 which confirms this result. This evidence that early and late respondents do not differ increases the reliability of the study.

Time of response was divided into four groups. Those who responded in the first and second weeks of the first mailing and those who responded in the first and second weeks of the second wave with the respective numbers(n) of 72, 32, 31, and 22. An anova test showed no significant difference (F ratio .61 and F prob .61) between the time of response and relationship length, with the Scheffe test confirming this at the .05 level.

The five tests combined allow the conclusion to be drawn that non-response bias is not a major problem for this research. If these findings are added to the analysis of the non-response strategies analysed in the previous section, the confidence in the research is further increased.

### 9.1.4 Confidence and precision of sample

Analysis of confidence and precision of all the means in this study is not reported due to the low value of the standard error in all tests. Confidence is high because of the large sample size. An early word of caution to the reader is that it is difficult to accept null hypotheses at the p=.10 level. This means that a 90% significance should not lead automatically to a rejection of the null hypothesis. All power values of less than or equal to .1 must be analysed for significance. Normally we would only

consider p less than or equal to .05 as significant. This point is probably more important for the multivariate tests (Hair et Al, 1995). One has to be very careful not to accept a null hypothesis which may be false when using multivariate tests.

## 9.2 Sampling Description

The ownership, employee number, respondent profile and industry type of the firms who responded to the study are detailed in this section.

### 9.2.1 Ownership and employee number

The ownership of the firms that responded to the study were 60% UK, 20% North American, 12% European, and 8% Asian. Given that the SIC categories included in the sample would include a high number of foreign firms, this percentage was expected. It compares favourably with the profile of UK manufacturing firm's ownership as detailed in the previous section.

The employee numbers were placed into three groups after the receipt of the questionnaires: group 1 contained 33% of the respondent firms with employee sizes of between 100 and 240, group 2, 33% of the firms with employee sizes of between 250 and 400, and group 3 had greater than 400 employees and 34% of the respondents. The employee numbers of the firms which did respond do not differ to the non-respondents whose employee numbers are stored on the research database. The employee numbers reported by the respondents were also close to the numbers stored on the research database, a fact which increases the reliability of the respondent's reports.

No tests using these values are reported at this stage as the aim is to give the reader an appreciation of the respondent firms' profile.

### 9.2.2 Respondent profile

The respondents were asked to list their job titles in the questionnaire. This was for two reasons: one to test the key informant method and the other to see if differences emerge between the respondents on the basis of their position.

The Managing Director(MD) was used as a point of entry to each firm. S/he choose the informant most suitable to respond. The actual profile of respondents was 19% MD or higher, 62% procurement manager/director or equivalent, 13% manufacturing manager or equivalent, and 6% other function head, for example, finance director.

All of these groups would be competent to respond to the study. In 80% of the cases, the MD passed on the questionnaire to another person. 62% of those who responded were at procurement manager/director level. It would appear that the use of an MD as a survey entry point to an organisation can be a successful strategy in the UK.

Are there differences in responses between the respondent groups? This was tested by comparing the respondent categories to various relationship and performance variables through the use of an anova test. No significant difference was found between any of the respondent groups by either the anova or the Scheffe test at the 95% level on the range of variables used. This offers support to the research methodology chosen and adds to the reliability of the research.

The key informant methodology outlined in chapter 7 was succesful. Campbell's(1955) and John and Reve's(1982) criteria

for choosing key informants was supported in this study. In addition, the use of the Managing Director as an entry point into an organisation was found to yield high response rates.

### 9.2.3 Industry type

The database was selected to represent manufacturing firms. An analysis of their line of business, contained on the sampling database, confirmed this. In the questionnaire, 75% of firms confirmed that they served only industrial markets. The other 25% sold to industrial markets and to distributors/retailers. Companies mentioned specific business to business customer markets which included defence, government, automotive, telecommunications, aerospace, utilities, retail, healthcare, leisure, retail and transport. This diversity of market served by the respondent firms adds to the generalisability of the findings.

The reported versus database information on the industry type were similar thus validating the procedures and confirming the business to business or industrial nature of the study: firms included in the study sold primarily to other firms.

## 9.3 Reliability analysis

The main forms of reliability analysis have been outlined in chapter 8. Long term stability, equivalence, and internal consistency have been discussed. This section analyses reliability results from two tests that were outlined in chapter 8: split half reliability and Cronbach's alpha measure of internal consistency. The results of this analysis confirms that the research is free of random measurement error.

### 9.3.1 Split half reliability

A split half reliability test was conducted for the relationship strength construct by dividing 12 of the items measuring the construct into two groups based on odd and even numbers. The anova test rejected the null hypothesis of no relationship between the two halves (p=.000). The correlation between the two forms was .57, and the Spearman-Brown coefficient, .73, indicating a positive and high association between the two halves. These figures confirm the low level of random error in the measures used. Splitting the measurement instrument in half produced consistent results. It is very likely that the two halves are closely related and thus, that the relationship strength construct has reliability.

### 9.3.2 Cronbach's alpha and bivariate correlation

The analysis of the relationship strength construct is followed by that of performance. Cronbach's alpha is reported except in cases where there are only two variables. In these cases, bivariate correlations are presented.

The relationship strength construct had an alpha reliability of .70. After removal of one item with a low correlation to all the others, the alpha improved to .74. Nunnally(1978) suggested an alpha level of .70 was sufficient for research at a stage of development equivalent to that of this thesis. Sekaran(1992) confirmed this level to be acceptable for the type of research reported here. The item removed was the measure of informal agreements, which appears to have been misinterpreted by the respondents, and therefore, is excluded from further analysis. If an item has a low correlation with all others in a correlation matrix, it should be removed from further analysis to avoid skewing the data. In this case, the statement measuring informal agreements has been removed. It had been changed

after the mail pilot test and may need further work. Overall, the relationship strength construct has reliability. This is the case even though it measures items which discriminate between variables rather than measuring a set of items designed to measure a similar variable. In addition, the relationship strength construct was measured by 13 items. Normally more items are included in a reliability assessment using Cronbach's alpha. The greater the number of items in a scale, the greater the chance of getting alphas in the .90 range. Given that the relationship strength construct is made up of elements of trusting and committed belief and actions, it is also necessary to determine whether this division is reliable. All items in the construct were measured using a Likert scale.

Trust was measured as trusting belief (keeping to promises, taking advantage*, giving a fair deal, and friendship) and as trusting action (help in emergencies, resistance to requests for changes in supply arrangements*, joint resolution of disputes, informality of relationship (item removed) and sharing information on a need to know basis*). Items with asterisks were reversed. Trusting belief and action had an alpha level of .74. Individually, trusting belief had an alpha of .68 and trusting action of .55. This would indicate that the items may not, as originally proposed, be independent. It could be the case that minimum levels of trusting belief and actions are present in all relationships and that which distinguishes between relationship structures is a high or low score on both items. The researcher chose each measure because it had the potential to discriminate. Due to this, it may be possible to identify the items that contribute to high and low levels of trust and these can be developed in future research. It may also be the case that if core levels of trust and commitment exist in all relationships, these elements may be weighted in future research and items which truly distinguish between relationships can be concentrated on. This finding would seem to support this research focus on the underlying form of a

relationship. There are elements common to all relationships but the process-content variable set, which dominates the relational interaction, determines its structure. Higher levels of alpha reliability are usually found when the number of items used in the analysis is increased. Due to the small number of items included to measure the construct relationship strength, the lower levels of reliability of the individual elements that make it up may be insignificant. A correlation analysis of all the variables measuring relationship strength showed adequate levels across the variables and between its elements.

There were four items measuring commitment. Committed belief was measured by self interest in making the relationship last, and loyalty, and commitment action by resource investments and adaptations. Since only two items measured each element, a bivariate correlation was used to test reliability. Items measuring committed belief had a correlation of .5 and those measuring committed action, one of .45. As with trust, there may be minimum levels of commitment in all relationships. These levels may be uncovered in later analysis because firms were asked about their exact resource investments and adaptations committed to the relationship. In fact, an element such as loyalty may be a minimum in all types of relationships with a main supplier. It had high correlation with some of the elements of trust. The longer the relationship lasts the more likely it is that partners feel a certain sense of loyalty.

The reliability of the construct relationship strength has been demonstrated. The relationship strength construct is measured by the level of trusting and committed belief and action present in a relationship. The distinctions between the elements that comprise the construct may not be as definitive as previously thought. However, given that the research focuses on main supply relationships, this could have been expected. The idea that there may be minimum levels of trust and commitment in

relationship with main suppliers is explored in later sections of the findings.

The reliability analysis of the measures of the performance outcomes construct have been divided into two groups: behaviour and economic. These groups reflect the various theoretical schools on performance outlined in the literature review.

Overall, the behavioural measures of performance should be related, while some are probably specific to certain relationship structures. The alpha for all the behavioural performance measures was .77. When one item was removed on the basis of its low correlation with most of the other items, the alpha level rose to .80.

The measures of behavioural performance were satisfaction, outcomes given comparison level, stability, conflict (reversed), lead times, product quality, value created that is difficult to quantify, joint value added projects, flexibility, involvement in product design, and speed of response to problems.

Involvement in design was the item with the lowest correlation. It did correlate with product quality and joint value added projects and has not been removed from the analysis at this stage. This is because it is likely to be related significantly to bilateral firms and not to others. There is also the possibility that it is independent of relationship type and not a reliable measure of performance, as it is currently conceptualised.

It is probable that there may also be minimum levels of relational performance as there may be of relationship strength. Firms would not enter into any exchange without some level of relationship strength and performance. The minimum levels proposal may take on a greater resonance as we move further into the analysis. If it does, all relationship forms will have

minimum levels of strength and performance thus changing the current definitions of relationships by blurring boundaries between types and theories of relationships, and making the approach of this thesis, in combining measurement approaches and concentrating on the underlying form of a relationship, all the more important.

The economic measures of performance represented a battery of Likert scaled items to capture the various economic elements of performance, outlined in the literature review as being representative of the various theoretical schools.

Dependence, as a performance element, was measured by ease of switching and willingness to become more interdependent. There was a correlation between these items of .31 which is adequate in a large sample and given the fact that they may be inversely related for certain relationship types. Relational risks were measured by reversed scaled items, measuring abuse of confidence and information asymmetry. They had a correlation of .44.

Productivity was measured as cost sharing and cost avoidance in the relationship. Cost avoidance was reversed for analysis. These items did not correlate at an acceptable level. Cost avoidance exhibited no similar pattern to any other performance variable and therefore, will be excluded from further analysis. Productivity will be measured by a single item.

Profits were measured as profitability and return on investment. These two items had a correlation of .33. There were also single item scales measuring the following outcomes: cost of running the relationship, price levels, and bought volume.

The economic elements of performance have been subjected to factor analysis to discover inter-item groupings not hypothesised. The economic elements of the performance outcomes construct, when combined with the behavioural elements, and excluding the two items with low correlation to the other variables had an alpha level of .76. Factor analysis helps group the various elements of performance and aids in the interpretation of further analysis. We may be able to identify performance levels present only in certain relationship types and in doing this develop a base for the translation of the relationship taxonomy into a specific path linkage model of relationship types and performance.

The reliability of the research constructs has been shown in this analysis. This is very encouraging given the fact that each item measured was chosen to distinguish between firms rather than to be closely related to one another. This process of narrowing down the items was helped greatly by the qualitative interviews and the measures development process. Random error would not appear to be a major issue in this research.

### 9.3.3 Reliability and further analysis

The construct relationship strength was shown to have reliability. The multifaceted nature of performance also demonstrated reliability. Reliability analysis has resulted in the removal of two variables with low correlation to the others (outliers) from the rest of the analysis. This is critical in this research, as multivariate techniques, used to test hypotheses in this thesis, are sensitive to outliers. The reliability analysis is drawn on in later sections of the analysis of the findings, to aid in interpretation and develop questions for further research.

## 9.4 Validity analysis

Validity was discussed in chapter 8. Pragmatic, construct, and content validity were discussed and their role in this research analysed. There remain two types of validity tests to be reported on in this section: content and factor tests. The reader can refer back to chapter 8 for a justification of the type of factor procedure used.

### 9.4.1 content validity

The approach of this research in establishing content validity was outlined in the last chapter. The results of this approach can be examined.

The qualitative interviews contributed to the development of measures and the overall validity of the research conceptualisation (construct validation). These aspects of the qualitative interviews are reported in the next chapter. This analysis has not been repeated in this section. An important validation of content is interest by managers in the concepts and relationships explored. The qualitative interviews were supportive in this regard. This gives validity to the investigation, and confidence to the researcher. Receiving validation of this type was invaluable. In addition, as mentioned in the previous chapter, the research evolved with a core group of firms who were used as a sounding-board for the research ideas. This process considerably strengthened the research. Another contribution to informal validation and criticism was the presentation of papers on the research at several seminars and colloquia.

The qualitative research began the formal content validation. It was followed by the use of expert judgement and the pilot testing of the research instrument. The pilot test results have been described in chapter 8 and are not repeated in this section. Expert judgement was sought on the research constructs and measurement instrument. In all, eleven reviewers were used. Six of them were academic and five industrial. The academics were chosen for subject area knowledge, and a few of them on the basis of their experience in measurement instrument design for multivariate research. There was no criticism of the subject area or content of the research. The main constructive criticisms were on the questionnaire design. The vast majority of the respondents including 4/5 of the industrial reviewers thought the content of the instrument to be excellent and many helpful pieces of advice were incorporated into a revised design. These elements have been described in chapter 8.

The content validation of the research went through many processes. This was a rewarding and fruitful exercise and led, in the researcher's opinion, to many research pitfalls being avoided and to the fine tuning of the research constructs.

### 9.4.2 Construct validity - factor analysis

The results of an exploratory factor analysis is presented in this section facilitating an examination of the validity of the research constructs and aiding in the interpretation of the findings on the hypotheses. Analysis of the relationship strength construct is followed by the performance construct.

The relationship strength construct was subject to oblique factor analysis with factors selected with eigen values greater than one. The results of the factor analysis are presented in table 9.2 with data from the pattern matrix which shows the unique variance each factor contributes to the observed item.

The factor on which the item has the highest loading is underlined.

The three factors produced for the relationship strength construct are exhibited in table 9.2. The factor analysis would appear to show three rather than four elements, as defined by the researcher, comprise the relationship strength construct. Factor three may represent a minimum level of relationship strength present in all relationship types, and two and three, the factors that discriminate among the relationship structures. This proposal will be returned to after the main hypotheses tests.

In terms of the theorised structure underlying relationship strength, the distinct elements defining trusting and committed behaviour emerged. All the elements defining trusting action are included in factor one and those defining committed action, in factor two. This offers support to this researcher's development of the definition of trust and commitment in including an action component. From the factor analysis, it would appear that clear distinctions exist between firms on these elements. The belief elements of trust and commitment are not placed on separate factors, which lends support to the proposed idea of minimum levels of relationship strength in main supply relationships. In relationships with main suppliers there probably have to be elements of belief trust and commitment present. This supports the researcher's focus on the underlying form of a relationship or the dominant process-content variable set. If the idea of minimum levels is established in later analysis, it will be possible to fine tune definitions and measures for further research.

It will be possible to analyse factor two in more depth as investments and adaptations were also measured separately. Again, it is worth re-emphasising that the items of relationship strength were chosen on their likely ability to distinguish

between firms. However, factor analysis may prove to be useful in further statistical analysis. It will be combined with the cluster analysis to examine which variables and inter-variate relationships contribute most to the explanation of the four relationship structures. It is important to note that factor analysis of so few variables is subject to a lot of variability if any item is removed. No firm evidence can be drawn from it alone.

**Table 9.2**
**Factor analysis of the relationship strength construct**

| **Factors:** | **1** | **2** | **3** |
|---|---|---|---|
| **Elements:** | | | |
| Keeping to promises | .24 | -.33 | <u>-.56</u> |
| Taking advantage * | <u>-.69</u> | -.16 | -.01 |
| Fair deal | <u>.43</u> | -.27 | -.40 |
| Friend | .03 | -.13 | <u>-.66</u> |
| Help in emergencies | <u>.54</u> | .04 | -.26 |
| Resist requests * | <u>.77</u> | .01 | .09 |
| Dispute resolution | <u>.47</u> | .16 | -.21 |
| Info. sharing * | <u>.57</u> | .16 | .08 |
| Lasting | -.17 | .21 | <u>-.75</u> |
| Loyalty | .15 | .26 | <u>.71</u> |
| Investments | .04 | <u>.78</u> | -.20 |
| Adaptation | .08 | <u>.81</u> | .07 |

53% of the variation was explained by the three factors. The minus figures can be ignored in interpretation.

* Reversed order scales

The performance outcomes construct was also the subject of a factor analysis. An analysis of behavioural performance is followed by that of economic performance.

The behavioural performance measures were subject to an oblique exploratory factor analysis, excluding the item involvement in design which was shown to have a low correlation to other items. Three factors were produced and are presented in table 9.3.

The factor analysis placed conflict as a single factor and divided the rest of the items of behavioural performance into two groups. This factor profile has been used to assess the performance of the relationship structures, and in further analysis. Factor one would seem to represent the more qualitative elements of behavioural performance and factor two, the more quantitative ones. It is likely that recurrent and bilateral firms are similar on factor one but vary significantly on factor two. Factor one may represent a minimum performance level for these types of relationships. Whether this is the case will become obvious in the analysis of the performance hypotheses. In the long term, this researcher would like to develop weights for each of the performance measures and relationship structures. These patterns of results would go some way toward this aim. Dominant partner and discrete firms are likely to vary significantly from the other two on all three factors. Factor three will probably be closely related to the dominant partner form, as higher levels of conflict should be present in those types of relationships.

**Table 9.3**
**Factor analysis of behavioural performance**

| Factors: | 1 | 2 | 3 |
|---|---|---|---|
| **Elements:** | | | |
| Satisfaction | .57 | .26 | .20 |
| Comparison of benefits | .10 | .69 | .24 |
| Stability | .76 | -.05 | .19 |
| Conflict * | .27 | .10 | .77 |
| Lead times | .02 | .75 | -.37 |
| Product quality | -.06 | .65 | .09 |
| Value difficult to quantify | .66 | -.00 | .07 |
| Joint value added projects | .69 | .00 | -.51 |
| Flexibility | .74 | .10 | -.06 |
| Speed of response | .06 | .76 | -.01 |

60% of the variation was explained by the three factors.
Minus values can be ignored in the interpretation.

* reversed order scales.
n = 197.

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The elements of economic performance were also subject to an exploratory factor analysis which may help to group related economic performance outcomes for later analysis. However, this is purely a technical exercise as most of the variables have low correlations with each other. It will provide a foundation for developing measures for future research. The variables that are found to discriminate significantly among the relationship structures can be developed for further testing. Low loadings

are expected because the elements of economic performance relate to relationship structure in many different ways. This researcher is expecting bilateral relationships to be higher than the other relational types on all economic performance measures. The factor analysis is presented in table 9.4. Three factors were extracted.

**Table 9.4**
**Factor analysis of the economic elements of performance**

| Factors: | 1 | 2 | 3 |
|---|---|---|---|
| **Elements:** | | | |
| Switching | -.24 | -.12 | .70 |
| Interdependence | .08 | -.09 | .70 |
| Prices | .60 | .06 | -.17 |
| Confidence abuse * | .18 | .76 | -.02 |
| Info. asymmetry * | -.01 | .82 | -.20 |
| Cost sharing | .28 | .09 | .58 |
| Cost of running | .58 | .07 | .09 |
| ROI | .58 | .08 | .37 |
| Bought volume | .51 | -.43 | -.19 |
| Profitability | .67 | .02 | .11 |

50% of the variation was explained by the three factors.
Minus values can be ignored in the interpretation.

