

The Application of Relationship Marketing to Construction

**A thesis submitted in fulfilment of the requirements for
the Degree of Doctor of Philosophy**

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Abstract

Relationship Marketing is relatively unknown in construction, but is widely researched in non project disciplines and applied similarly. Relationship marketing as a sub-component of marketing provides valuable and reliable tools that a manager can use to enhance a service that is being provided to a range of clients. It provides a better solution to client interaction than traditional marketing due to its focus on mutual attainment of common goals. The purpose of relationship marketing is to attract new clients and ensure that existing clients are looked after in a collaborative engagement where objectives are identified and mutual goals set. Overall collective aims of venture participants are identified and achieved.

The aim of the research is to identify key relationship factors that should be considered when selecting a construction service. This is achieved through a number of steps that include: examining the principles of marketing and its association with RM; examining alliance principles and construction RM principles, supply chain and service selection issues and relationship development constructs; interviewing a number of construction actors to theorise issues that are important to construction, its connections and relationships. Other activities include interviewing a substantial body of construction actors that have experience of Alliance projects and are able to comment on the relationship development process and observe activities undertaken at a number of alliance development and alliance lessons learned (outcome) workshops. The research identifies methods that enable relationships to be developed and a model that gives buyers the ability to pre-qualify and select contractors that are committed to providing value is provided.

The main findings from the research show that RM has many attributes that should be applied to construction; indeed several aspects of RM are currently being applied in alliance projects. The particular form that RM takes in alliance projects is in the relationship development of the stakeholders. These stakeholders eventually become the virtual team who manage the project. In particular the development of trust, commitment and mutual goals in alliance projects form a close parallel with similar constructs in RM. Four themes were discovered to make a difference in relationship development in construction. They were the process of the relationship development workshop; the underlying attributes associated with the development

process, in particular trust, trust building, commitment and communication; the outcome for the team; and organisational issues associated with individuals in the relationship development workshops.

The particular contribution that the research identifies is in the various models of relationship development that have been constructed throughout the research period. The first, an interim model, identifies a marketing continuum that forms a framework and provides an insight into the ways in which RM may reduce stress and reasons for conflict in a construction project team. At the same time the model shows how increased trust, commitment and satisfaction for the stakeholders, together with value adding potential in the supply chain, may be attained with the use and application of RM principles. The second interim model builds on the first model and applies an organisational focus to the original project based model described earlier. Ongoing relationships based on project success are identified. A third and final interim model identifies the association between process (project) and product success with transactional and relationship marketing. The model identifies how a RM approach provides a long term project success that may be translated to marketing success in a particular industry sector through ongoing relationships. Finally, building on the aforementioned interim models a construction relationship development model is proposed. It is suggested that these models develop and contribute to emerging theory on RM in a project environment and its application to construction. The models also contribute to relationship development theory applied to project driven and temporary organisations. These temporary organisations are particular to the construction industry and they stand to benefit greatly from this research.

Keywords: Australia, Relationship Marketing, Construction, Alliance, Procurement, Relationship Development, Trust, Commitment, Mutual Goals

Declaration of Original Authorship

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and, any editorial work, paid or unpaid, carried out by a third party is acknowledged.

Signed: _____ Peter Rex Davis

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Not least I would thank the *sample* that offered their help, particularly in the third study of the research program. They were generous with their knowledge and never failed to be available for me. In addition they were willing and able to further the collective knowledge in the area of construction relationships. Indeed I fail to understand how the construction industry continues, as it does, to have such a reputation for adversarial behaviours that are contrary to relationship development behaviours. Based on the discussions that I had with project stakeholders it would appear relationship marketing is set to increase significantly over the years to come.