* reversed order scales.
n = 196.

The measures of dependence and risk outcomes appear on their own in factor two and three except that productivity is added to the dependence measures, factor three. All the other measures can be traced back to profit and costs, which makes their association very appealing conceptually. The actual factor loadings are not as low as might be expected, which gives an expectation that they are related in a coherent way to the relationship structures. The elements of economic performance that do discriminate amongst firms with different relationship structures will be used to develop measures for future research. The factors also contribute to further statistical analysis and interpretations in this thesis.

### 9.4.3 Factor analysis and testing hypothesis

The main advantage of the exploratory factor analysis is its grouping of variables which will aid in the interpretation and analysis of the hypotheses tests. The dimensions of relationship strength were related on factors not quite as conceptualised. This finding will contribute to the understanding of the differences between any groups that emerge from the cluster analysis procedure. It will also help develop models of relationships which can be used in further research. This research may be able to develop the taxonomy of relationship structures into a structural path model which would be suitable for empirical testing.

The factor analysis helped group the performance variables beyond the general behavioural and economic categorisation of the research. This result will be used as an input into the multivariate tests and may help to draw together all the variables that best represent the differences between the relational structures.

Both analyses of reliability and validity, presented in this chapter, contribute to construct validation from a measurement point of view. Future research will establish the long term stability of the constructs of this research. The underlying constructs of the research are supported by the factor analysis. The strongest input of the factor analysis would appear to be the ability of the factors to discriminate between structures. This research is examining relationships between groups and their performance. Inter-variable relationships contribute to this analysis. There was no research intention to use confirmatory factor analysis (structure equation modelling) but it would seem to be a worthy avenue of further investigation. This research was developed around inter-group rather then inter-variate differences.

## 9.5 Conclusion.

This chapter has analysed the sample and the research constructs for reliability and validity. The analysis has produced meaningful patterns that will aid in the hypotheses tests and research conclusions developed in chapter ten. The research appears to be low in measurement error. Other elements of reliability and validity are tested both by the validation procedure of the cluster analysis and by the results of the hypothesis tests themselves. They demonstrate the predictive validity of the research.

Factor analysis results are used to order the variables for introduction into the multivariate tests, and are compared to the results obtained from these tests at the end of the next chapter. The analysis in this chapter has provided many insights into the data structure and useful avenues for further research.

The next chapter will examine the hypothesis tests and will commence with the results of the qualitative research.

# Chapter 10 - Managing Buyer/Supplier Relationships: Hypotheses Testing

## 10.0 Introduction

This chapter tests the research conceptualisation and hypotheses as presented in chapter 6. The hypotheses are found to have support and the chapter is structured around these hypotheses.

The first part of the chapter examines the findings from the qualitative research. These findings support the research conceptualisation and contribute to the development of measures for the large scale quantitative study. The presence of the relationship structures in the quantitative study are examined through the use of cluster analysis. Four clusters were found which validate the relationship structure taxonomy. The analysis of the cluster structure reinforces the construct validity of the overall research.

The hypotheses on the linkages between relational structures and performance form the next part of the chapter. A social exchange approach to managing interorganisational relationships receives considerable support. In other words, bilateral relational structures perform better than the alternative modes of managing interorganisational relationships.

The overall importance of performance variables used in evaluating relationships with main suppliers is examined. Behavioural outcomes are seen as more important than economic ones. The affect of the context in which a relationship operates on its structure is also analysed. The contribution of management to the determination of relationship structure is found to be significant. Relationships are embedded in a social

structure as proposed. The actual context is less important than conventional wisdom would make it out to be.

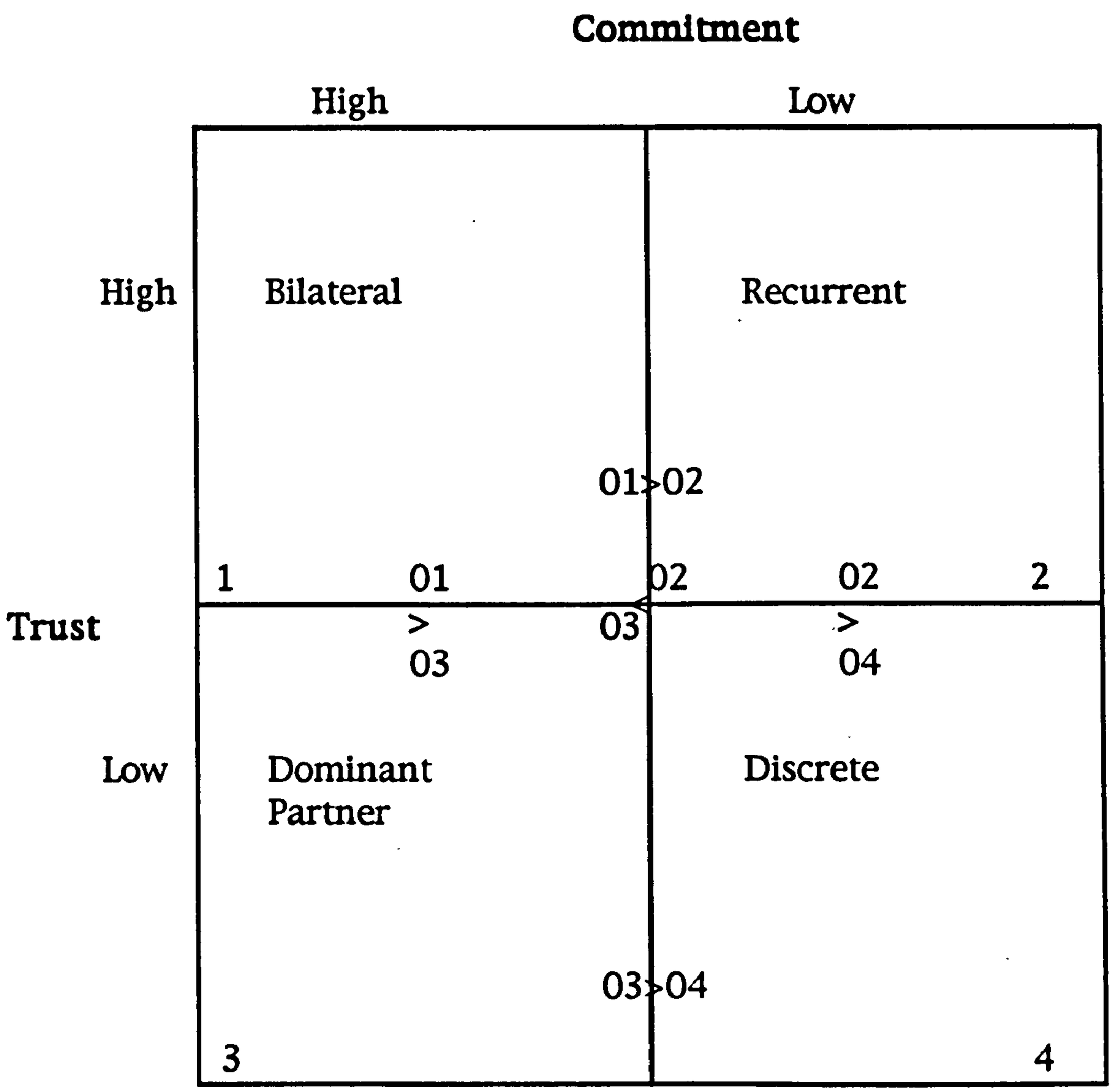
After the hypothesises have been evaluated, two final issues are explored. The first concerns the possibility that a relationship can become a competitive/comparative advantage. The respondents' views on this are mixed. Finally, to examine the potential for further research, critical paths are drawn between the variables that comprise the relationship strength construct and performance, and between the structural types and performance. Fruitful avenues are provided for further research, and the paths represent a summary of the main findings in this and the previous chapter.

The approach taken by this researcher to the material contained in this chapter combines the presentation of data with its interpretation.

## 10.1 Revisiting the relationship structure - performance taxonomy

The conceptual model describing the hypothesised relationship between the relationship structures and performance outcomes is reproduced in figure 10.0. The research hypotheses are also summarised. Both the matrix and the hypotheses summary are presented as an easy reference guide for the reader. The chapter is organised around the research hypotheses. The research results discussed in this chapter represent, primarily, the buyer's perspective of its relationship with its main supplier. It is therefore a one-sided assessment of the structure and performance of a relationship.

**Figure 10.0**
**The relationship taxonomy and performance outcomes.**




Key: 1-4 = quadrants. 01-04 = outcomes, > is sign for greater than. Trust and commitment measure the relationship strength construct. The four relationship structures represent the relationship structure taxonomy. 01-04 represent the performance outcomes construct. The greater than sign indicates the direction of the performance hypotheses.

Figure 10.0 presents the conceptual model of the research. The four relationship structures, with their hypothesised performance positions, are presented in the figure. It can be seen that bilateral relationships (relations high in relationship strength measured by belief and action components of trust and commitment) outperform the other types. The performance outcomes construct is represented by 01-04 and the greater than sign indicates the expected performance of the four structures.

The research hypotheses can be summarised as follows:

1. Relational structure hypothesis.

H1: Relationship strength discriminates between relationship structures, as defined.

2. Performance hypotheses.

H2: Relationship structures exhibit significant differences in outcomes.

H3:

H3a: Bilateral structures have superior performance outcomes when compared to other relationship structures.
H3b: Bilateral firms have higher behavioural performance than other types.
H3c: Bilateral firms have higher economic outcomes than other relationship types.

H4:

H4a: Recurrent relationships outperform dominant and discrete over the range of economic and behavioural performance

outcomes measures.
H4b: Dominant partner outperform discrete relationships across the performance measures.
H4c: The overall order of performance outcomes among the various relationship types is: bilateral, recurrent, dominant partner, and discrete.

H5: Behavioural performance is more important to firms than economic performance in measuring the outcomes of interfirm relationships.

3. Relational context hypothesis.

H6: Relationship structure is determined more by the managerial content of the relationship than the industrial or environmental context of the firm.

## 10.2 Qualitative findings: seven firm study

The results of the seven qualitative interviews will be described in this section. They were conducted after the main research framework was developed so that it and its measures could be tested.

### 10.2.1 Qualitative study findings: relationship structure

This section will be divided into two, the first part will deal with the hypothesis about relationship structure and the second, the variables that measure it.

## 1. Testing the relationship structure taxonomy

It was possible to classify firms on the basis of their relationship strength into the various quadrants of the taxonomy. Two firms were in bilateral relationships, two recurrent, two dominant partner and one discrete. Thus, the relationship strength construct distinguishes between firms. This means that hypothesis 1 was supported in the qualitative research.

Furthermore, when shown the taxonomy and given an explanation of it, respondents confirmed their place in it and its usefulness. The discrete firm thought it useful but "not for a firm like ours"!

Interviewee comments illustrate the nature of the different relational forms. A comment typical of a dominant partner relationship (dominated by a buyer) was:

> *"It has gone from the informal...to the very formal now where the meetings are very structured, where the documentation of the meetings is very structured: here is your grading list 'Mr. S.'[disguised] and he says that I only got 30 out of 100..."*

This statement is evidence of a dominant partner's implementation of formality into the relationship. The direction of communication is one-way and the levels of trust generally lower than for bilateral firms. Even though these firms may have invested heavily in the relationship, it is still directed by the dominant party using its power. The outcomes for this type of relationship are expected to be lower than for recurrent or bilateral relationships.

A bilateral relationship from a supplier perspective:

> *"There is an openness there. It is a relationship between the two companies that everyone knows what is happening in each company..."*

These high levels of trust were reflected in commitments both in terms of loyalty and future orientation and resource investments and adaptations. This type of firm is expected to outperform all the other relational structures on the performance outcomes measures included in the research.

A recurrent relationship from a buyer perspective:

One interviewee saw the real test of a relationship being in the downturns when business was not going too well and said about a supplier:

> *"He [the supplier] sees things very much in roundabouts in the whole business and he is very philosophical about the day when we will be doing 100s of thousands of business with him again. I think unless we had a very strong relationship with that guy we probably wouldn't be doing business with him today".*

The supplier in question was not one of critical importance to the firm. The quotation seems to illustrate a strong level of trust but not of commitment. There are no resource investments or adaptations. The company is able to "switch the relationship on and off" but still feels an element of trust and loyalty.

The discrete company relationship had this to say about a supplier:

> *"You can never say total dependence... [on a supplier] left us a bit high and dry in the sense that all the products that we had with that company we had to source again, that is some major expense. So you don't change unless you have to. But you certainly couldn't call it any full commitment".*

This company was always hedging bets and playing suppliers off each other on price and volume policy. A relationship was there but low on trust and commitment. Once a company buys on a continual basis from another company, they inevitably must have a relationship with each other. The most minimal form of this relationship is a discrete type with the absolute levels of strength being kept as low as possible.

The concept relationship strength does discriminate between forms. The use of the word "relationship" can also be misleading in the context of interorganisational exchange. The form which the relationship takes is a more meaningful level of analysis, as in the taxonomy for this research. The dimensions of relationship strength were posited to be belief and action dimensions of trust and commitment. Identification of the key elements of these variables is critical in measuring different relationship structures. These dimensions and their elements were explored in the interviews.

2. The elements of the construct, relationship strength.

The variables used to discriminate between high and low relationship strength did work. The combination of belief and action views of trust and commitment did discriminate between

firms. They emerged as the best discriminators of relationship strength. Words which described them were used throughout by the interviewees when discussing topics such as relationships, partnerships, sole supplier agreements, and interdependence. This data matched words used in the literature to describe both trust and commitment and backs up the author's combination of perspectives in the definition of trust, to include both beneficial goodwill and trusting actions, and in the definition of commitment to reflect both the continuity of expectations and committed actions. Both perspectives were needed to fully distinguish high strength from low strength firms. Each of the elements contributed separately to the explanation and the same words to describe them kept reappearing. Analysing the content of each interview showed that trust and commitment, as defined, can distinguish between the four relational types by the extent of their presence.

Trust was strongly reflected by companies when they talked about the two-way nature of relationships, information sharing and openness, and resolution of disputes. The firms with high levels of trust engaged in relationships in a co-operative and mutual manner. Firms with low levels of trust had very little two-way information flow, were suspicious of the partner and felt a need to control them and maintain alternative sources. Trusting actions, such as openness of information sharing, reflect on a firm's ability to trust in the future actions of its partner and its ability to take decisions which are beneficial to the relationship. These type of behaviours were very evident in the bilateral relationships but absent in the other forms. Both bilateral and recurrent firms were equally strong on goodwill trust. In fact, this element of trust was readily accepted by them and not seen as extraordinary. Discrete and dominant partner relations were much lower on trust, with the discrete relationship demonstrating very low trusting action but surprisingly, having an element of goodwill trust. Discrete

partnerships expect their suppliers to keep promises and to give them a fair deal. This reinforces the notion, developed in chapter 9, that all relationships have a minimum level of strength needed in any supply relationship but there the comparison between structures ends.

Some comments illustrative of trusting action are:

On being more open:

> *"...we don't operate in a backlog with our customer today so the best you are going to get from us is a firm commitment 3,4,5 months ahead, the rest is pure guesswork. We will share with you what we know today and what we are planning...[not doing this] is why a lot of relationships fall into a bad state of repair".*

On information sharing:

> *"You disclose how much you are making, what way you are buying material and they try and help you,...[this] is openly discussed".*

Committed belief was reflected in expectations of continuity (confidence in future) and in expressions of loyalty. Committed action was reflected strongly in investment and adaptation patterns in the relationship. High levels of investment and reciprocation of same were evident in the strong relationship strength firms. Adaptation to partners' needs was also evident in the high strength firms, otherwise firms preferred to keep their options open to switch, did not see any benefit in investment and would try and reduce dependence where possible. Investment in people and management assistance

was seen as vital in a bilateral partnership. The recurrent firms saw committed belief as critical to a relationship but did not have any major level of action commitment. Dominant partner relations had a high level of belief commitment, particularly of resources and adaptations. They responded to the demands of their more powerful supplier/buyer. These relations are very adversarial and governed by the authority of the controlling partner. Dominant partner relations had lower levels of belief commitment. Discrete firms were the lowest on commitment and did not see it as central to their management of relationships.

A statement that reflects both elements of commitment, and links them to performance, is quoted to illustrate that as a firm becomes committed, it does not make them uncompetitive and may even make them more responsive.

On commitment:

> *"...there is a certain loyalty there now when you have the type of relationship that we have been talking about...people don't change[supplier] at the drop of a hat like...before but nevertheless customers are constantly looking out for better ways, new ways of doing things and you basically can't stand still because you are a single supplier to somebody".*

Also:

> *"...that doesn't mean to say that once you have a partnership that you don't have to keep certain standards and prices but most definitely, customers don't change as readily as they might if it wasn't*

*a partnership."*

In summary, the qualitative research found that the relationship strength construct discriminates between firms. The elements used to measure it were found to be valid. These results led the research to use the construct and its measures in the quantitative study.

### 10.2.2 Qualitative study findings: relationship structure and performance

This section will be divided into two, the first part will deal with the hypothesis about relationship structure and performance and the second, the variables that measure the performance outcomes construct.

1. The relationship structure-performance hypotheses

Bilateral firms did appear to outperform the other relationship types on the combination of behaviour and economic measures used in the research. There were certainly differences in outcomes between the firms. Bilateral relationship had the broadest range of outcomes. These firms generated higher outcomes across the range of behavioural and economic outcomes used. They also introduced more outcomes before specific outcomes categories were brought in as questions. The hypothesis that performance varies across relational structures was supported(H2) as were those on the direction of a bilateral firm's performance(H3). The elements of performance will be described under 2.

The group of hypotheses about the performance order of relationship structures after accounting for bilateral relations(H4) was only partially upheld. Recurrent firms were next in line but there were no differences between the

dominant partner and discrete firms. There was only one discrete firm so it may have been difficult to judge the difference between it and the dominant partner types.

With the small sample it was difficult to judge the importance of the various performance outcomes(H5) but seemed that firms high in relationship strength did perceive behavioural outcomes to be more important whereas those in relations low in strength saw economic outcomes as being more important. This was the case even though the bilateral firms were able to define greater cost reduction potential through working jointly with their partner firm. For example, one managing director said in a discussion on relational outcomes "*...so jointly working together the two companies tend to find ways of reducing cost without affecting each others profit*". The hypothesis(H5) on behavioural performance being more important than economic was confirmed by firms in stronger relationships.

The differences between the relational types were observable even though external industry experts perceived all the firms to be successful. It would appear that relationship structure and performance are dependent on the management of the relationship rather than on any inherent industry or firm characteristic, even though these were often mentioned as determinants of policy. This offers conditional support for hypothesis 6. It is likely that relationships with suppliers/buyers are embedded in the management approaches of the various firms. It is not easy to manage bilateral relationships without having that type of openness in the management structure of an organisation. In other words, two very similar firms in similar relationships could be pursuing dramatically different relationship management strategies.

2. The elements of performance outcomes.

Performance was viewed as multifaceted, as defined, including both behaviour and economic dimensions. It was also seen as being linked strongly to relationship strength. This can be illustrated by a quote from a managing director of a bilateral firm:

> *"Cost most definitely comes into it but there is a multitude of different outcomes, I mentioned the word confidence [one of the surrogates indicating relationship strength] before, this is where it all stems from".*

The actual results outlined in 1 are supported by the multifaceted nature of interfirm outcomes and by their link to relationship structure.

The elements of performance were supported and came through in the research. The behavioural elements, the components of performance that arise from the behavioural schools of relationship governance, are value, lead times, quality, stability, flexibility, low conflict, involvement in design, speed of response to problems, and satisfaction. These outcomes take on an added significance when firms suggested that they were more important than economic outcomes, such as, price. There would seem to be minimum levels of relational performance for all firms. You would not be in the relationship if your price or quality levels were not competitive. There is no mystery about price levels and what determines them in developed relationships. The only way of reducing them is to work together. However, in examining the total performance equation it would be foolish to ignore price or other economic elements of performance. Each of the dimensions of performance was raised by the interviewee, in the first

instance, when asked about overall relational outcomes. Then broad categories of outcomes were introduced by the interviewer, for example, dependence, and the interviewees responded to each of these. This latter approach was adopted to develop and test the adequacy of the elements of each of these categories and of previous measures. For example, the outcomes of dependence were seen by low strength firms as an inability to switch but seen as the ability to become more interdependent by firms higher in relationship strength. The latter interpretation would not have come from the literature on dependence theory and is an important addition to the benefits of social exchange interaction. This type of finding supports the need to integrate theoretical perspectives when measuring performance. If they wish to remain competitive, firms cannot afford to ignore a range of performance measures because they are in a particular type of relationship.

In the interviews, the economic elements that came through as being important outcomes of interorganisational exchanges were those which matched the various categories of economic performance suggested in agency, transaction costs, and resource-dependency schools of thought. The main exception to the theoretical position of these schools was that bilateral firms seemed to be able to perform better on these measures than discrete or dominant partner relations. This gives added support to social exchange theory mechanisms for the management of interorganisational relationships. The most important categories of economic outcomes measures were dependence, risks, productivity, costs, prices, volume, and profitability.

Various comment taken from a discussion between the interviewer and a respondent on outcomes serve to illuminate the relationship between a bilateral firm and some of the economic outcomes. The quoted pieces are abridged to avoid metaphors and concentrate on the substance of the discussion.

| | |
|---|---|
| *Interviewer:* | *"Do you and your buyer ever consider joint outcomes, and develop a strategy on how to compete on that basis?"* |
| *Interviewee:* | *"We would often discuss these things... The closer you can get to them[buying organisation] the better..."* |
| *Interviewer:* | *"...it might be difficult to switch..."* |
| *Interviewee:* | *"...but stability would be another factor... I couldn't see it [possibility of not being able to switch] as being negative..."* |
| *Interviewer:* | *"So you don't see a risk?"* |
| *Interviewee:* | *"No, not really, it's evolution, a progression..."* |

This interview abstract shows that the interpretation of economic outcomes by bilateral firms is different to other relational types. They are looked at from a joint perspective rather than from the vantage of the individual firm. They have the opposite expectation to what one would expect from the literature, for example, firms should be perceiving the risks of closer integration and developing strategies to reduce it as they become more dependent on a partner firm. Bilateral partnerships have further potential for enhanced performance in the way they attain improvements in economic outcomes.

In summary, the hypotheses on performance outcomes and on relational context were given support by the qualitative research. The measures of performance were shown to have definitional and directional validity. In addition, performance attainment is closely related to the type of relationship structure. Bilateral firms would appear to have greater potential for performance enhancement than other types.

The main conclusions that can be drawn from the qualitative research are:

1. It offers a perspective on relationships not present in the quantitative study. The qualitative research was developed with a sample of buyers and suppliers. The qualitative study is buyer focused.

2. The findings of the qualitative study will be shown to compare with and reinforce those of the quantitative study.

3. The research hypotheses were supported, except for the performance order for dominant partner and discrete relationships, and the evaluation of these structures of the importance of behavioural performance.

4. The industrial and environmental context of a relationship does not appear to be as important as made out to be in the literature. Relationships are embedded in a managerial approach. The qualitative research offered support for the social exchange perspective taken in this research.

5. The measures of the two main constructs were supported as was the linkage between relationship strength and performance.

6. The qualitative study gave impetus to test its findings in a larger empirical setting. The results of this are now presented.

## 10.3 500 quantitative study: hypothesis test on relationship structure

The results of the 500 firm mail study is described in this and the following sections.

Hypothesis 1 can be stated as follows:

The relationship strength construct discriminates between relationship structures: bilateral, recurrent, dominant partner, and discrete.

Reliability and validity analyses have contributed to an initial acceptance of this hypothesis but it cannot be judged completely until all the hypotheses are tested. If each of the hypotheses are found to be significant, it adds to the validity and reliability of the conceptual framework of the research and the research methodology. Cluster analysis is the classification procedure that will be used to divide relationships into structural types. Relationship types as described have been found in the qualitative research.

### 10.3.1 The four clusters: description

The k-means procedure for cluster analysis was used, as outlined in chapter 8, from it four clusters were extracted.

They can be labelled and described as follows:

#### Cluster 1: Bilateral structure

This cluster contains 65 firms which represent 32.5% of the 200 firms included in the analysis. These firms responded, to a large extent, on the strongly agree measure of all the variables included in the relationship strength construct. In other words, they are the high trust-commitment firm types: high on both the belief and action elements of these variables. Bilateral management has committed significant resources to making the partnership work. This is a surprisingly large grouping and runs contrary to the literature which suggests that UK firms, in general, do not pursue bilateral relationship. However, since this research describes relationships with main suppliers, this type of finding may not be unexpected, but still, if validated, represents a significant result. The size of this group may also have implications for developing measures which further discriminate among this group.

#### Cluster 2: Recurrent relationships

Recurrent relationships represent 41 firms or 20.5% of the sample. These are main supply relationships which are strong on the relationships strength construct but not as strong as the bilateral firms. In general, these firms rated very high on trust but lower on commitment. They are very positively disposed to their partner even though they do not view this relationship as being bilateral. There may be many environmental or firm

specific reasons for this type of management structure but a recurrent structure is more likely to be inherent in the culture of the organisation. It wishes to go no further than to have an efficient, dependable supply relationship. This relationship management approach was described as the archetypal "just-in-time" type: efficient in its process.

### Cluster 3: the dominant partner structure

56 firms were in this category which is 28% of the sample. These firms are trying to manage a supply relationship with a dominant partner. They rated lower on relationship strength than clusters 1 and 2, especially, on the trust measures. They did not trust their partners as highly as the other partner types but had made many committed actions to the relationship. This may represent the powerful supplier flexing his/her muscle or just the frustration of a firm in a relationship where it wants a reciprocal arrangement which is not happening: a mis-match. This will be evident in the performance results.

### Cluster 4: the discrete relationship

As stated in the literature review, the term discrete has been adapted to describe relationships with low levels of trust and commitment. This is where a relationship is managed on an arm's length basis. If this category is found to be significant in relationships with main suppliers, it is likely that the relationship structure taxonomy of this research is a key contribution to understanding relationships. That is, they are independent of many environmental variables and embedded in the management approach adopted. 38 firms fitted into this category which is a total of 19% of the firms in the sample. Again, a significant number which is expected to exhibit a very different pattern of behaviour to the other cluster types.

The sample procedure has produced relationships in each of the quadrants of the matrix, describing the taxonomy of relationship based on the relationship strength construct (see figure 10.0). These will be validated and used to test the performance outcomes hypotheses of the research.

### 10.3.2 Validation of clusters

The clusters can be validated using the procedures outlined in chapter 8.

a. Use of Cronbach's alpha

The measures of the relationship strength construct acted as the input into cluster analysis. These variables had a high group alpha(.74) after the removal of outliers. This is the case even though they were developed to represent different elements of interorganisational relationship strength.

b. Normalisation

All the data was collected on Likert scale question formats with negatively worded elements reversed. The measurement instrument was therefore standard across all the variables used as an input into the analysis.

c. Number of clusters

The number of clusters was decided on an *a priori* theory basis and tested initially in qualitative research. The researcher was able to specify the number of clusters when using the k means procedure. This produced results of group sizes of 65, 41, 56, and 38. Each of these groups has an appealing internal logic as will be demonstrated throughout the findings. The research also used an alternative, hierarchical, approach to test the solution produced by the agglomerative k-means method.

Ward's method of hierarchical clustering was analysed using the diagrammatic profile, dendrogram, produced by the analysis. This approach used squared euclidean distance, based on the raw data from the questionnaire, as an input. It clearly identified four groupings; there was a major jump in the joining distance between four groups. Smaller groups could be extracted but would have very few cases and would not contribute to the analysis. The research also used Ward's method to produce a dendrogram for the first 100 cases, which again produced a four group solution.

d. Split variables to confirm groups

The k-means procedure was also conducted by removing variables that measured the relationship strength construct on the basis of their lower correlation with the others in the group. The variable with the lowest average correlation was removed first and so on. No major differences were observed between group size and the classification of each questionnaire. This may have been due to the fact that reliability analysis had already removed outliers. Individual respondents remained in their relationship structure group as variables were removed. Also, when elements of relationship strength central to theoretical group classification were removed, boundaries moved and groups became closer. For example, on removing committed action, recurrent relationships moved closer to bilateral types, and discrete to dominant partner types. More significantly, these different cluster groups were tested against a range of performance variables and a theoretical consistent pattern was observed. This process adds validity to the cluster procedure and confidence in the resulting findings.

e. External validation 1

The predictive validity of the clusters is shown in later sections of the findings. The clusters are shown to discriminate in a relevant way between performance outcomes.

f. External validation 2

Discriminant analysis was conducted with two variables used in the assessment of interorganisational relationships: communication and influence. They were included in the research for the purposes of validation. They were measured on a Likert scale, as were the other variables, and should discriminate between groups. For example, bilateral firms should have higher levels of influence and communication with their supplier, than in discrete relationships. The discriminant analysis is being used to see if these variables could predict group membership. If they do, then the groups, established by the cluster procedure, have validity. It also contributes to the validation of the relationship strength construct.

Multivariate discriminant analysis was used to see if communication and influence were different across the clusters in an attempt to validate them. The variables were entered stepwise into the analysis. The significance of the test was evaluated by three methods: Wilks' lambda test of significance, percentage of variance explained by the variables, and the percentage of cases correctly classified.

The Wilks' lambda tested the null hypothesis of no difference between the groups on the two variables. After the two variables had been entered into the analysis, communication had a lambda value of .80 and a significance level of .000 and influence over supplier, values of .69 and .000. Both values significantly differentiated between the four groups.

The results of the canonical discriminant functions were statistically significant, as measured by the Chi-square test statistic. The analysis produced two functions with p values of .000 and .006. The first function accounted for 87% of the variance. Therefore group membership variation is explained by the functions. They do discriminate. An analysis of the relationship between the discriminant function coefficients or the structure matrix (loadings) and the clusters is not provided. This is because the sole objective is to establish the clusters as having validity. Discriminant analysis is not being used as a method of analysis for hypothesis testing as the dependent variables are metric variables. Discriminant analysis is suitable when dependent variables are non-metric. Discriminant analysis is the inverse of the technique used, namely, multivariate analysis of variance.

The percentage of cases correctly classified by the discriminant functions is 47%. We must assess whether this means that the functions are adequate predictors of the relationship between the group membership and the variables included in the analysis. This "hit ratio" must be compared with the maximum chance criteria, the proportional chance criteria and the Press's Q statistic to assess its true effectiveness. The maximum chance criteria is the hit ratio obtained from classifying all the observations to the group with the highest probability of occurrence. This is the bilateral group with 65 members. From this, the maximum chance probability is 65/200 which is .325 or 32.5%. The model's value of 47% exceeds this value so its classification power is good. The classification accuracy can also be tested proportionally. The proportional chance criteria is calculated by squaring the proportions of each group [$(.325)^2$+ $(.28)^2$+$(.205)^2$+$(.19)^2$ = .262 or 26%]. Since 26% does not exceed 47% we can accept the calculated model as being a good predictor. In other words, communication and influence do discriminate between groups as expected. Finally the Press's Q

statistic was calculated, to compare the number of correct classifications (the calculated hit ratio of 47%) with the total sample size. The calculated Press's statistic in this case is 51.62 which exceeds the critical value from the Chi-square distribution, 11.34, at the significance level of .01. Therefore, the predictions were significantly better than chance: the group membership produced by clustering can discriminate among variables used to test it.

The clusters have been shown to have external validity by using a multivariate discriminant analysis with two variables not included in the analysis.

The analysis of the clusters has shown them to have internal and external validity. It has also provided strong evidence to support the hypothesis that relationship strength discriminates between relational forms. As the research results are added, increasing evidence will be added that supports the taxonomy of relationship structures and thus, the theory on which it is based. In advance of moving on to the hypothesised relationships between the cluster variables and performance, further support of the relationship strength construct is provided through an analysis of committed actions.

### 10.3.3 Committed actions: resource investments and adaptations in the relationship

Resource investments and adaptations were measured in the relationship strength construct but were also measured singly to determine their specific pattern in the relationship structures being measured. Bilateral and dominant partner relationships are both high in committed actions. Because we are dealing with the main supply relationship, recurrent and discrete partnership will probably not show great differences on these variables. There will be minimum levels of resource

investments and commitments across all relationship types. Table 10.0 summarises the number and type of resource commitments and adaptations made by the four relationship forms. The analysis may provide further support for the cluster procedure.

Table 10.0 demonstrates the ability of committed action to distinguish between the highly committed action partnerships - bilateral and dominant partners, and the firms lower in commited action - recurrent and discrete partners. Table 10.0 further supports the cluster procedure and the taxonomy of relationship structures. It also displays minimum levels of commitment in all relationships with main suppliers, therefore, the need to concentrate on the underlying form of a relationship is even more important for research that aims to understand how relationships work.

Bilateral firms have made more resource investment and adaptation than all the other types. The nature of this supply management structure makes this possible. Whether investment and adaptation can be translated into better performance will be the subject of the next section. Dominant partner relations also display high levels of commitment. A dominant supplier can force its buyer to make committed actions in the relationship. The next section will show if it is possible for firms in dominant partner relationships to translate these commitments into performance outcomes.

# Table 10.0
# Relational structures: resource investments and adaptations

| | Bilateral (n = 65) | Dominant partner (n = 56) | Recurrent (n = 41) | Dis-crete (n =38) |
|---|---|---|---|---|
| | | TOTAL NUMBER | | |
| **Resource Investments:** | | | | |
| a. 3 plus investments (maximum 8) | 36 | 25 | 10 | 4 |
| b. Exchange of Personnel | 17 | 15 | 5 | 4 |
| c. Physical assets | 14 | 17 | 3 | 1 |
| d. Specialised purchasing procedures (e.g. JIT) | 45 | 30 | 20 | 11 |
| e. Supplier training | 29 | 18 | 6 | 9 |
| f. Provision of management assistance | 34 | 21 | 12 | 6 |
| g. Cash | 7 | 4 | 0 | 0 |
| h. Electronic links | 26 | 21 | 10 | 9 |
| i. No Investment | 4 | 5 | 14 | 14 |
| j. Other Investments made | 13 | 10 | 2 | 4 |
| **Adaptations:** | | | | |
| a. 4 plus adaptations (maximum 10) | 52 | 40 | 19 | 12 |
| b. Product | 23 | 24 | 7 | 8 |
| c. Process | 23 | 15 | 7 | 5 |
| d. Information provision on production planning | 43 | 35 | 14 | 16 |
| e. Stockholding | 38 | 26 | 20 | 16 |
| f. Special payment terms | 33 | 23 | 10 | 15 |
| g. Reduced supply base | 48 | 34 | 23 | 10 |
| h. Long term contract | 37 | 21 | 13 | 12 |
| i. Preferred supply arrangements | 40 | 31 | 24 | 14 |
| j. Organisation structure (e.g. specialised supply management structure) | 13 | 6 | 2 | 1 |
| k. No adaptations made | 1 | 1 | 4 | 2 |
| l. Other adaptations made | 5 | 0 | 1 | 2 |

Recurrent and discrete firms are much lower on committed actions than the other two types. In a relationship with a main supplier, they exhibit a certain level of committed actions. Recurrent structures have made more resource investment but are similar to discrete firms in terms of adaptation. Minimum levels of adaptation have to be made in a main supply relationship due to the importance of, and volume bought from, the supplier. As expected, in comparing recurrent and discrete forms, recurrent firms have made more preferred supply arrangements, reduced the supply base further and had greater levels of specialist purchasing procedures than discrete partners. In many of the other areas of resource specific investment and adaptation, they share a minimum level of committed action with the discrete relational form.

Committed actions should become evident in the performance outcomes, particularly the economic outcomes. It would be expected that firms who have made significant committed actions in the relationship would have higher economic performance. That is, the return from these investments should be visible in these outcomes. The performance hypotheses are the subject of the next section. The pattern of committed actions supports the relationship structure hypothesis and the clustering procedure.

## 10.4 500 firm quantitative study: Hypothesis tests on relationship structure and performance

This section examines the nature of the linkages between relational structure and performance. The hypotheses tested in this section are listed at the begining of the section. It should be noted that hypothesis 1 has already been partially

supported through the clustering procedure and, in chapter 9, by the reliability and validity analysis.

H1: Relationship strength discriminates between relationship structures, as defined.

H2: Relationship structures exhibit significant differences in outcomes.

H3:

H3a: Bilateral structures have superior performance outcomes when compared to the other structures.
H3b: Bilateral firms have higher behavioural performance than the other types.
H3c: Bilateral firms have higher economic outcomes than other relationship types.

H4:

H4a: Recurrent relationships outperform dominant and discrete over the range of economic and behavioural performance outcomes measures.
H4b: Dominant partner outperform discrete relationships across the performance measures.
H4c: The overall order of performance outcomes among the various relationship types is: bilateral, recurrent, dominant partner, and discrete.

Again, it is re-stated that these hypotheses are tested, primarily, from the buyer's perspective. The analysis of relationship structure and its performance is limited to a single party's, the buyer's, view.

### 10.4.1 Relational structure and performance

H2: Relationship structures exhibit significant differences in outcomes.

This hypothesis was found to be significant and can be accepted. The results of the hypothesis test is summarised in table 10.1.

It can be established from table 10.1 that performance outcomes do vary with cluster membership. The significance levels are very high for most variables. All the behaviour variables are significant. There is only one economic variable that is not significant at the 90% level - lower prices paid to the supplier in the particular relationship (p value .237). A minimum level of price competitiveness is probably common to all relationships with main suppliers. This base level of performance can be matched with the idea of the core trust and commitment thresholds in main supply relationships as mentioned earlier. However, the differences between the structures is the subject of the next two sections and price may have some, although probably not a lot of significance in that analysis. Table 10.1 reports on the overall significance between the structures and performance. Hypothesis 2 is supported. The relationship strength construct is given further support by these findings.

In a relationship with a main supplier, it would appear that behavioural performance is more significant than economic in evaluating the outcomes of the relationship. The behavioural measures show greater levels of significance than the economic measures. Each of these performance groups will be analysed in the following sections.