Phew! At many times I had doubts that I would make it ☺ Peter Davis 05

Glossary of Terms

ALT	Alliance Leadership Team
AMT	Alliance Management Team
APT	Alliance Project Team
BAU	Business as Usual
CM	Construction Marketing
CCAm	Cost Competitive Alliance Model
DBB	Design Bid Build
MSA	Measures of Sampling Adequacy
PAm	Pure Alliance Model
PFA	Principle Factor Analysis also referred to Factor Analysis
JIT	Just in Time
PLC	Project Life Cycle
PMBOK	Project Management Body of Knowledge
QSR N6	Qualitative Research Software Solutions N6 formerly NUDIST
RD	Relationship Development
RDE	Relationship Driven Entity
RM	Relationship Marketing
SCM	Supply Chain Management
SPSS	Statistical Package for Social Sciences
TM	Transactional Marketing
TOC	Target Outturn Cost
VFM	Value for Money

Articles Resulting from Work Reported in this Thesis

Davis, P R (1998) The Role of Marketing in the Project Management Organisations of Western Australia. *In: Preece, C N (Ed.), The 1st International Construction Marketing Conference: Opportunities and Strategies in a Global Marketplace*, 26/ 27 August 1998, Leeds UK. Construction Management Group: School of Civil Engineering. University of Leeds, 293-306.

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Chapter 1 Thesis Introduction

1.1 Introduction

This chapter introduces the study and its context. It provides an overview of the thesis, describes its main aims and sub-objectives whilst setting out the research questions. The scope and limitations of the research program are discussed together with the research approach. Finally the outline of the thesis and its order of presentation are defined.

1.2 Research Context

In recent years Marketing has been shown to be lacking when applied to service industries, with Relationship Marketing (RM) in particular coming to the forefront of business and management interaction. Whilst marketing has been identified as appropriate for transactional processes where essentially a firm endeavours to expand its client base with a *one shot deal*; RM is more concerned with providing additional dimensions, which are a particularly useful for successful exchange relationships where many aspects are intangible. Transactional Marketing has features that focus on a single sale; an orientation toward a focus on short time scales; and limits commitment toward a client. RM has an alternative focus. A RM approach has characteristics and principles that focus in the main upon client retention with an orientation on product or long term benefits. The players associated with RM think in terms of long time scales, they portray high customer service emphasis and high levels of customer contact. These characteristics are best displayed using the following two definitions of RM. The first is widely accepted by writers in marketing circles as covering the defining principles of RM;

The business task of establishing, maintaining, and enhancing relationships with other parties defined as stakeholders at a profit so that the objectives of all parties involved are met (Berry 1983a).

Or in a more contemporary sense;

Relationship marketing is to identify and establish, maintain, and enhance relationships with customers and other stakeholders, at a profit, so that the objectives of all parties involved are met; and this is done by mutual exchange and the fulfilment of promises (Gronroos 1995b; Gronroos 1996).

Essentially construction focuses on transactional marketing. They apply themselves to discrete projects; process features, short time scales and do little to emphasise client service. Construction operates in an environment of low commitment, limited interaction and contact. The low commitment and interaction produce an outcome that engenders negligible vertical integration. This is commonly known as *traditional* procurement. It apparently fails to recognise the benefits that accrue from a RM approach to its business endeavours. Construction's focus on price, a trait that is widely documented as part of traditional procurement, fails to recognise interrelationships between important elements that are presented by RM. Some of these important elements are realised as communication and the customer's concept of value.

Following this it is postulated that by using RM, construction organisations are able to establish and maintain trust and commitment with clients that would be impossible with transactional marketing. Clients are likely to procure additional services and, importantly, they are unlikely to switch to competition. They will stay with the organisation longer due to embedded satisfaction with the process and product success received. High transaction costs associated with; estimating, selection and dispute resolution may be reduced by adopting a RM approach. Additionally, by following RM principles, construction clients will provide referrals to others as a result of their satisfaction, and they may be willing to pay a premium price for quality service. The end result of using RM is value adding to projects and product satisfaction for project stakeholders. There are many considerations when developing and applying RM to construction in order to create innovative styles of procurement. Hutchinson and Gallagher (2003) use a term *gamebreaking* to describe a team approach to procurement that endeavours to break the *traditional* procurement model.