# Table 10.1
# Relationship structure and performance.

| | Multi-Var.-F ratio | Univariate F Ratio | Degrees of freedom | Signif-cance (p Value) |
|---|---|---|---|---|
| | a | b | c | d |
| **Source of Variation:** | | | | |
| **1. Behaviour measures:** | | | | |
| Overall Manova | .52 | | | .000 |
| Satisfaction | | 21.99 | (3, 193) | .000[e] |
| Outcomes compar. | | 12.19 | (3, 193) | .000 |
| Stability | | 9.33 | (3, 193) | .000 |
| Lead times | | 4.94 | (3, 193) | .002 |
| Quality | | 7.08 | (3, 193) | .000 |
| Diff. value | | 11.15 | (3, 193) | .000 |
| Joint projects | | 4.31 | (3, 193) | .006 |
| Flexibility | | 13.51 | (3, 193) | .000 |
| Speed of resp. | | 10.55 | (3, 193) | .000 |
| Conflict level | | 7.28 | (3, 193) | .000 |
| Design invol. | | 4.31 | (3, 193) | .006 |

**2. Economic Measures:**

| | | | | |
|---|---|---|---|---|
| Overall Manova | .62 | | | .000 |
| Switching | | 8.21 | (3, 192) | .000[e] |
| Interdepend. | | 10.20 | (3, 192) | .000 |
| Lower prices | | 1.42 | (3, 192) | .237 |
| Confid. abuse | | 4.84 | (3, 192) | .003 |
| Share info. | | 4.68 | (3, 192) | .004 |
| Cost sharing | | 5.75 | (3, 192) | .001 |
| Cost of Run. | | 2.26 | (3, 192) | .082 |
| ROI | | 4.36 | (3, 192) | .005 |
| Bought vol. | | 2.23 | (3, 192) | .086 |
| Profitab. | | 3.69 | (3, 192) | .013 |

[a]based on Wilks' lambda. Shows significance of variation between structure and performance.

[b]Assesses significance between each individual performance variable and the clusters.

[c]Degrees of freedom=[(k-1), (N-k)] where k = number of clusters and N = number of firms included in the analysis.

[d]Significance level. P value calculated by SPSS.

[e]Roy-Bargman stepdown significance levels are in order of the table: for behaviour measures - .000, .004, .057, .324, .103, .012, .695, .020, .523, .038, .133; and for economic measures - .000, .000, .295, .010, .172, .056, .169, .249, .237, .450.

The Roy-Bargman stepdown analysis is provided in note e to table 10.1. It is an analysis of the significance of the performance variables not of the relationship structures. The stepdown significance may help to identify the performance indicators which truly distinguish between the relationship structures, especially if the idea of minimum level of performance, present in any supply relationship, is accepted. The stepdown significance procedure is used to test variance added to the explanation by each dependent variable. The variables with lower levels of stepdown significance have their variance explained by the variables entered before them into the analysis. They do not contribute much additional variance to the explanation. In other words, no unique difference was accounted for after the effect of the variables preceding them had been taken into account. They vary in the same way as the variables before them.

The significant stepdown contributions to variance by the variables were: for the behavioural measures - satisfaction, outcomes comparison, stability, difficult to quantify value, flexibility, and conflict levels; for the economic measures - switching, interdependence, cost saving - all measures related to a single factor in the factor analysis, and confidence abuse - a risk element. The cost/profits factor identified in the factor analysis contributes no extra variance to the explanation. Since the stepdown procedure is concerned with the assessment of the variation in the dependent variables, and is sensitive to the order entry of the variables in the analysis, it is difficult to know at this stage in the analysis how significant a contribution to the findings it will make. This research is interested in the performance of relationship structures not the performance variables *per se*. However, the stepdown results will be added to the factor analysis, and to the findings on the hypotheses, at the end of the chapter, to determine if critical paths across the variables, and between the relational structures and

performance, can be found. The stepdown procedure might also identify the areas on which to place emphasis in future measure development.

Now that it is known that performance varies across relationship types (H2 was supported), two questions remain: between which structures does it vary and what direction does this take? Both of these questions are addressed in the next sections where behaviour and economic performance are separetely assessed.

### 10.4.2 Relational structure and behaviour performance

Multivariate individual t tests at a 95% confidence level were conducted using the bilateral relationships as a comparison group to find out if there were differences among the groups on the individual performance variables. These tests, combined with cross tabulations and an analysis of *post hoc* significance, indicate the direction and significance of any differences found between the relationship structures and performance.

The hypotheses addressed in this section and the following section, on economic performance, are summarised as

H3:

H3a: Bilateral structures have superior performance outcomes when compared to the other relationship structures.
H3b: Bilateral firms have higher behavioural performance than the other types.
H3c: Bilateral firms have higher economic outcomes than other relationship types.

H4:

H4a: Recurrent relationships outperform dominant and discrete over the range of economic and behavioural performance outcomes measures.
H4b: Dominant partner outperform discrete relationships across the performance measures.
H4c: The overall order of performance outcomes among the various relationship types is: bilateral, recurrent, dominant partner, and discrete.

Table 10.2 shows the statistical results for hypotheses 3b and c and the behaviour half of hypotheses 3a and 4. Bilateral relationships perform significantly better than the other relationship types across most of the behavioural performance measures.

The results, presented in table 10.2, support hypothesis 3b. Bilateral firms have higher behavioural performance than the other types. In table 10.2, bilateral firms are used as the comparison group. The table shows them to be significantly different to dominant partner and discrete firms on all except one outcome for each of those types (conflict levels for discrete and design involvement for dominant partner). Bilateral firms also outperform recurrent firms, across the range of performance measures. The behaviour side of hypotheses 3a and 4a are, therefore, supported. Hypothesis 4b and c are only partially supported. The performance order, in a behavioural assessment, holds for bilateral and recurrent firms but seems not as proposed, for discrete and dominant partner firms. Dominant partners do not appear to perform as well as discrete relationships. Being in a partner dominant relationship, with the partner using its power, produces lower outcomes than a discrete relationship. In order to go into more detail on these findings, each variable will be commented on individually. This

commentary draws on the results in table 10.2, *post hoc* tests on variance, and cross tabulations.

1. Satisfaction

From table 10.2 it can be seen that no difference was registered in satisfaction levels between buyers who managed their main supply relationship in a bilateral or recurrent mode. Although they were both different to discrete and dominant partner types. Dominant partner firms were slightly more negative in their evaluation of their satisfaction with the relationship than discrete firms (confirmed by cross tabulation and higher t value in table 10.2). Higher levels of dissatisfaction may be an indicator of inequality of power.

Satisfaction, measured by happiness with the relationship, is a direct outcome of relationship strength. Since there is no difference between bilateral and recurrent firms, it is likely to emerge from the high trust rather than the high commitment side of the construct. Satisfaction is a core performance indicator for both these types of relationship.

The performance order of the relationship structures on satisfaction is similar for bilateral and recurrent firms followed by discrete and dominant partner.

**Table 10.2**
**Behavioural performance of bilateral relationships versus other types**

**Bilateral relationships as contrast group**

**Individual Multivariate t Test Results**

| | **Recurrent** | **Dominant partner** | **Discrete** |
|---|---|---|---|
| | **(n=41)** | **(n=56)** | **(n=38)** |
| Source of Variation: | | | |
| **Behaviour measures:** | | | |
| Satisfaction | (.15, .88)[a, c] | (7.03, .000)* | (4.48, .000)* |
| Outcomes Comp. | (2.78, .006)* | (5.50, .000)* | (4.51, .000)* |
| Stability | (1.75, .081)*[b] | (4.01, .000)* | (4.69, .000)* |
| Lead times | (2.29, .023)* | (3.73, .000)* | (2.15, .033)* |
| Quality | (3.17, .002)* | (3.78, .000)* | (3.66, .000)* |
| Diff. value | (1.29, .20) | (4.08, .000)* | (5.15, .000)* |
| Joint projects | (1.83, .068)* | (2.64, .009)* | (3.29, .001)* |
| Flexibility | (1.34, .18) | (6.11, .000)* | (3.19, .002)* |
| Speed of resp. | (2.79, .006)* | (5.50, .000)* | (3.26, .001)* |
| Conflict levels | (-.03, .98) | (4.22, .000)* | (1.05, .30) |
| Design inv. | (3.46, .001)* | (1.36, .18) | (2.10, .037)* |

[a]A selection of these tests was also validated using a post hoc Scheffe test and a Multiple range test (least square difference).

[b]cannot lead to rejection given sample size in each group. Only definitely rejected when p>.10.

[c]To be read as (t value .15, significance .88). In this case there is no difference between bilateral and recurrent relationships on satisfaction levels.

* indicates significant difference.

2. Outcomes comparison

This measure comes from the social exchange school and measures the benefits of the relationship in comparison to alternatives. It is therefore no surprise to see bilateral firms outperforming all other types. The difference between recurrent and bilateral firms is that the latter measure higher on strongly agree and have non-existent scores on negative ratings. In terms of the other relationships, it would appear that there are always alternatives for discrete relations, and being in a dominant partnership with a supplier is not a choice a company would make except in necessity.

On examination of the t values, crosstabulations, and *post hoc* test, dominant partners were more negative than discrete partners on this outcome. Dominant partner relations received the lowest rating on the benefits comparison. They would benefit from being in an alternative relationship but may not have much choice. Their evaluation of the benefits of the relationship in comparison to their expectations and to other relationships that they are in, is that they are not achieving optimum results.

The performance order is bilateral, recurrent, discrete and dominant partner.

3. Stability

Stability showed a significantly more positive outcome for bilateral firms than all other types. However, recurrent firms were only significantly different at .081, that is slightly less positive in their evaluation. Discrete firms were more negative than dominant partners on this measure, which must stem from the ability of the buying firm to replace these types of relationship, relatively more easily than the other types.

Stability is a key outcome of close relationships. This is confirmed by these findings. Firms high in relationship strength perform better on this measure. It would seem to be linked to trust as an outcome.

The summary performance league for stability is bilateral, recurrent, dominant partner and discrete.

4. Lead times

Bilateral firms were perceived as having shorter lead times than all other relationship types. This is due to the strongly agree showing by bilateral firms. Dominant partner firms had the longest lead times with a significant negative buyer evaluation of this outcome. The difference between the other two groups was marginal with discrete performing slightly better (t value of 2.15 versus 2.29) than recurrent.

In a relationship with a main supplier, standard lead times would be a minimum expectation. Given this, bilateral performance is surprising. The poorer showing of dominant partners reflects their suppliers' ability to be able to dictate the terms of the supply relationship to their own advantage. Recurrent firms should have been closer to their bilateral counterparts, which would seem to indicate that lead times can still be an area of differentiation. The problem of partner lead times is not yet solved in all relationships.

The performance order summary is bilateral, followed by discrete, recurrent and dominant partner.

5. Supplier's product quality

In a main supply relationship in the industries included in the survey, the expectation would be that product quality is uniformly high. As shown in table 10.2, bilateral firms have

higher quality evaluation of their supplier's product than of all other relationships types. When firms work closely together they can have a major impact on product quality. The supplier learns about exact requirements by working in an interactive way with the buyer. The relational strategy perspective was presented in chapter 2. Bilateral relationships provide new approaches for interorganisational strategy development and delivery.

There was no significant differences between the performance of the other three types. Recurrently managed relationships perceive the supplier's product quality to be marginally higher than discrete and dominant partner types. However, as evidenced by the t values in table 10.2, the difference between these three groups is not huge especially between discrete and dominant partner. Dominant partners can use their power to deliver lower quality but discrete firms have to maintain a reputation in the marketplace. Buyers in dominant supply relationships perceive the product quality of their supplier to be lower when compared to all other relational forms. Again, the issue of use of power surfaces in dominant partner relationships. These findings suggest that that which was presumed to be a given of any main supply relationship, namely quality of product, deserves to be reconsidered as an asset for bilateral firms and as an area for improving performance for other types.

The performance league is bilateral, in second place, recurrent, followed by discrete and dominant partner.

6. Value difficult to quantify

Bilateral firms were not significantly different to recurrent firms on this measure. However, in the cross tabulation of results, they had a much higher percentage of response in the strongly agree group than had any of the other relationship

types. Bilateral firms felt that this intangible measure merited a higher level of positive agreement than did other firms. This would seem to be a direct result of the strength of the relationship. There is a lot going on at the boundary between two firms, which generates value that is difficult to quantify.

Discrete partners rated the lowest on this measure. They are more oriented towards the individual transaction and are not as interactive as the other relational forms. The room to create value difficult to quantify is obviously not there. Dominant partner firms were also statistically different to recurrent and bilateral firms. It could be argued that these firms give a low evaluation due to latent negative perception of the power use of their partner.

The order of performance is bilateral, recurrent, dominant partner and discrete.

7. Joint value added projects

Bilateral firms performed better on work on joint value added projects than any of the other relationship types. In common with their result in other areas, these firms had a higher positive rating on project work with their supplier. Recurrent firms closely followed them and were only statistically significant at the .068 level. It may be possible to develop a measure which more clearly distinguishes between these two relationship types, by looking at the type of project activity actually undertaken.

Dominant partner firms performed better than discrete firms on this measure. How much actual involvement takes place is not known, except that it is much less (less positive and more negative) than in bilateral firms. It is probable that the direction of these projects is one-way. It may be possible, in

the future, to give weights to the performance outcomes to reflect this kind of issue.

The performance ordered results are bilateral, recurrent, dominant partner and discrete.

8. Flexibility

Bilateral and recurrent buyers see the flexibility of their relationship with their main supplier in a similar way. There was no difference between them in the multivariate t tests reported in table 10.2. However, bilateral firms did have a higher rating on the strongly agree category of the measure. Dominant partner firms were the most inflexible and are significantly different to all other forms.

It was expected that discrete supply arrangements would be the most inflexible but they are actually seen as being more flexible than the dominant partner managed relationships. Buyers rate their dominant partner negatively on this outcome. This lack of flexibility may stem from the power use of a dominant supplier.

Flexibility is important for firms strong on the trust side of relationship strength and reflects a mutual openness with a partner firm.

The order of performance for the relationship structures is bilateral, recurrent, discrete and dominant partner.

9. Speed of response

Bilateral supply relationships had higher outcomes from the speed of response of their supplier to problems than had all other relationship types. These are problem solving type relationships to begin with, so one would expect this outcome.

The strong positive evaluation on this factor comes directly from the strength of the relationship.

Recurrent relationship are also significantly different to dominant partner types, but are closer to discrete partner evaluations on this variable than to bilateral. Dominant partner relationships are much more negative in their appraisal of speed of response of supplier. It would seem to confirm the pattern of dominant supply partners exploiting their relationship with their buyer. You can only rely on a speedy response to problems when you have a close relationship.

The ordering of performance evaluations to the speed of response by supplier to problems is bilateral, recurrent, discrete and dominant partner.

10. Relational conflict levels

The most significant difference in the levels of conflict in the relationship was between dominant partner relationships and the others. They had much higher levels of conflict present. The significance value for bilateral and recurrent firms of .98 means that they are almost certain to be identical in terms of conflict. Discrete partners are not far behind.

Lower levels of conflict would seem to be a minimum result of a closer relationship. A pattern of core relationship elements was observed in the analysis of reliability and validity, these could be complemented with an equivalent set of performance measures. Future research may confirm this for relationship and their subsequent performance. This conclusion would support the move to assess the relationship, by its underlying form, using the relationship strength construct developed in this research.

Given the results to this point, the reader might have expected this outcome. Buyers in dominant partner relationship have a great deal committed but get little reciprocation. Low trust coupled with high commitment is a recipe for conflict. Discrete relations have low levels of conflict. For these types of firms, output equals input even though at a lower level than for recurrent and bilateral relationships.

The performance outcomes order for this variable is bilateral, recurrent, discrete, and dominant partner with marginal difference between the first three.

11. Involvement in design

The involvement in product design of the supplier was found to be unrelated to the other behaviour performance measures in the reliability analysis and may not be an outcomes measure but one of strength. However, its relationship to bilateral firms merited its inclusion in this part of the research.

Bilateral firms were significantly different to recurrent and discrete partner firms, but not to dominant partner types. Recurrent firms had the lowest rating on this variable. These firms base their relationship on process efficiency and would not be expected to be involved in design. Involvement in design would be a result of the committed action part of the relationship strength construct and, therefore, recurrent relationships would not be expected to rate highly. Dominant partners had a similar pattern to bilateral and were also significantly different to recurrent types.

The cross tabulations indicated that bilateral relationships responded more in the strongly agree category than did any of the others. Where the differences lies is on the negative side. All the difference or similarity seemed to occur at this end of the scale. Many firms clearly do not involve suppliers in their

design, regardless of relationship type. In some cases, their design may be done elsewhere, or no major design is ongoing due to the industry cycle. However, one major way of improving efficiency is to involve the supplier in this type of work. The qualitative interviews saw this as a key element of closer integration, which leads the research back to the idea that it may not be a consequence of relationship structure but a part of it, in particular, of committed action. This would explain why dominant partner relationship forms were similar to bilateral. They are both high in committed action, as measured by the relationship strength construct.

The performance order for this variable was bilateral and dominant partner similar, followed by discrete and recurrent. However, the reader is cautioned by the lack of correlation between this variable and other measures of behavioural performance.

The key points arising out of the analysis of behavioural performance are:

1. Bilateral firms have performed at a higher level than all other types. They have been highest performers, or shared that grouping, on all the behaviour measures. This is why hypothesis 3b, which states that bilateral firms outperform the other structures on behaviour measures of performance, can be accepted.

2. Also, the performance ordering for recurrent firms, hypothesis 4a, can be accepted from the behavioural side. However, the performance ordering proposed in hypothesis 4c, from the behavioural performance perspective, can only be partially accepted. Dominant partner firms do not outperform discrete on behavioural measures (hypothesis 4b is rejected for behavioural performance). The ordering for performance outcomes, after the consideration of behavioural measures, is

recurrent forms second, discrete, third, and dominant partner relations, fourth.

3. The findings in this research, on buyers in dominant partner relationships with their suppliers, were unexpected, but possibly have parallels in the power-conflict literature. Dominant partners who exercise their power can reduce the performance of their partner. What is significant in this research, is that the level of reduction is higher than that obtainable through a discrete relationship. This is probably due to the input of the weaker party (buyer, in this research) being higher.

4. This analysis supports the validity of the results of the clustering procedure. The clusters can be seen to have predictive validity.

5. This section also offers further support for the construct relationship strength. Relationships do vary on their underlying form and this can determine performance. As a strategic approach to managing buyer/supplier interaction, bilateral relationships would seem to offer great potential. The appropriate type of strategy development process was outlined in chapter 2 where relationship strategy was compared to classical economic strategy. The social exchange assumption, on which this research is based, has received support from the findings, as an approach to managing relationships.

6. In chapter 9, the idea of minimum levels of relationship strength, common to all relationship structures, was introduced. This seems also to be supported by an analysis of performance. Behavioural performance variables are grouped in chapter 9, using factor analysis. Satisfaction, stability, value difficult to quantify, joint value added projects, and flexibility, were placed on one factor and benefits comparison, lead times, quality, and speed of response, on another. The first group analysed by

performance indicators (see table 10.2) placed bilateral and recurrent relationships fairly close together but these two groups differed far more significantly on the second factor grouping. The first group of performance indicators may be common to both relationship types and may represent a core performance level for both groups and could be weighted as such in future research. The difference between these two groups, and dominant partner and discrete types, was apparent on both sets of measures but the within group difference on these measures also varied.

The difference between dominant partner and discrete relational forms was less obvious on the first set of factor measures but very apparent on the second set. This again supports the idea of minimum relationship strength and performance across all relationships with main supplier, and brings the issue of relationship definition to the fore. Relationships must be defined by their underlying form, based on the key mediating variable set dominant in their governance so as to determine the appropriate management strategy. The form of a relationship is more important than the descriptive label placed on any particular relationship. In fact, it may determine them. The approach to managing interorganisational exchanges drives its content and modes of interacting. If relationships with main suppliers can vary on the basis of form and performance, it is likely that these differences will become stronger for other supply relationships.

### 10.4.2 Relationship structure and economic performance

The relationship between relationship structures and economic performance is examined in this section. The results of individual multivariate t tests are given in table 10.3 with bilateral relationships as the comparison group in the analysis.

Table 10.3
Economic performance of bilateral relationships versus other forms.

Bilateral relationships as contrast group
Individual Multivariate t Test Results

| | Recurrent (n=41) | Dominant partner (n=56) | Discrete (n=38) |
|---|---|---|---|
| Source of Variation: | | | |
| Economic performance | | | |
| Switching | (4.52, .000)[c]* | (.62, .54)[a] | (2.56, .011)* |
| Interdep. | (3.44, .001)* | (3.47, .001)* | (5.16, .000)* |
| Cost sharing | (3.26, .001)* | (2.93, .004)* | (3.36, .001)* |
| Confidence abu. | (-.17, .88) | (3.33, .001)* | (.41, .68) |
| Info. asymmetry | (-2.20, .03)* | (1.31, .19) | (-1.71, .09)*[b] |
| Costs of running | (-1.19, .24) | (1.36, .18) | (1.08, .28) |
| ROI | (1.24, .22) | (3.55, .000)* | (1.91, .058)* |
| Profitability | (1.07, .29) | (3.07, .002)* | (2.30, .023)* |
| Bought Volume | (.65, .52) | (1.06, .29) | (2.57, .01)* |
| Prices | (.36, .72) | (1.99, .049)* | (.47, .64) |

[a]A selection of these tests was also validated using a post hoc Scheffe test and Multiple range test (least square difference).

[b]cannot lead to rejection given sample size in each group. Only definitely rejected when p>.10.

[c]To be read as (t value 4.52, significance .000). In this case there is significant difference between bilateral and recurrent relationships on switching behaviour.

* indicates significant difference.

It would appear that bilateral firms also perform better than other relationship types across a range of economic performance measures. Given that the relations studied are main supply ones, and that the measures of economic performance come from economic theory on relationships, and therefore, should be maximised in decisions made by discrete and dominant partner firms, the performance of bilateral firms is surprising. Social exchange positions in relationships represent a significant way forward in the management of interorganisational exchange. Hypotheses 3a and c are supported and hypothesis 4a on recurrent relationships reinforced. Hypothesis 4b is not supported, and hypothesis 4c partially supported, as the performance order does not hold for discrete and dominant partner firms. These results will be examined individually for all the variables, using table 10.3, crosstabulations and *post hoc* significance tests. All of these combinations being necessary when making comparisons across the range of categories included in this stage of the analysis, as the power on any one analysis is lowered when the number of variables is increased. That is, the possibility of making an error in null hypothesis rejection is increased.

1. Switching behaviour

Firms were assessed on the basis of whether it would be difficult to switch to an alternative relationship. Switching behaviour is a measure of relative dependence. There were no differences between bilateral and dominant partner firms on this variable. Both relationship types would find it more difficult to switch. That is, they had the same level of agreement with the statement. Because bilateral firms are more interdependent with their partner, they should find it more difficult to switch but this is viewed as a positive outcome for them, as it reflects the depth of the relationship. Dominant partner relations are not easily switched from, as the buyer is dependent on the more powerful supplier. Given the scores for

this group on the behaviour measures, this pattern would be expected.

The results for recurrent and discrete partners are as expected: it would be easier to switch from these relationships. Recurrent partnership are those most at risk of switching behaviour, as their process efficiency is the easiest to transfer to another relationship. Discrete firms are closer to dominant partner and bilateral positions than to recurrent. The cost of switching from a dominant partner is probably high, as the buyer would have committed unique resources to the relationship. Buying firms would most likely be switching to a similar type of relationship with another powerful partner, so the motivation to switch may not be very high. It will be interesting to contrast these results with those of the other dependence measure, interdependence. Switching behaviour is likely to be a consequence of committed action due to its linkage to bilateral and dominant partner relations, both of which are high in committed action.

The ordering of outcomes for this variable are bilateral and dominant partners no difference, followed by discrete partners and recurrent relationships.

2. Interdependence

Interdependence measures a wish to become more inter-linked with a partnering organisation. Bilateral firms should not perceive this as a risk and should be enthusiastic about further integration. This is indeed the case as they were found to be significantly different to all the other relational types on this variable. The other groups perceived this as a risky strategy, reflecting their evaluation of their partner or a managerial culture of being suspicious.

The most negative relationship type on this measure were discrete partners. It suits the buyer to maintain this

relationship at arm's length. Recurrent and dominant partner firms have virtually the same rating on this factor. Discrete firms are the least dependent in terms of relationship strength at the outset, so their evaluations of switching and interdependence must be seen in this light. Dependence is not a strategy they would choose in the management of the relationship. Again in any future model, there will be a possibility of weighting these outcomes measures on a lower level for discrete firms, reflecting their input.

The performance order is as follows: bilateral, dominant partner, recurrent and discrete.

Combining the two dependence measures, it can be said that bilateral firms wish to become more dependent, discrete firms do not perceive dependency to be an outcome that they would want, and recurrent partner firms see the risks associated with a change in the dependence balance in their relationship. Dominant partner managed buyers wish to reduce their dependency and to become more interdependent. This is akin to an offsetting investment.

3. Cost sharing

Cost sharing in the relationship has been related to the dependence variables in the factor analysis. The reader can consider its result in the light of those on dependence. It is a measure of the productivity of the relationship and is a single measure, due to the unreliability of the other measure of productivity, namely, cost avoidance.

As can be seen from table 10.3, costs are shared more equally in bilateral firms than in other types. This was the research expectation. Bilateral firms have an advantage in cost negotiation and allocation decisions, when compared to the other relationship structures.

There were no major differences between the remaining three relationship types. Bilateral firms have a significant advantage over discrete and recurrent relations, in terms of their ability to share costs. Both these relationship types viewed their ability to share costs in a more negative way. Close to these is dominant partner relations, reflecting a buyer's dissatisfaction in their lack of power over the supplier to negotiate higher joint outcomes. Dominant partner firms performed a little better on this measure but their position must be analysed with caution: was their cost performance due to their investment, or to those shared with their supplier? The pattern of results on this variable matches closely numbers 1 and 2 already discussed.

The overall result pattern is bilateral, dominant partner, recurrent and discrete, with insignificant differences between the latter three.

4. Abuse of confidence

The measures of relational risks come from agency theory and, in this research, were measured by assessing confidence abuse and information asymmetry in the partnership.

Dominant partner relationships felt the greatest risk and believed that the relationship made it easier for an abuse of confidence to happen. Buyers in a dominant main supply relationship have made many resource commitments and adaptations to the relationship. This combined with low levels of trust makes them perceive a risk of confidence abuse by their supplier. The other relationship structures do not assess this risk to be great.

There was no significant difference between the other three relationship forms. Bilateral and recurrent firms were closer to each other and slightly more positive, but this was not

significant. Trust in a partner considerably reduces agency risk. Discrete relations probably do not perceive agency risk to be high as they have not contributed as much input to the relationship as have the other types. In future research, this outcome could be weighted at a lower level for these types of relationships.

The ordering of outcomes was bilateral, recurrent, discrete and dominant partner with no significant difference between the first three.

5. Information asymmetry

The second measure from agency theory produced a similar result to the first. Firms were asked about the information and knowledge that they had to share in the relationship with their partner. Bilateral firms were significantly different to other types but dominant partner relationships, when compared to all other types, were the most negative on this variable. They did feel that they had to share information that they would normally resist sharing with this main supply relationship. This probably confirms their dominant partner status. The difference between the other groups was significant but the actual pattern not immediately obvious.

There were no differences on the positive side of the rating on this variable. Bilateral, recurrent, and discrete relationships did not feel that they had shared information that they would normally resist sharing. However, on the negative side, bilateral firms were more strongly negative. In other words, they have shared information which they would normally resist sharing. This reflects the closeness of this particular type of relationship and is an important distinguishing variable. It would be interesting to find out what this information is and assess the pattern of information exchange across the various relationship types. This is an area for future research. The

qualitative research would indicate that, for bilateral firms, this information is more strategic in nature and allows open access to all types of management information.

It is difficult to evaluate a performance order for this variable but in terms of benefit to the relationship, the performance order would appear to be bilateral, followed by recurrent, discrete and dominant partner.

The overall pattern of results for relational risks would put bilateral relations taking the most risks and dominant partner firms, in the worst of all worlds, taking risks that they do not want to. Recurrent firms have taken slightly more risks but are not significantly different to discrete types. Clearly, if they wish to move to bilateral relational forms, they will have to be open to greater risks in the future. Agency risk seems to be related to the commitment side of relationship strength rather than to trust.

6. Cost of running the relationship

The test results seems to suggest that there were no significant differences between all the relationship forms. However, the negative t value for recurrent relationships gives a clue to a different pattern. Recurrent relationships were significantly different to both dominant partner and discrete types. The cost of running this relationship form was lower than for the others. This is an advantage of a recurrent relationship. Its process efficiency is reflected in costs of running the relationship. The other interesting result was the lack of significance for bilateral firms on this measure. The cost of running these types of more interactive relationship should be higher but this was not the case. They were not statistically significant when compared to recurrent or discrete and dominant partner types.

This may be a poor result for discrete and dominant partner firms. Buyers managing their main supply relationship on a discrete basis should have the lowest running costs of all the relationship as they face none of the interaction costs associated with the other relationship structures. The cost of running discrete relationships must be related to the transaction costs incurred when managing an arm's length relationship. Dominant partners place a higher cost on the weaker party so as to derive benefits from the relationship. This may account for the comparatively low performance of the weaker buyer in this research. It may be possible for firms in dominant partner relations to move closer to a recurrent relationship and try and improve process efficiency, thus lowering the cost of running the relationship. This may be difficult with demands for performance in other areas by the dominant partner.

The outcomes of running the relationship were recurrent partner followed by bilateral, discrete and dominant partner. This reflects a ranking based on the practical consequence of the outcomes on this measure.

7. Return on investment

The return on investment is higher for bilateral partnership than for dominant partners and discrete relations. Dominant partner relations received the lowest rating in terms of return on investment. Buying firms have made significant commitment to the supplier firm and their overall return is therefore lower than the other types. This relationship does not appear to be the optimal one for managing buyer/supplier relationships. However, in a main supply relationship, a firm may be left with no option but to take it or leave it. Whether it is possible to move a dominant partner to the recurrent or bilateral quadrants in the taxonomy is one of the normative questions posed by the research.

There was no significant difference between bilateral and recurrent partners except that bilateral firms were slightly more positive about their ROI levels. Discrete partner firms are close to this group but more negative. Given the fact that they have made less investment in the first place, this should not be surprising.

Return on investment seems to be linked to the relationship strength construct as an outcome, particularly to the commitment measures of the construct. The ordering of performance is bilateral, recurrent, discrete and dominant partner.

8. Profitability

One would expect profitability to be closely related to ROI results and this is exactly the case. Bilateral firms were stronger performers than discrete and dominant partner types. There was no difference between recurrent and bilateral firms except that a higher proportion of strongly agree firms were in the bilateral group, but there was no overall difference on agreement. Bilateral firms tended towards higher agreement.

Dominant partner relations were the least profitable from the buyer's perspective. This has major implications for the main supplier. Firms will not continue a less profitable relationship if there is an alternative available. However, it may be necessary to continue with a more dominant partner when no alternative is available.

In terms of profitability, discrete partner relations are slightly better performers than the dominant partner types. They are managing to get more out of the overall relationship than their dominant partner counterparts. This was also reflected in ROI levels.

The ordering of performance for profitability is as follows: bilateral, recurrent, discrete, and dominant partner.

9. Bought volume

The bought volume, for all the relationships in the study, is high due to the selection of a main supplier. However, there was one significant result. When asked to compare their bought volume to that of other relationships, discrete partners bought less in volume terms from the main supply relationship. They were very different to bilateral firms as evident in table 10.2. Buyers using discrete partnerships would be foolish to become too reliant, and by allocating volume across a few suppliers, can play them off against each other.

Buyers who managed their relationship on a recurrent basis bought slightly more from their main supplier than dominant partner and discrete firms, which would reflect this relationship structure.

The ordering of performance for this variable is bilateral, followed by recurrent relationships and dominant partners with discrete firms the lowest on this measure.

10. Prices

Price performance should be a key indicator of discrete relationships. The ability to buy from the market should reduce price according to transaction cost theory. This measure was included from this theoretical framework.

The findings show that prices are higher in dominant partner, than in comparable relations. The more powerful supplier can bargain a higher price. Bilateral relationships pay lower prices than dominant partner firms. By working together firms have

been able to reduce prices. This goes against the conventional wisdom of transaction cost theory. No significant difference was found between the other groups except that, by examining the cross tabulations, it could be argued that bilateral and recurrent firms are more positive than their discrete comparison group. The more behaviour oriented firms can perform better on price. The other relationship forms are paying a higher price due to the lack of long term supply commitment. In the case of discrete firms, they are paying prices based on a transaction approach. In the case of the dominant partner approach, paying prices dictated by the powerful position of the supplier.

The overall price ordering is bilateral, recurrent, discrete, and dominant partner.

The key points arising out of the analysis of economic performance are:

1. Bilateral firms have performed at a higher level than all other types. They have been highest performers or shared that grouping on all the economic measures except one, the cost of running the relationship. This is why the hypothesis that bilateral firms perform better on economic measures than the other groups, can be accepted (H3c). This is a very encouraging justification for the use of bilateral relations: they can improve economic performance. The argument that bilateral relations force up cost, does not seem to hold. In a modern competitive supply environment, bilateral relationships may be the only way to improve long term performance.

If the results of the economic analysis are combined with those of the behavioural analysis, the overall hypothesis that behavioural firms perform better can be accepted (H3a).

2. Also, the performance ordering suggested in hypothesis 4a can be accepted for economic measures. Recurrent forms came second. However, hypotheses 4b must be rejected and 4c partially rejected. On the economic measures, dominant partner firms did not perform better than discrete relations, rejecting hypothesis 4b and partially rejecting the overall hypothesis on order of performance (H4c) of the relationship structures. Dominant partner relations performed better than discrete on only three measures: the two measures of dependence and the bought volume measure. Recurrent relationships were lower than the other two on only one variable: they performed less well than dominant partner relations on switching. The order hypothesis (H4c) is supported for bilateral and recurrent relations but not for the other two forms. If these results are combined with those for behavioural performance, the same pattern holds.

3. The deviation of dominant partner firms from what was hypothesised for their performance is a significant result. They perform less well than discrete relationship. The results do fit in with the expectation of the channels and resource-dependency literature for firms that are dependent. But given that the analysis was on main supply relationships, their performance should have been better. These firms would do well to consider ending this supply relationship. The next section will assess whether the context specific factors help explain this outcome. The reader should note that a check was done on the nature of supply relationships to exclude firms who were supplied by dictate from their parent firm. There is a higher proportion of foreign owned firms in the bilateral grouping which would seem to indicate that parent dictate may not have been a problem.

4. This analysis supports the validity of the results of the clustering procedure. The clusters can be seen to have predictive validity.

5. The performance variables were placed on three factors by the factor analysis. These factors are: 1 - switching, interdependence, and cost sharing; 2 - confidence abuse and information asymmetry; and 3 - cost of running the relationship, ROI, profit, bought volume and prices. Factor 1 is best at discriminating between bilateral and recurrent relationship structures and factor 3 best at distinguishing between these two types and the other two. Factor two needs to be developed further but it did offer some useful insights, particularly, for recurrent firms' need to take more risks in the relationship, in order to generate better outcomes. All the factors give potential areas for performance improvement for the relationship structures.

6. The ability of the behaviour and economic performance measures to distinguish between the various relationship forms suggests that performance is multifaceted, as defined, and research into relationship should, as here, take a meta-theoretical approach.

7. The results of the behaviour and economic analysis of relationships have many normative implications. The matching of supplier-buyer relationship, areas for performance improvement, the relationship strength construct as an assessment measure, the importance of developing interorganisational strategy to exploit the benefits of strong relationships, and the idea that relationships may be embedded in the management method and in the form of co-operation rather than being industry or environment specific. These points will be developed in further analyses and in the conclusions and implications of the research.

Relationship structures have been found to differ significantly when the case of a main supply relationship is considered. Are they also independent of the context in which the relationship

operates? If they are, it will provide another very persuasive argument for the taxonomy of relationship structures and the theory underlying it.

## 10.5 500 firm quantitative study: Performance and context evaluations

This section will address the remaining two hypotheses and will also consider respondents' views on the nature of the advantage brought to them by the relationship with their main supplier.

H5: Behavioural performance is more important to firms than economic performance in measuring the outcomes of interfirm relationships.

H6: Relationship structure is determined more by the managerial content of the relationship than the industry or environmental context of the firm.

### 10.5.1 Behaviour and economic outcomes compared

Respondents were asked to rank the top three performance measures, used in evaluating their main supply relationship. The primary purpose of this exercise was to determine the most important outcomes, from their perspective. Table 10.4 reports the overall ranking for each of the main performance variables. Table 10.5 repeats this for each of the relationship structures used in the research. The figures allow the acceptance of hypothesis 5, which is that behaviour outcomes are more important than economic, in interfirm relationships with a main supplier.

Table 10.4 shows that the main performance outcomes ranked were flexibility, stability and costs. Two of these are behaviour outcomes which tend to confirm hypothesis 5. Further evidence for this hypothesis can be gained by looking at the ranking of performance outcomes by the four relationship types. This is presented in table 10.5. Acceptance of hypothesis 5 does not mean that economic outcomes are not important. It just means that behavioural outcomes are more important in managing the relationship. Considering the ranking one of the economic variables received, namely, the cost variable, it would be unwise for any relationship to lose cost proximity to other similar relationships.

Table 10.5 shows the extent of behavioural rankings across the relationship structures and confirms the pattern established in table 10.4. Behavioural outcomes are more important than economic, across relationship forms. Each of the forms will be examined in subsequent paragraphs.

**Table 10.4**
**Ranking of performance outcomes by respondents**

| | Rank Order[a] | | | Total |
|---|---|---|---|---|
| | 1 | 2 | 3 | |
| **Behavioural Categories:** | | | | |
| Flexibility | 54 | 43 | 37 | 134 |
| Closer Interdependence | 10 | 6 | 10 | 26 |
| Value added | 18 | 11 | 17 | 46 |
| Stability | 46 | 41 | 31 | 118 |
| **Economic Categories:** | | | | |
| Lower costs | 63 | 34 | 28 | 125 |
| Enhanced profits | 14 | 10 | 8 | 32 |
| Productivity | 13 | 12 | 19 | 44 |
| Risks of Deterioration | 4 | 6 | 2 | 12 |
| Other behavioural and economic | 28 | 9 | 11 | 48 |

[a]The table represents the rank ordering of performance outcomes by respondents. The number of respondents that rank an outcome, as well as the total rankings received for each outcome, are listed.

Table 10.5
Performance Rankings by Relationship Structure

| | % Ranking[a] by Structure | | | |
|---|---|---|---|---|
| | Bilateral (n=65) | Recurrent (n=41) | Dominant Partner (n=56) | Discrete (n=38) |
| **Behavioural Categories:** | | | | |
| Flexibility | 74% | 71% | 57% | 66% |
| Interdependence | 22% | .07% | 17% | .03% |
| Value added | 25% | 17% | 27% | 21% |
| Stability | 62% | 63% | 57% | 53% |
| **Economic Categories:** | | | | |
| Lower costs | 54% | 68% | 54% | 84% |
| Enhanced profit | 20% | 15% | 16% | 11% |
| Productivity | 22% | 22% | 25% | 18% |
| Deterioration | .06% | .02% | 12% | 0% |
| Other | 15% | 29% | 30% | 24% |

[a]Includes a 1-3 ranking % on the variable by a particular relationship structure.