In construction these *gamebreaking* approaches are increasingly being generated in alliance type procurement scenarios where a group of companies work together in a cooperative arrangement. The main aim of the cooperative is to reduce overall costs and increase profits. They have a focus on building and perpetuating relationships. It is argued that alliance relationships restore trust in construction business agreements, going significantly further in relationship development than traditional procurement. The parties involved in an alliance seek to align their objectives and collectively develop project scope from an early stage. An alliance

links organisational performance of participants in several key areas. To avoid the price imperative for example, an agreed formulae and framework is established for financial risk. Participating parties jointly agree to share the at-risk profit, are not allowed to *sink or swim*. Their profit contributions are collectively placed at risk based on a predetermined formula (Walker and Hampson, 2003, p87). Relationship development is an important attribute of alliance development that integrates the overall supply chain, providing networks of relationship, knowledge transfer and collaboration in a trusting environment.

The current thesis endeavours to establish the construction industry's propensity/ ability toward building and maintaining relationship (its own version of RM) following a number of steps, including:

- Examining the principles of marketing and its association with RM;
- Examining alliance principles and construction RM principles; supply chain and service selection issues; and relationship development constructs;
- Interviewing, in a focus group setting, a number of construction actors from the Perth, Western Australia construction industry, to theorise a series of issues that are important to construction, its connections and relationships. In essence to generate research questions for this thesis;
- Surveying a broad sample of the Perth, Western Australian construction industry, concerning their general opinions about procurement and asking them to reflect on existing and proposed relationships in the supply chain; in both upstream and downstream categories;
- Interviewing a substantial body of construction actors Australia wide that have experience of Alliance projects and are able to comment on the relationship development process;
- Observing the activities undertaken at a number of alliance development and alliance lessons learned (outcome) workshops.

The key objective of following the above steps is to develop a model of construction relationship development that can be applied by construction firms. The model will enhance their ability to attract and maintain clients.

The next section of this introductory chapter describes why this study is being undertaken (1.3 Defining the Issues), its aims and objectives (1.4 Aims and Objectives), its scope and limitations (1.5 Scope and Limitations), the research approach (1.6 Research Approach), and finally the order of presentation of the thesis is set out (1.7 Order of Presentation/ Thesis Outline).

1.3 *Defining the Issues*

A review of the literature indicated that there is a great deal of research concerning marketing and RM in non-project industries. This research has eventuated over a number of years. Many writers have theorised and identified advantages that are forthcoming from a RM approach to business, as opposed to an approach that has been described as *transactional*, short term and proposed to be a *one shot deal*. In addition marketing writers have proposed substantial differences between the issues that concern product and services marketing. Neither the advantages of RM over transactional marketing nor the differences between product and services marketing have attracted significant attention in construction.

Relationship marketing researchers pay considerable attention to particular variables of trust, commitment, satisfaction and mutual goals. These variables enhance both process and outcome to a great degree. Trust building and trust maintenance is intertwined with individual and organisational knowledge that develops to the benefit of all through a relationship development program. Limited research in construction in this area is developed and explained in the context of supply chain management.

1.4 *Aims and Objectives*

The aim of this study is to establish how relationship factors are assessed as part of a construction supplier's bid and later, at the time a buyer selects a contractor, from those suppliers that have provided a bid. The literature in Marketing and Construction does not consider the assessment, quantification, comparison and understanding of relationship criteria. This research provides an answer to the

question; how may relationship criteria (trust, commitment and goal setting) be assessed and compared in a proposed transaction between the buyer and supplier?

Following on from the overall aim are a number of research objectives:

1. The research will identify and document key relationship factors that should be considered when selecting a construction service.
2. Using both qualitative and quantitative research methodologies and field studies the research will identify methods that enable relationship factors to be developed.
3. It will propose a model that gives buyers, in both upstream and downstream relationships, the ability to pre-qualify and select contractors that are committed to providing value to the project across a range of relationship selection criteria.