Table 10.5 indicates that bilateral managed firms rate more relational performance outcomes. This confirms the ability of bilateral firms to achieve performance outcomes by working with their partner rather than working alone. Bilateral firms have the broadest range of outcome possibilities. The lowest outcome for this group, risk of relationship deterioration, was ranked at .06% which one would expect in a high relationship strength partnership.

Recurrent relationships perform in the expected manner. They are producing the cost benefits of an efficient partner and are, from the buyer's perspective, interdependent enough. Interdependence rates at .07%. The differences between them and bilateral firms on value added and profitability are also worthy of note. Recurrent partnerships are efficient. They are evaluated across outcomes related to process efficiency, not on the more strategic outcomes measures.

Dominant partner relationships are driven by the buyer's dependence on the particular supplier. They rate deterioration whereas none of the other relationship forms do. Value added is also important as it is probably the case that the supplier is unique to the buyer in terms of the total package that s/he provides. Dominant partners do concern themselves with behavioural outcomes, as evidenced by the ratings. However, when compared to other structures, it would appear that the sum over the total outcomes package is more important than any individual outcome, reflecting their lack of influence over a more powerful partner.

For discrete relational forms the most important outcome is cost. This is the price-based relationship after all. It is a relationship that takes place at arm's length which makes cost the most important performance measure. After accounting for cost, its performance relies on behavioural outcomes giving

more credence to the idea of minimum levels of performance across relationships and to behavioural performance being more important than economic performance in managing interfirm relationships.

This section has shown the importance of behavioural performance in measuring the outcomes of relationships with a main supplier and has led to the acceptance of hypothesis 5 that behavioural measures are more important than cost based outcomes, in evaluating the performance of interfirm relationships.

### 10.5.2 Affects of relational context on structure

This research developed from a social exchange perspective of relationships. Relationships are embedded in the management of interfirm exchanges. Is this management more important that the environmental context in which the firm operates? This section will test hypothesis 6 which asserts that relationship structure is determined more by the managerial content of the relationship than the industry or environmental context of the firm. It will be examined by looking at the effect market, supplier, and firm related characteristics, have on the relationship structures. If they have a very minor effect or an effect that supports the managerial content proposal then the hypothesis will be supported. The data for the hypothesis is contained in table 10.6. Table 10.6 contains the results of anova and chi-square tests. These results will be discussed using the three categories used in the table: market related, supplier related and firm specific factors.

# Table 10.6
# Effects of Relationship Context on Structure

| | Type of test | Degrees of freedom | F ratio | F Prob. | Difference among groups |
|---|---|---|---|---|---|
| **Source of Variation:**[b] | | | | | |
| 1. Market Related Factors: | | | | | |
| a. Volatility of Customer Market (7 point scale) | Anova | (3, 194) | .38 | .77 | None |
| b. Competitive Pressure (7 point scale) | Anova | (3, 195) | .12 | .95 | None |
| c. Size of main competitor (4 options) | Anova | (3, 188) | 1.19 | .32 | None |
| 2. Supplier Related Factors: | | | | | |
| a. Info. Intensity of supplier's product (7 point scale) | Anova | (3, 194) | 2.69 | .05 | None[a] |
| b. Technical Complexity of supplier's product (7 point scale) | Anova | (3, 194) | 1.82 | .15 | None |
| c. Importance of Supplier (7 point scale) | Anova | (3, 195) | 7.65 | .000 | Bilateral v. discrete |
| d. Criticality of supplier's product (7 point scale) | Anova | (3, 195) | 1.85 | .14 | None |
| e. Frequency of purchase (4 options) | Anova | (3, 195) | 3.13 | .03 | None[a] |

| | | | | | |
|---|---|---|---|---|---|
| f. % of purchases of product category from supplier (3 options) | Anova | (3, 195) | .68 | .57 | None |
| g. Volume of total purchases represented by product category (3 options) | Anova | (3, 195) | .38 | .77 | None |
| h. Supplier advantage (3 options) | Chi-square | (6, .01) | 9.60 | .38 | None |
| **3. Firm specific Factors:** | | | | | |
| a. Length of relationship (4 lengths) | Anova | (3, 193) | 2.15 | .10 | None[a] |
| b. Number of employees (3 categories) | Anova | (3, 196) | 1.53 | .21 | None |
| c. Classification of firm's market (3 categories) | Chi-square | (6, .01) | 6.74 | .96 | None |
| d. Ownership (4 categories) | Chi-square | (9, .01) | 15.97 | .07 | None[a] |
| e. Respondent profile (4 categories) | Chi-square | (9, .01) | 10.37 | .32 | None |

[a]Scheffe test found no difference among groups but because significance is $p<.10$, it will be examined further in the commentary following the table.

[b]The table summarises the type of test, its degrees of freedom, the f ratio and f probability, and any differences found among the relationship structures.

1. Market related factors

The market related factors tested in the study were the volatility of the customer market, the extent of competitive pressure in the industry, and the size of the main competitor. None of these factors was significantly different across the four relationship structures. Market related factors do not affect the type of relationship between a buyer and a main supplier. The management approach is not a response to market conditions. This offers support to hypothesis 6. Supplier related factors will be the next to be examined.

2. Supplier related factors

Supplier related factors were examined using the following variables: information intensity of supplier's product, technical complexity of supplier's product, importance of the supply relationship in comparison to others, criticality of supplier's product to the buying firm, frequency of purchase from the supplier, percentage of product category purchased from the supplier, percentage of total purchase volume accounted for by the product category bought from this supplier, and the buyer's perceptions of the competitive advantage of the supplier's firm.

Only one of the factors was found to be statistically different on the Scheffe *post hoc* test, importance of supplier. However, all the variables with significance levels of .10 or less will be examined for patterns.

Firstly, factors that were not significant across the groups, were technical complexity of supplier's product, criticality of the product to the buying firm, percentage of purchases for the product category bought from the supplier, volume of total purchases represented by the product category of the supplier, and competitive advantage of the supplier's firm. Due to the

fact that the research is dealing with main supply relationship, one might have expected these results for percentage of purchases bought from the supplier and for percentage of total purchases represented by the product category. Close relationships are suggested to exist due to the criticality and technical complexity of the product. These variables do not differ across relationship types, supporting the hypothesis that relationships are independent of the context in which they operate, and are driven by managerial decisions.

The information intensity of the supplier's product has a significance level of .05. No difference between groups was found using the Scheffe *post hoc* method. However, on examining the cross tabulations, it could be said that firms in dominant partner type relationship rate their supplier's product as higher in information intensity than the other types. This would be followed by bilateral, recurrent and discrete relationships. Bilateral relationship structures would be the best for handling products of high information intensity. Recurrent and discrete relationships, by definition, supply products lower on information intensity. The dominant partnership, as a structure for managing products high on information intensity, would not seem to be the optimal one. Perhaps, this is the reason the buyers choose this particular supplier. It is the only one that can supply products of the type needed.

The importance of the supply relationship to the buyer was found to be significant in *post hoc* tests. Given that all firms selected the supplier to focus on the basis of their importance and purchase volume, this finding is significant. Bilateral firms see their relationships as much more important than discrete firms. They have committed more to it. There is no differences between the other types and bilateral relationships. Discrete relationships would not be managed in this way if they were more important.

Frequency of purchase was not found to be significant in *post hoc* tests but had an overall significance level of .03. Transaction cost analysis uses frequency as one of the bases for the choice of governance mode. The more frequently the product is purchased, the more a company will move to hierarchical modes of governance; in this case, to bilateral or dominant partner types. The results show mixed support for this proposition, giving more evidence to support the position of this research. This context variable does not have the impact it is suggested to exert. Bilateral and recurrent partners did purchase more frequently than the other two types, a higher proportion of the purchases being made on a daily or weekly basis. There is no way of telling the causality of this pattern. The relationship structure itself may have caused it. The frequency of purchase only gives mixed indication of effect on relationship structure.

Finally, the supplier's advantage was measured as a nominal variable and its pattern of occurrence with the various relationship structures was therefore, measured using a chi-square test. Since a *post hoc* assessment was not used with the Chi-square analysis, some additional comments using the cross tabulations may be useful and will be provided where this test is applied. The only potential difference on supplier advantage lies with the discrete type. Their advantage is perceived to be cost based to a greater degree than for others, although probably not that different to dominant partner relationships due to the size of the cluster groupings. There is no difference in the differentiation category. None of the difference was statistically significant which is suprising given that the basis of advantage of a discrete relationship should be cost. This finding does correspond with the findings on the price paid in the relationship, outlined earlier. Buyers in discrete relations did not achieve a price that was lower than the other relationship structures.

In overall terms five of the eight, supplier specific factors were found not to differ across groups. Of the other three, only one was found to have a *post hoc* significant difference between groups. The maximum observable difference in any test was only between two groups. Hardly convincing evidence to support a strong impact of context. The importance played by context variables in previous research will be returned to in the next chapter. There is enough evidence so far not to reject hypothesis 6. This hypothesis is stated in the extreme. Any evidence which reduces the supposed effect of context is significant. This research maintains that relationships are embedded in a social environment and are driven by the management approach as much as by anything else. This view would seem to be supported. Managerial policy can have a significant effect on relationship structure that is independent of the broader context of which the relationship is part.

3. Firm specific factors

The firm specific factors would be expected to have more impact than 1 and 2 as some of them relate to the management of the firm. If they are not found to have a significant impact, the support for the hypothesis is strengthened.

The variables used to test firm specific factors were length of relationship, market of the firm, number of employees, ownership and respondent types. None of these variables was found to be statistically significant across the clusters. The following paragraphs will discuss each of the variables in turn, as many of them were conducted without *post hoc* tests.

The duration of the relationship with a main supplier was only found to be significant at .10. This means that relationship length is similar for all structures. This proved to be the case when the actual lengths were examined. In fact, recurrent and

discrete partners had more relationships lasting longer than 10 years or more. This must be one of the most persuasive findings for the impact of management on relationship structure. Previous research would suggest time is critical to build commitment and trust, this research would suggest that willingness by partner firms to engage in this type of interaction is more important.

The employee numbers of the buying firm should impact on the relationship structure. Company size is reflected by employee numbers. Size of firm can determine the power levels which they can choose to exert over a partner firm. Differences in employee numbers were not significant across the four clusters. All the firms included in the sample had employee numbers greater than 100. One might have expected the size of the dominant partner firms to be smaller.

The three remaining variables were nominal in nature and were tested using chi-square. The market of the firm is the same across clusters. Given that an industrial sample was chosen, this is not surprising and it is somewhat unfair to use this for comparison. However, the market the firms were selling to crossed many different industrial sectors, which gives variety to the linkages between the dyads studied and the other relationships to which they are connected. This variety strengthens any conclusion made from the results in this section.

The difference in ownership between the groups was only statistically significant at .07 and exhibited no pattern which would affect the results. In chapter 9, it was stated that the overall sample contained 60% UK firms, 20% North American, 12% European, and 8% Asian. The individual clusters did not conform to this pattern. This may seem significant but in terms of the hypothesis under test it may not be. There was a lower percentage of UK firms in the bilateral category, which sounds

promising as UK firms, in previous research, are suggested to manage supply relations at an arm's length basis. However, North American firms, who are said to manage relationships in a similar way, had more firms in the bilateral category. Asian firms are said to be more bilateral but their biggest showing was in the discrete group. These findings would seem to indicate that ownership does not play a major role in determining the type of relationship structure that develops. This finding will be returned to in the next chapter. The findings on ownership support the emphasis on management rather than on context.

The final variable was the influence of the respondent. It has been reported already (chapter 9) that there was no difference among the respondents in a range of relationship strength and performance variables. There are actually, therefore, no differences between the respondent type and the various clusters. This was confirmed by the Chi-square. However, the analysis of the percentage of different respondents in each group shows bilateral relationships had a higher percentage of purchasing managers and a lower group of managing directors. This could represent the capabilities of these firms or the trust and flexibility inherent in these firms. However, none of the percentages is significant.

The firm specific factors do not vary in a way that would allow the rejection of the hypothesis that relationship structures are determined more by the managerial content than by the industry or environment of the firm.

If 1-3 are taken as a whole, a build-up of evidence is developed to support the control of management over the structure of a relationship. The management of relationships can become a unique asset or competence of the firm. Hypothesis 6 is not rejected. It is not totally accepted due to its implications for previous research into relationship. Nor is it expected that it

will ever be totally accepted. The aim was to test whether the management context of a relationship should be brought closer to the centre of the debate on relationships. The implication that it should, is clear. The fact that, on a difficult test, relationship structures did vary, at the main supplier level where more similarities would have been expected, points an investigative finger at the role of management. People interact and create a relationship. Necessity, product, competition, and other factors, may push them together but the nature of the exchange is within the control of management. They can use their power, decide to be open, or play the market for the lowest price. The choice is theirs to make and therefore, their role in managing the interorganisational governance structure is critical. Their control over the form of a relationship should not be underestimated.

### 10.5.3 Relationship as advantage

Buyers were asked about the sustainability of their relationship with their main supplier. Sustainability was measured by uniqueness and durability. Can strong relationship strength generate competitive advantage? Do bilateral structures deliver a unique competitive position relative to the other structures? The findings reported in this section represent an agenda for further research by the author. Bilateral structures require a different vision of organisational and managerial action. They have been shown to deliver advantage in terms of a multifaceted measure of performance. This section will assess whether relationships with main suppliers are perceived to deliver sustainable advantage and if this is seen to vary across the relationship structures.

Uniqueness and durability were both measured on a three element scale. The respondents were asked whether the advantage was completely, somewhat, or totally, transferable (word used for uniqueness) to another relationship, and

completely, somewhat, or not at all, capable of lasting into the future (word used for durability). The frequency of response for transferability in the three categories was 34, 128, and 36 firms respectively (n=198). For lasting nature the frequencies were 98, 95, 5 firms (n=198). The pattern of response of the two variables is very different. Most respondents felt the advantage in the relationship was somewhat transferable and therefore, it is unlikely that there will be differences on this variable across the relational structures. They do not perceive the advantage to be unique to the relationship or else they believe the management system is transferable. For example, bilateral managers may manage all relationships in a similar way. This latter point is doubtful given the many arguments for relational portfolios. It is also unlikely but not impossible that the symbiotic match between supplier and buyer would occur in every relationship. There are also problems with this type of reporting of uniqueness. It is too broad a concept to be adequately captured in one overall question. It was included to give pointers for future research and to begin the process of the estimation of the possibility of a relationship being a competitive advantage. However, the rest of the findings have shown that bilateral relationships can achieve uniqueness in performance but this obviously does not translate to perceptions of uniqueness of advantage. It is an interesting future research question. What is transferable to another relationship? A totally different response profile is present in the durability question. There are insignificant numbers responding to the not at all sustainable category. The firms are evenly split between the somewhat and totally lasting. Uniqueness and durability would appear to be perceived in different ways and correlate with each other in a negative (-.17) fashion and do not seem to be related, as their difference is significant (p=.02).

The relationship between the two variables and the relationship structures is also worth investigating. As already

stated, it is unlikely that uniqueness and structures vary. This was found to be the case in an anova test (f ratio of .18 and p value of .91). The ability of a relational advantage to last into the future, or durability of advantage, was tested in the same way and was found to be significantly different across relationship structures (f ratio 10.11 and p value of .000). The *post hoc* Scheffe test indicated that the differences were among bilateral and recurrent relationships, and the other two, but not between the two groups. More bilateral (68%) and recurrent firms (61%) felt their relationship was completely durable. Discrete (26%) or dominant partner (34%) firms had greater numbers in the somewhat category. The concept of durability had a significant and meaningful distribution across groups. As an aside, of the five firms who answered not at all durable, 4 were in the dominant partner group and 1 in the discrete! While bilateral and recurrent firms do believe that the advantage brought from their main supply relationship will last into the future, they do not believe in its uniqueness. Certain types of relationship appear to bring competitive advantage and this needs to be explored in future research. No hypotheses were explored in this section, it was merely exploratory but it did set the scene for further research.

This section measured buyer's perceptions of the sustainability of any advantage that the relationship has brought to the company. It was measured by uniqueness and durability. The advantages were not perceived to be unique but for bilateral and recurrent firms, very durable. This durability may be an important means by which these firms adapt and cope with change. This section set the scene for future research into the nature of competitive advantage in relationships. The performance advantages of bilateral firms clearly place this on any agenda for further research in this area.

## 10.6 Examining critical paths between relationship structures and performance

The findings of the reliability and validity analysis presented in chapter 9, and the hypotheses tests results of this chapter, will be drawn together in this section. Critical paths will be proposed, on the basis of the findings, between relationship structures and performance, and the relationship strength construct and performance. The exploratory factor analysis has interesting parallels with the performance of the various relationship structures. Relationship performance can be distinguished along the factors proposed in chapter nine. The format for this section will be the presentation of a series of paths found in the research between the structures, and the variables on which they were based, and behaviour and economic performance. This analysis serves to highlight areas for further research by bringing together chapters 9 and 10.

### Path 1 - Bilateral

Bilateral relationship outperformed all other relationships across the range of behavioural and economic variables measures. The factors on which its performance was considerably different to other structures were: on the behaviour performance factor - comparison of benefits, lead times, product quality and speed of response; and on the economic dependence factor - switching, interdependence, and cost sharing.

### Path 2 - Recurrent

Recurrent relationships performed in a similar way to bilateral relationships except on the variables mentioned under path 1. The recurrent path is defined by its similarity to bilateral

except in the key areas outlined under path 1. These are the areas were its performance diverges significantly. It also converges with discrete relationship in its lack of a risk perception that is on the factor - confidence abuse and information asymmetry.

**Path 3 - Bilateral and Recurrent Structures**

Both bilateral and recurrent relationships come from the "more behavioural" streams of research on interorganisational governance and perform better in comparison to dominant partner and discrete relationships on two key factors: the behavioural performance factor that combines satisfaction, stability, value difficult to quantify, joint value added projects, and flexibility; and on the economic factor that includes cost of running the relationship, prices, return on investment, bought volume, and profitability. The factors in path 3 distinguish between bilateral and recurrent relationships and the other types. The factors in paths 1 and 2 distinguish among them.

**Path 4 - Dominant Partner**

A buyer in a dominant partnership with a main supplier is the lowest performer across all the behaviour and economic performance variables in the research. The performance variables that best predict dominant partners or where they are at the most significant, in terms of low performance are: for behavioural performance - satisfaction, speed of response, comparison of benefits, flexibility and conflict; and economic performance - dependence factor, risk factor, costs of running the relationship, prices, return on investment, and profitability. The dominant partners had lower trust levels than bilateral or recurrent relationships and high committed action measured by resource investments and adaptation. Only bilateral firms were higher in this type of commitment. One of the reasons for its poor performance is the lack of return on committed actions. Many of the factors which explain dominant partner's low

performance can be traced back to the resource-dependency or channel literature.

**Path 5 - Discrete**

Discrete supply relations are managed at an arm's length basis. The variables that distinguish discrete relationships from other types in performance terms are: from a behaviour perspective - stability, value difficult to quantify, joint value added projects, and design involvement; and from an economic perspective - interdependence, bought volume, and similarity in performance with recurrent relationships on risks. These variables would appear to reflect low commitment to the relationship and indeed, discrete firms had the lowest absolute commitment levels.

**Path 6 - Minimum Levels (relational definition path)**

The term relationship is defined in this research by its underlying form. The underlying form can be determined by the key mediating variable set that dominates the process-content of the relationship. The key mediating variable set that distinguishes between the four structures in this research is measured by the relationship strength construct. This was defined in terms of trusting and committed belief and action. One of the key findings of the research is that differences in forms exist and they can be determined by the key mediating variable set dominant in a particular relationship. In future research, it will be possible to differentiate to a greater extent between structures, as this research has identified minimum levels of strength and performance present in all main supply relationship. Minimum levels of belief trust and commitment are found in bilateral and recurrent relationships as well as minimum levels of performance on one behaviour factor and one economic factor. Discrete and dominant partner relationships do vary on these factors but still have minimum levels of trust and commitment. These are for discrete

relationship, belief trust and for dominant partner relationship, action commitment. The taxonomy of relationships structures has high validity and can be developed to a more rigorous level of axis definition by reducing the variables measuring relationship strength that weakly discriminated between relational forms and developing the others. The idea of a set of core variables, common to all relationships, which move through a series of critical points as the strength of the relationship grows stronger (moves to bilateral), was proposed earlier. These stages are very obvious from the relationship strength construct. The foundation and many building blocks have been put in place for the development of the relational structure taxonomy presented in this research.

**Path 7 - Trust and Commitment**

Trust and commitment predict performance for the relationship structures in clearly identifiable paths. Both bilateral and recurrent relationships are high on trust. Bilateral relationships are higher on the action components of trust and commitment. This distinction could lead to a path being established between trusting and committed actions and the behaviour factor (comparison of benefits, lead times, product quality, and speed of response) and the economic factor, dependence. In other words, these elements of relationship strength determine these variables to a greater extent than belief components of trust and commitment. Belief components of trust and commitment would be linked to the other behaviour and economic factors.

The pattern is not as clear cut for dominant partner as for discrete relationships, but is visible. Commitment would seem to distinguish the outcomes of these two types. Dominant partners' dissatisfaction on the economic factors could be due to its high levels of commitment. Relative to discrete relationships, they wish to increase their interdependence and face higher risks. This can all be related to the level of committed actions they have taken. Dominant partners' low

levels of trust and committed belief can explain their low performance on the behavioural dimensions of performance. Discrete relationships' lower levels of trust and commitment can be linked to lack of stability and interaction in the relationship. Each form has a distinct pattern as visible from the path ways. However, contrary to existing research, these findings suggest that relationships with main suppliers have minimum levels of relationship strength, otherwise there would be no relationship. The key factor that distinguishes between the relationship structures is the strength of the relationship.

## Path 8 Weightings

The final path for further investigation is the possibility of giving relationship strength and performance variables weights to reflect their contribution to the explanation. For example, conflict and involvement in design may not be important to discrete relationships, and should be weighted accordingly, or else they have an influence beyond their merit on the findings. The stepdown procedure in the manova hypotheses tests has indicated certain variables for weightings that is those that do not contribute any more variability into the explanation. This same principle can hold for the actual relationship structures and, possibly, for the belief dimensions of relationship strength. This may allow the research to develop paths that maximise the differences between relationships but allow their analysis to be conducted concurrently. This research has shown that an empirical study of relationship forms is possible using a mail survey. It may be possible to add to its predictive validity by the use of weightings.

## 10.7 Conclusion

To conclude this chapter, each of the hypotheses will be revisited. Hypothesis 1 proposed that relationship strength discriminates between relationship structures, as defined. The taxonomy of relationship structures was supported. The relationship strength construct does discriminate among relationship structures. Interorganisational relationships are driven by a key mediating variable set which determines their form. The relationship strength construct measured this variable set. It is determined by the mix of trusting and committed belief and action present in the relationship.

The performance hypotheses are presented as follows:

H2: Relationship structures exhibit significant differences in outcomes.

Hypothesis 2 was supported.

H3:

H3a: Bilateral structures have superior performance outcomes when compared to the other relationship structures.
H3b: Bilateral firms have higher behavioural performance than the other types.
H3c: Bilateral firms have higher economic outcomes than other relationship types.

Hypothesis 3 was supported.

H4:

H4a: Recurrent relationships outperform dominant and discrete over the range of economic and behavioural performance outcomes measures.
H4b: Dominant partner outperform discrete relationships across the performance measures.
H4c: The overall order of performance outcomes among the various relationship types is: bilateral, recurrent, dominant partner, and discrete.

Hypothesis 4a was supported, 4b rejected, and 4c accepted for bilateral and recurrent relationships.

The results of the performance hypotheses support the underlying assumption of this research. Social exchange as an approach to managing interorganisational relationships can perform better than alternatives. Bilateral relationship management by buyers, of their main supply relationship, was found to be the highest performing option.

H5: Behavioural performance is more important to firms than economic performance in measuring the outcomes of interfirm relationships.

Behaviour performance was ranked as being more important than economic performance, for all relationship types.

The relational context hypothesis is as follows:

H6: Relationship structure is determined more by the managerial content of the relationship than the industrial or environmental context of the firm.

This hypothesis was also supported. Relationships are embedded in a social structure that develops between firms. Social structure determines the form a relationship will take. This finding further supports the social exchange paradigm as an explanation of interorganisational exchange. It has been tested against alternative approaches and supported by the performance of bilateral firms but also found to explain other competing structures. Dominant partners and discrete relations may develop out of a particular interorganisational managerial culture as much as from anything else.

Contrasting relational positions have been found where they might not have been expected. That is, the similarities between firms' methods of managing interorganisation relationships with their main suppliers should have been more prevalent than their differences. This was found not to be the case. Social exchange positions can offer enhanced performance potential and may, because they are embedded in a social structure, offer competitive advantage possibilities. This remains a question for further research. Bilateral firms do certainly have greater possibilities for developing performance options due to the interactive nature of the operation of these relationships.

The definition of what constitutes a relationship has been added to by this research. The underlying form of a relationship is a meaningful level of analysis. This understanding is added to by the addition of critical paths linking the relational structures to performance, and the elements of the relationship strength construct to performance.

The critical paths also provide an agenda for further research by clarifying the elements common to all relationships with main suppliers, and highlighting the areas of difference. The proposal that minimum levels of relationship strength and performance exist, and the idea of adding weightings to those

variables that do not predict a particular form, would greatly improve the predictive power of the taxonomy while retaining its simplicity.

The findings of the research are discussed in relation to the literature in the next chapter. The research conclusions and implications for further research also are the subject of the next chapter.

# Chapter 11 - Research Conclusions and Implications

## 11.0 Introduction

This chapter will draw together the conclusions and implications of the research. These have been referred to in other chapters, especially in the chapter on findings and are further developed here.

This researcher investigated the structure of a relationship by adopting a metatheoretical approach. The conceptual framework combined behaviour and economic components of relationships. The relationship strength construct was developed from a multiparadigm approach and measured the key mediating process-content variable set in any relationship. This allowed relationship structures to be classified. The conceptual model consisted of a taxonomy of relationship structures linked to performance. The definitions of the constructs and the conceptualisation of the research are reviewed in this chapter in the light of the findings.

The hypothesis test results are reviewed and compared to past research findings. It is also the aim to draw implications for theory and practice. Finally, avenues for further research are developed.

## 11.1 Conclusions about the research problem

This research developed a classification schema of relationship structures through a multiparadigm analysis of governance theory, and tested social exchange assumptions about managing relationships. The thesis integrated behaviour and economic elements of governance theory, and found significant support for perspectives that combine both the economic content and behaviour process inherent in all exchanges. Zaheer and Venkatraman's(1995) argument for combined approaches is supported in this research but extended to develop a methodology that classifies a range of governance structures. At an overall level, multiparadigm perspectives receive significant support in this research.

The multiparadigm approach was used to develop the relationship strength construct. This construct measures the key driving forces in a relationship. Structural solutions to governing interfirm relationship usually adhere to either a behavioural or an economic analysis of the elements present in an exchange. The relationship strength construct combined behaviour process and economic content. It is defined by the dominant process-content variable set present in any relationship. This response to the research problem was supported by the empirical research of this thesis. The use of a multiparadigm approach and the resultant combination of behaviour and economic elements, to distinguish between relationship structures, is a significant theoretical contribution by this research. In addition, the relationship strength construct provides a methodology for identifying the structure present in any relationship, and potential responses to it.

Another aim of the research was to test social exchange assumptions about relationship governance. Use of an economic paradigm in the analysis of governance has been dominant in the literature. Considerable support was found for the assertions of Bonoma and Johnson(1978), Granovetter(1985) and others, that there exists a significant social component in exchange relationships which can be masked by a rigid adherence to an economic explanation. This research set out to test social exchange assumptions by proposing that they were the optimal mode of governance of interfirm relationships. Bilateral relations were found to be the optimal form of governance on the basis of the performance measures included in the research. The key difference between the conceptualisation of performance in this research on performance, and previous research, is that it pursued a multifaceted approach to performance combining performance elements from all of the governance theories. This is only possible when a multiparadigm approach is used. Indeed, the economic performance of bilateral relationship may be ignored in social exchange theory. The recognition of the economic elements of social exchange governance in terms of structure and performance is an important step forward in the study of governance. Relationships are based on mixed economic and behaviour elements. The narrow focus by theorists on their set of particular assumptions meant that this was not clearly seen. It is a matter of approach: bilaterally managed relationships pursue economic elements of exchange in the context of mutuality, in contrast to the more economically managed structures which assess the economic value of a relationships from a focal firm perspective. The method of classifying relationships based on the relationship strength construct is, therefore, an important contribution.

This thesis provides further support for social exchange theory but does add economic elements to the structure and performance of relationships coordinated by this method. This

should provide greater impetus to researchers who apply social science theory to management and marketing. Relationships based on social exchange can govern exchanges between businesses and can achieve higher performance. This performance finding considerably strengthens the argument for social exchange positions. Businesses can gain through collaboration, rather than through strict competition.

## 11.2 Conclusions about the research hypotheses

The hypotheses, presented in chapter 6, are returned to in this section and conclusions about them are drawn. They were divided into three groups: relational structure hypothesis, relational performance hypotheses, and relational context hypothesis.

1. Relational structure hypothesis

H1: Relationship strength discriminates between relationship structures, as defined.

This hypothesis is supported by this research. This means that the taxonomy of relationship structures proposed in chapter 3 is supported. The taxonomy of relationship structures based on the relationship strength construct is presented in figure 11.0.

The relationship strength construct discriminates between relationship structures. Interorganisational relationships are driven by a key mediating process-content variable set which determines their structure. This is measured by the relationship strength construct, which combines an assessment of both these elements. It is measured by the mix of belief and action components of trust and commitment present in the relationship. There is potential for the further development of

the elements of the construct - this is discussed in later sections. The main approach of the research was supported. Multiparadigm studies of relationships provide significant new insights into the structure of interfirm exchanges.

## 2. Performance hypotheses

The performance hypotheses are as follows:

H2: Relationship structures exhibit significant differences in outcomes.

H3:

H3a: Bilateral structures have superior performance outcomes when compared to other relationship structures.

H3b: Bilateral firms have higher behavioural performance than the other types.

H3c: Bilateral firms have higher economic outcomes than other relationship types.

H4:

H4a: Recurrent relationships outperform dominant and discrete over the range of economic and behavioural performance outcomes measures.

H4b: Dominant partner outperform discrete relationships across the performance measures.

H4c: The overall order of performance outcomes among the various relationship types is: bilateral, recurrent, dominant partner, and discrete.

Figure 11.0
The taxonomy of relationship structures based on the relationship strength construct.

| Trust \ Commitment | High Commitment | Low Commitment |
|---|---|---|
| High Trust | Bilateral<br><br>Quadrant 1 | Recurrent<br><br>Quadrant 2 |
| Low Trust | Supplier/buyer dominant<br><br>Quadrant 3 | Discrete<br><br>Quadrant 4 |

The relationship strength construct is measured by belief and action components of trust and commitment and discriminates between the four structural forms in the figure.

H5: Behavioural performance is more important to firms than economic performance, in measuring the outcomes of interfirm relationships.

Hypotheses 2, 3 and 5 were supported with partial support for hypothesis 4. Hypothesis 4a was supported, 4b unsupported and 4c supported for bilateral and recurrent but not for the other two structures. The performance hypotheses were supported except for the proposed position of the dominant partner structure. Discrete relationship structures outperformed dominant partner. Referring to figure 11.0, relationships in quadrant 1, bilateral, outperformed the others. They were followed by those in quadrant 2, then quadrant 4 and finally, the lowest performer, quadrant 3, dominant partner structures.

The performance outcomes construct developed for this research has been found to have considerable support. Performance is multifaceted. The fact that it was found to be related to relationship structure and to discriminate between different structures should encourage further research into performance from a relationship perspective. Kumar, Stern and Achrol's(1992) conceptualisation of relational performance as a multifaceted construct is supported in this research. In fact, relational performance measurement has been limited in previous research, by its narrow definition, to include only a few facets, and in the main, been largely absent from research in this area.

Social exchange positions have also been found to be supported by the performance analysis of this research. Bilateral relationship structures have the highest performance level. This is because, from a structural perspective, they have the most potential. Their high level of relationship strength gives them a greater performance range than other types. Rarely

have social exchange positions been found to be at the centre of business exchanges. They are usually prescribed as being optimal, under conditions of high risk and medium to high idiosyncratic investment requirements. This research proposed and found a broader role for bilateral relationships by showing that they have economic elements in their structure. That is, they are the highest of all structures in investment and adaptation made in the relationships, and in their performance, they outperform the other types on the economic measures of performance included in the research.

The relatively poor performance of the dominant partner structures, in comparison to discrete relationships, was unexpected but explicable. The weaker party's perception of power abuse by a dominant partner has been found in previous research by Gundlach and Cadotte(1994) and Kumar, Scheer and Steenkamp(1995) to lower their evaluation of performance. The results in this study are acceptable within research on channels of distribution. They are also easier to accept when one considers the nature of the committed actions made by the weaker party. They have made resource investment and adaptation to their dominant partner, but operate at lower trust levels than bilateral structures. This means that they are probably dissatisfied with the behavioural performance of the relationship and expect a higher economic return as compensation for their investment. In contrast, the discrete partnerships have made none of these commitments, and in turn, have lower expectations. They can perform better than dominant partners, as their expected level is lower.

The measures of behaviour performance have been found to be more important than economic, in the rated evaluation by respondents of the performance measures considered important by them (hypothesis 5). As expected, firms in discrete relationships did perceive economic performance outcomes to be relatively more important than behaviour

outcomes but the other three structures viewed behavioural outcomes to be more important. It may be possible to suggest that behaviour outcomes are precursors to economic ones for relationships with medium to high relationship strength. Relations low on relationship strength, discrete, are not expecting a high level of behaviour returns, as they are defined in this research. One implication of this is that weightings could be developed for structural and performance variables that reflect their importance to a particular relationship. For example, discrete relationships would not be expected to perform on design involvement but might be expected to perform at a high level on one of the economic outcomes. Adding weightings to measures, particularly in a self administered questionnaire, might improve the data collected. The weightings issue will be returned to in the directions for further research section. Hypothesis 5 was found to be supported. This further supports social exchange assumptions about relationships.

3. Relational context hypothesis

H6: Relationship structure is determined more by the managerial content of the relationship than by the industrial or environmental context of the firm.

This hypothesis was also supported. This finding further supports the importance of the social exchange paradigm as an explanation of interfirm exchange. Relationship structure would seem to develop out of managerial assumptions and actions rather than as a response to an environmental context. Relationships are structured on the basis of decisions, made by the parties, that affect the level of relationship strength. These decisions have been found to be independent of the environmental context in which they take place to the extent that all the relationship types were found across industries and firm types included in the study. Thus, the importance of the

management of exchange should not be overlooked: it has the power to influence structure and performance.

## 11.3 Implications for theory

A metatheoretical analysis has proved a worthwhile mode of investigating interfirm relationship structures. Metatheoretical approaches can provide new insights and solutions to research problems. They may also be less dependent on assumptions which limit the application of many theories. Governance theory was found to be rooted in behavioural or economic assumptions about the nature of exchange. The economic governance theorists assume opportunism drives a firm's decisions about a relationship, in contrast to the behaviour theorists' assumption of collaboration. Both approaches have behaviour and economic elements even though their assumptions about exchange are different. This recognition allowed the research to develop a methodology for distinguishing between relations: the relationship strength construct. A metatheoretical approach to the study of interfirm exchange provides researchers with a challenging avenue for investigating governance.

This thesis has found that researchers should be cautious of the relationship label. Relationships can be found in many business and social settings and tend to be described by the parties to it. This means that there are so many types of relationship that the concept becomes unworkable in practice. This thesis develops the key mediating process-content variable set to resolve this problem. In other words, relationships are defined by their underlying form. All relationship are made up of behaviour process and economic content elements, and these can more effectively distinguish between different structures than can other means of classifying relationships. The

relationship strength construct is an important theoretical contribution.

The taxonomy of relationship structures, based on the relationship strength construct, provides a matrix for classification that can be used in other research contexts. Not only can it be applied to other relationships not studied in this research, but it can be used to theoretically analyse and classify relational types. The study of relationship structure should move beyond the two ends of a continuum typology of bilateral and discrete relationships found in much research. Four relationship structures are present in the taxonomy of this research. This research has also demonstrated that relationships are capable of being analysed in a large scale empirical setting, without compromising their behavioural orientation.

The exploration of relationship structures has also been added to by the recognition of fuzzy boundaries between structures. It has been proposed that one structure dominates any interaction but does not exist in its pure form. Relational elements were found across all structures, including discrete types. It is recognised that this may be the case in this research because it focused on main supply relationships. However, to make structures like discrete relationship operational, they must include some minimal relational elements. Minimum levels of trusting and committed belief were found across the relationship structures in this thesis. The definition of a relationship structure is dependent on the level of relationship strength.

The study of performance also has important theoretical implications. Much work on relationships is not performance specific and, if it is, concentrates on either a behaviour or economic analysis, and is rarely multifaceted. This research has begun a comprehensive performance analysis of relationships,

and a comparison of performance across different relationship structures. It has also expanded the performance potential of all relationship structures by adding economic and behavioural elements to them. In particular, by supporting social exchange assumptions, it has shown that these mechanisms of coordination have greater potential usage than previously recognised.

One of the significant individual findings of this research is on dominant partner relationships. These are relationships in which the weaker party has invested to a high level but does not trust his/her partner. S/he is dependent on the stronger partner and determined by the actions it takes. The partner is using its dominant position. These relationships are the under performers. A lot of the relationship literature concentrates on these types of exchanges but does not recognise them as such and thus one is left wondering why partnerships are not working. These are relationships driven by the economic needs of the dominant focal partner. This research has given a structure in which these relationship can be identified, and avoided or entered into, with strategies for their specific management. Managing a dominant partner with a bilateral approach will not be optimal. Dominant partnerships were found to be the lowest performers which was proposed, at the outset, for discrete relationships. This low performance was not anticipated but has parallels in the power-conflict and channel literature in general.

Businesses can gain through collaboration, rather than through strict competition. This research supports the proposition that interfirm exchanges are becoming more relational. The high level of bilateral relationships found in this research is indicative of this point. Normally, these types of relationship are not considered to be a central feature of UK or US business practice (Sako, 1992) and are more a feature of the Japanese or Northern European business environments. However, Helper

and Sako(1995) found evidence that Japanese and American supplier relationship management methods were converging in the automobile industry. This thesis has found a higher incidence of bilateral relationship in the industrial markets studied in the UK, which runs contrary to the prevailing wisdom on UK business. The key difference is probably the focus of this research on industrial markets, which are characterised by longer term stable relationship. This finding is significant in that it shows British industry is responding to the relational challenge which has been growing due to changes in the global environment. The fact that they are choosing to manage these relationships in a bilateral way, rather than in another format, shows that they are aware of the benefits of collaboration. There is a need for this collaborative benefit to be recognised at a policy level. If it were applied at a more general public policy level, it would have implications for the development of cooperative, rather than competitive, policy mechanisms. One of the structural features of UK competitive policy is the focus on competition rather than cooperation. It is difficult for business to develop trust in such an environment. These latter points are cogently made in an article by Lane and Bachmann(1996) on industrial policy, which compared the institutional support for the emergence of trust in supplier relations in Britain and Germany. This research reduces the emphasis on the environment, as many environmental influences in industrial markets are global rather than local, but does concede that regulation can make a local environment more positively disposed to collaboration. Theoretical research in this area would be extremely advantageous to UK industry and policy makers.

## 11.4 Implications for practice

This research has demonstrated the benefits of cooperative exchange. In particular it supports a social exchange mode of cooperation as a method of managing interorganisational exchange in a business context. This places emphasis on the importance of developing an interorganisational strategy to exploit the benefits of a strong relationship. Some guidelines for developing a relationship strategy are presented in chapter 2. A business can begin by matching its strategy to that of a buyer/supplier. By considering the type of relationship a partner wishes to have, a firm can develop its response. A firm must be realistic in its assessment of its relationship potential. It may not have the managerial capability or partner cooperation to develop bilateral relations. The key is to develop a match. Bilateral relationship management will require a firm to commit itself to a relationship and to work with an organisation which may have different goals. However, the benefits of these types of relationship have been empirically shown in this research. It is a question for strategy and this research concurs with the argument of Low(1996) on the need to carefully consider any long term commitment in the light of its risks and potential. Indeed, this research has gone some way towards providing a framework for so doing.

The relationship strength construct provides managers with a methodology for analysing relationship structure. This will allow a firm to plan its relational approach and decide on its interorganisational strategy. The key areas of relationship planning are detailed in chapter 2. The relationship strength construct provides clues as to how to build a cooperative or competitive interfirm exchange. The key methods of so doing are through the belief and action components of trust and

commitment. The need for the development of action components of relationships was a key conclusion in the research undertaken by Joseph, Gardner, Thach and Vernon(1995) and was also found to be the case in this research. Action elements help to discriminate between relationships types. The adage "actions speak louder than words" might be appropriate. The relationship strength construct can act as an assessment measure and a mechanism to direct firms as to how to build closer relationships.

A comprehensive measurement of relationship performance provides firms with a broader range of options for assessing the value of relationship and enhancing their contributions to organisational outcomes. Firms can concentrate on the performance outcomes appropriate to the form of cooperation they chose. Specific relationship forms have been linked to outcomes in the chapter on findings. Relationships must have performance and strategic implications for them to be actively managed, particularly at a senior level within an organisation.

It is this researcher's opinion that it would probably be difficult to manage the relationship structures included in this research as a portfolio because they require different managerial styles. The organisation culture appropriate to managing a bilateral relationship may be different to that required for a discrete relationship. An open and cooperative strategy may not be possible for firms who pursue an arm's length supply management strategy. At a minimum, managers of discrete relationships would need to alter their assumptions and actions about managing supply relations. This researcher disagrees with Krapfel, Salmond and Spekman's(1991) portfolio approach to managing relationships but fully agrees with Heide(1994) from whom the following quote is taken:

*"...the differences among governance forms are*

*much more fundamental in nature [than previous research on governance] and they imply radically different approaches to relationship management."*

(Heide, 1994: p. 75)

The research has underlined the importance of the actual management of a relationship. The managerial systems needed to develop strong relationship strength is different to that required for lower levels. However, this does not mean that a company cannot move from one quadrant in the relationship structure taxonomy to another. This is possible by manipulating the levels of relationship strength. With main supply relationships, this may not be beyond possibility, as there are minimum levels of relationship strength in all the structures. The relationship strength construct provides the mechanism by which firms can alter their structural position. The real difficulty may still be in changing the managerial attitude towards coordinating bilateral and recurrent relationships versus dominant partner and discrete. That is, the need to move from an economic set of assumptions and a focal firm strategy about relationships to a behavioural set of assumptions and a cooperative strategy. Wood, Kaufman and Merenda(1995) underlined this in their case study on a US supplier of an OEM. They emphasised the role of cultural and strategy in changing from a low technology-low collaboration position to a high technology-high collaboration position.

## 11.5 Implications for further research

The relationship structure taxonomy provides a number of areas for further research. These areas are mainly concerned with the relationship strength construct. This construct can be

further developed at the measurement level, by adding to its action trust and commitment components and reducing its trusting and committed belief elements, found to be common to all relationship structures. It may be possible to develop the Likert scale methodology into a series of scenarios which discriminate even further between firms. There were a high number of bilateral firms in the research and perhaps there are subgroups within these. The research model is appealing because of its simplicity and the way its measurement has been reduced to account for components of relationships strength which discriminate between firms. However, this task can probably be further developed. Elements that measure the strength of communication and information exchange and which discriminate between strategic and non-strategy exchanges on these two variables, would provide particularly useful avenues for further research. In fact excellent foundations for study of both of these variables are contained in Mohr and Nevin(1990) and Bensaou and Venkatraman(1995).

This research primarily pursued a positivist agenda. Therefore, its frameworks are capable of being testing using a more process oriented methodology. This may give further insight into the concept relationship strength or the key mediating variable process-content set argument on which the construct is based. Furthermore, the performance outcomes construct can be developed in terms of its dimensionality and linkage to particular relationship structures. It is an understudied concept in the relationship literature. This research has shown its importance and multifaceted nature.

A series of critical paths were presented in the findings as a summary of the relationships found among variables, and relationship structures and performance. These paths can be used as a basis for further research. This does not take away from the importance of the classification schema and its link to

performance, developed in this research, but develops a different modality of investigation - an investigation into the constituents and outcomes of specific relationship structures. The paths outlined provide a clear presentation of some possible linkages. This structural modelling was not the aim of this research but could become the objective of further research.

The idea of weighting particular elements of relationship strength and performance also has an appealing logic. All the components of these constructs do not contribute equally to the understanding of a particular structure and its performance. The addition of weightings would make it easier to classify relationships and discriminate between structure and performance of various types. Frazier(1983) and Cronin, Baker and Hawes(1994) have begun to address the issue of using weightings in measurement in channel research. This research incorporates their views but is suggesting that one can go further and weight actual results on variables, depending on their importance to a particular structure.

One of the main areas for future research is the competitive advantage implications of relationships. The sustainability criteria were used in this research to determine respondents' opinions on the likelihood of competitive advantage being found in relationships. They believed relationship to offer durability but not uniqueness. These two components of sustainability were measured which seems to imply a strong need to understand the constituents of advantage obtainable from relationships. Clarity on this point would make businesses pay more strategic attention to this resource. It is in this researcher's opinion, and evident from the qualitative research carried out for this research, that there is advantage to be gained from relationships. In this research, the elements of bilateral structures and their performance come close to some form of advantage. But, in order to develop this in detail,

further work on understanding these forms needs to be done. This work needs to be both on a theoretical and practical level. There may not be as many practice examples of competitive advantage available from relationships. One area of application is information technology, but this is an application rather than an inherent advantage of the structure, although certain structures may be suitable to certain technology exchanges and others to other types.

This research was limited in its empirical scope. Primarily the research considered the buyer's perspective and only analysed one side of a relationship. It can be applied to other supply relationships and to other industries . One area of fruitful research is into the impact of management style on the determination of relationship structure. Management's role in relationship formation and development is suggested to be a neglected domain. Yet management makes the decision on relationship strength. Are there certain organisational cultures appropriate to certain relationship types? The role of management has been highlighted throughout this research and therefore remains an important area for further research.

This chapter has drawn conclusions and implications from the research undertaken in this thesis. It has demonstrated the importance of research into relationships and the contribution of this thesis. Many avenues for further research have been presented.

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# Appendix

# *Managing Buyer/Supplier Relationships*

A. Please complete this questionnaire **by focusing on your company's relationship with one of your main suppliers.**

B. **You are contacted as a key informant for this research and will determine its outcomes.** Your cooperation and participation will greatly help in developing further knowledge, and is appreciated.

## *Instructions*

A. This questionnaire is directed at senior managers only. It has been designed to be answered quickly and easily.

B. Most questions require you to tick answer brackets (for example, (√)) of your choice or circle a number that best represent your attitude or opinion (for example, (3)).

C. Please complete as many questions as you feel able to answer.

( ) If you would like a summary copy of the results of this study, please tick the box provided.

On completion of the questionnaire please use the freepost envelope or return to:

Mr Thomas O'Toole, Department of Marketing, University of Strathclyde,
Stenhouse Building, 173 Cathedral Street, Glasgow G4 ORQ.

## Section A: QUESTIONS THAT CHARACTERIZE THE RELATIONSHIP

. **In filling out this questionnaire, it would be helpful if you choose a main supplier to focus on. On what basis have you made this choice?** *Tick as appropriate.*

1 ( ) Purchase volume  2 ( ) *Importance*  3 ( ) Both purchase volume and importance

4 ( ) Other, please specify: _____

**Please indicate whether you agree or disagree with each of the statements listed below. They represent your perception of the relationship between your company and your partner.**

| | | *Strongly agree* | *Agree* | *Hard to say* | *Disagree* | *Strongly disagree* |
|---|---|---|---|---|---|---|
| (a) | 'Our supplier always keeps to its promises.' | 1 | 2 | 3 | 4 | 5 |
| (b) | 'Our supplier will take advantage when it can.' | 1 | 2 | 3 | 4 | 5 |
| (c) | 'Our supplier always gives us a fair deal.' | 1 | 2 | 3 | 4 | 5 |
| (d) | 'Our supplier is like a friend.' | 1 | 2 | 3 | 4 | 5 |
| (e) | 'Our supplier helps us out in emergencies.' | 1 | 2 | 3 | 4 | 5 |
| (f) | 'Our supplier tends to resist our requests for changes in supply arrangements.' | 1 | 2 | 3 | 4 | 5 |
| (g) | 'When a dispute arises it is resolved jointly.' | 1 | 2 | 3 | 4 | 5 |
| (h) | 'Our relationship is primarily managed by an informal agreement.' | 1 | 2 | 3 | 4 | 5 |
| (i) | 'We share information on a need to know basis.' | 1 | 2 | 3 | 4 | 5 |
| (j) | 'It is in our best interest that this relationship lasts.' | 1 | 2 | 3 | 4 | 5 |
| (k) | 'We feel a strong sense of loyalty to this relationship.' | 1 | 2 | 3 | 4 | 5 |
| (l) | 'We have made resource investments specific to this supply relationship.' | 1 | 2 | 3 | 4 | 5 |
| (m) | 'We have made a lot of adaptations to this relationship.' | 1 | 2 | 3 | 4 | 5 |
| (n) | 'A high level of communication characterizes this relationship.' | 1 | 2 | 3 | 4 | 5 |
| (o) | 'We have less influence over this supplier than we have with others.' | 1 | 2 | 3 | 4 | 5 |

. **Which of the following, if any, resource investments has your company made in this supply relationship?** *If yes, please tick the appropriate investment category(ies):*

1 ( ) Exchange of personnel  2 ( ) Physical assets (e.g., machinery)

3 ( ) Specialised purchasing procedures *(e.g., JIT)*  4 ( ) Supplier training

5 ( ) Provision of management assistance  6 ( ) Cash

7 ( ) Electronic links  8 ( ) No investments made

9 ( ) Other, please specify: _____

**Which of the following, if any, adaptations has your company made in this supply relationship?** *Please tick the appropriate investment category(ies):*

1 ( ) Product

2 ( ) Process

3 ( ) Information provision on production planning

4 ( ) Stockholding

5 ( ) Special payment terms

6 ( ) Product development involvement

7 ( ) Reduced supply base

8 ( ) Long term contract

9 ( ) Preferred supply arrangements

10 ( ) Organisation structure (e.g. specialist supply management structure)

11 ( ) No adaptations made

12 ( ) Other, please specify: _____

## Section B: THIS SECTION MEASURES THE PERFORMANCE ASPECTS OF THE RELATIONSHIP

**5. Below are a number of statements which reflect the overall performance of the relationship. Please indicate whether you agree or disagree with each.**

| | *Strongly agree* | *Agree* | *Hard to say* | *Disagree* | *Strongly disagree* |
|---|---|---|---|---|---|
| (a) 'We are happy with this relationship.' | 1 | 2 | 3 | 4 | 5 |
| (b) 'The overall benefits of the relationship are better in comparison to other relationships we are in.' | 1 | 2 | 3 | 4 | 5 |
| (c) 'One of the main advantages of this relationship is its stability.' | 1 | 2 | 3 | 4 | 5 |
| (d) 'The level of conflict in this relationship is higher than others.' | 1 | 2 | 3 | 4 | 5 |
| (e) 'One of the main advantages of this partnership is its flexibility.' | 1 | 2 | 3 | 4 | 5 |

**6. Below are a number of statements which reflect the added value in the relationship. Please indicate whether you agree or disagree with each.**

| | *Strongly agree* | *Agree* | *Hard to say* | *Disagree* | *Strongly disagree* |
|---|---|---|---|---|---|
| (a) 'The lead times for this supplier are shorter than for others.' | 1 | 2 | 3 | 4 | 5 |
| (b) 'The quality of this supplier's product is higher than others.' | 1 | 2 | 3 | 4 | 5 |
| (c) 'A lot of value that is difficult to quantify has been created in this relationship.' | 1 | 2 | 3 | 4 | 5 |
| (d) 'We are constantly working on joint value added projects in the relationship.' | 1 | 2 | 3 | 4 | 5 |
| (e) 'This supplier is involved in the design of our products.' | 1 | 2 | 3 | 4 | 5 |
| (f) 'The speed of response to problems by this supplier is quicker than others.' | 1 | 2 | 3 | 4 | 5 |

**7. Below are a number of statements which reflect the risks, productivity, and profitability of the relationship. Indicate whether you agree or disagree with each by comparing outcomes of this relationship to your expectations and alternatives available.**

| | | *Strongly agree* | *Agree* | *Hard to say* | *Disagree* | *Strongly disagree* |
|---|---|---|---|---|---|---|
| (a) | 'This relationship makes it easy for an abuse of confidence to happen.' | 1 | 2 | 3 | 4 | 5 |
| (b) | 'This relationship has meant that we have had to share a lot of information and knowledge which we would normally resist.' | 1 | 2 | 3 | 4 | 5 |
| (c) | 'The costs we have avoided in this relationship are less than in other similar ones.' | 1 | 2 | 3 | 4 | 5 |
| (d) | 'More costs are shared equally in this relationship when compared to others.' | 1 | 2 | 3 | 4 | 5 |
| (e) | 'The overall costs of running this relationship are lower in comparison to others.' | 1 | 2 | 3 | 4 | 5 |
| (f) | 'Return on investment (ROI) is higher in this relationship than in others.' | 1 | 2 | 3 | 4 | 5 |
| (g) | 'The bought volume in this relationship is higher when compared to others.' | 1 | 2 | 3 | 4 | 5 |
| (h) | 'The long term profitability of this relationship is higher in comparison to alternatives.' | 1 | 2 | 3 | 4 | 5 |
| (i) | 'It would be difficult to switch to an alternative relationship.' | 1 | 2 | 3 | 4 | 5 |
| (j) | 'The more **inter**dependent we are in this relationship the better.' | 1 | 2 | 3 | 4 | 5 |
| (k) | 'The prices we pay in this relationship are lower than comparable ones.' | 1 | 2 | 3 | 4 | 5 |

**8. Please rank the <u>top three</u> performance measures used by your company in evaluating this relationship. A list is provided for ease of answering. Place a 1 in front of the most important measure for your company and so on.**

1 ( ) Flexibility  2 ( ) Closer interdependence  3 ( ) Value added

4 ( ) Stability  5 ( ) Lower costs  6 ( ) Enhanced profits

7 ( ) Productivity  8 ( ) Risks of relationship deterioration

9 ( ) Other, please specify: _____

**9. This question asks you about the sustainability (lasting nature) of any advantage that this relationship has brought to your company.**

**(a) How transferable to another relationship is any competitive advantage generated by this partnership?**

1 ( ) Somewhat transferable  2 ( ) Not transferable  3 ( ) Totally transferable

**(b) Do you believe that the advantages in this relationship will last into the future, that is, are they sustainable?**

1 ( ) Completely sustainable  2 ( ) Somewhat sustainable  3 ( ) Not at all sustainable

## Section C: THIS SECTION PRESENTS YOU WITH QUESTIONS WHICH ACT AS A CONTROL FOR THE OVERALL RESEARCH

**10. On the market and your product that are represented by the supply relationships you are concentrating on:**
*Please circle the response that best represents your overall opinion.*

**(a) Please indicate the extent of volatility of the customer market served by your firm:**

1 2 3 4 5 6 7
High Low

**(b) Please indicate the extent of competitive pressure in your industry:**

1 2 3 4 5 6 7
High Low

**(c) How does the size of your main competitor compare to that of your company?**

1 ( ) Same size as us 2 ( ) Smaller than us 3 ( ) Larger 4 ( ) Double or more our size

**(d) Please rate the nature of the product/service of your supplier on the <u>two</u> scales provided:**

1 2 3 4 5 6 7
High on information intensity Low on information intensity

1 2 3 4 5 6 7
High technical complexity Low technical complexity

**11. On your relationship with your supplier:**
*Please tick your response in the answer bracket or circle the response that best represents your overall opinion.*

**(a) Please indicate the approximate length of time that this relationship has lasted:**

1 ( ) 1-3 years 2 ( ) 4-6 years 3 ( ) 7-9 years 4 ( ) 10 years or more

**(b) Considering your other supply relationships, how important is this particular one to your company?**

1 2 3 4 5 6 7
Important Not important

**(c) How critical is the product you buy from this supplier to your firm?**

1 2 3 4 5 6 7
Critical Not critical

**(d) How frequently do you purchase products from this supplier:**

1 ( ) Daily 2 ( ) Weekly 3 ( ) Monthly 4 ( ) Other

**(e) Please indicate the percentage of purchases for this product category bought from this supplier:**

1 ( ) 1-20% 2 ( ) 21-50% 3 ( ) greater than 50%

**(f) Please indicate the volume of your firm's total purchases represented by the product category of this supplier:**

1 ( ) 1-20% 2 ( ) 21-50% 3 ( ) greater than 50%

(g) **In your opinion, which of the following categories best represents the competitive advantage of your supplier:**

1 ( ) Price/cost 2 ( ) Differentiation 3 ( ) Niche or focus player

4 ( ) Other type, please specify: _____

**12. On your company:**

(a) **Which of the following category(ies) best describes the market your firm sells to?** *(Tick as appropriate)*

1 ( ) Consumer 2 ( ) Industrial

3 ( ) Consumer distribution/retailing 4 ( ) Industrial distribution/retailing

5 ( ) To another company in group

6 ( ) Other type, please specify: _____

(b) **Approximately how many employees are there in your company?**

(_____)

(c) **Please indicate the ownership of your company, for example, British multinational, American multinational, Japanese, etc. in the space provided:**

_____

(d) **Please state your position (job title) in your company:** _____

The box below has a number for administration purposes only. It will avoid me contacting people who have already filled out the questionnaire, and helps in the statistical aggregration of the results. Your individual responses remain confidential.