Model development will explore a general hypothesis that whilst transactional marketing provides process success, RM is more powerful, being concerned with product success and a long-term view of client relationships. The proposed model will argue that RM can be applied to all actors in the supply chain whether they are client-contractor relationships or contractor-sub-contractor relationships. Mutual benefit will be shown to accrue in each of the relationships.

1.4.1 Research questions

Principally, the questions that form this thesis are arrived upon from the initial literature review that identified RM as applicable to construction. In addition the question came from the focus group study that is described in Chapter 4. The initial research questions were refined as part of the second stage of the research, and this is discussed in Chapter 5. Finally, to investigate aspects of relationship development in Alliance type projects, several questions were determined; these are discussed in Chapter 7. The research aims and arising questions are identified below:

Aim One: Identify key relationship and RM criteria from construction actors' perspectives

Essentially RM attempts to create value and share that value with the key stakeholders in a venture. The resulting value created is not a purchase required by customers, as a RM approach enables recognition of others it will form relationships

with and consequently creates value *with* them. The stakeholders will work together to design and realign processes to support the value required in the RM environment. Fundamentally there is a continuous and collaborative effort between the parties to the relationship and an understanding of long term commitment. This long term commitment creates bonds that will subsequently become increasingly tight. There is a creation of a *chain of relationships*. The relationship chain can be described as *upstream* and *downstream* interactions that form a network of connected relationships; the complexity of which Gummesson (1999) and other writers use to define RM. Commitment and trust are intrinsically intertwined variables associated with RM, in *one to one* business relationships they are difficult to separate and depend largely on several factors that include; the length of relationship the propensity or otherwise toward confidential information sharing and a willingness to customise. There are several other notable variables associated with RM that are discussed in Chapter Two.

The concepts of trustworthy behaviors that lead to trust and commitment were identified as a notable aspect of RM identified by construction actors that were present at the focus meeting. In addition to this the development of mutual goals together with early collaboration, and the concept of adding value through intangible means; were also identified by those that attended the focus meeting.

These points lead to the following research question.

Research Question 1a – Has a RM approach the ability to add value to construction projects?

Research Question 1b – Do construction actors endeavor to add value to the projects that they carry out?

Research Question 2a – What are construction actors' attitudes toward relationships benefits in the project environment that they work in?

Research Question 2b – Are relationships (RQ 2a) stronger upstream or downstream in the supply chain?

Aim Two: Catalogue different perceptions of relationships drivers between the stratified groups of construction actors

The response to questioning in the focus group - study one suggested that there was divergence in opinion between the three tiers of the stratified groups. To clarify this divergence of opinion a further set of research questions was established, thus:

Research Question 3a – What impact do RM variables, including commitment, trust, satisfaction and mutual outcomes, have on construction actors in their construction project environment?

Research Question 3b – Do these variables (RQ 3a) have a stronger impact on upstream or downstream relationships?

Aim Three: Identify characteristics of relationship development building (this was identified as barriers as an output from study one)

Barriers to RM in construction were noted in study one to revolve around power struggles associated with price alone selection. The price focus forced construction actors to become locked into relationships that were not as expected. A key to RM was identified as Relationship Development (RD). Overall relationships are described as evolving, incrementally redefined strategies that change the context in which people in organisations act. RD is an iterative and evolutionary learning process. Significant variables in relationship development are experience, uncertainty, adaptations, commitment and distance (Ford 1982). These variables appear to some degree in all relationship development phases.

Whilst the above research questions, 3a and 3b, identified perceptions of relationship drivers, from the perspectives of a stratified sample drawn from the construction industry, they failed to identify how the particular phenomenon developed. A quantitative study (study two) had been carried out, and qualitative data was required to validate particular meaning of the findings (King 1994). The particular meaning was to follow research on Alliance projects. Issues of concern included the principal factors that influenced selection of particular partners to an alliance. The focus study one had established that relationships were important to construction and that traditional design, bid, build type procurement did not assist in relationship building or relationship maintenance. A study of several definitions of alliance arrangements identified several key concepts that differentiate it from

traditional procurement thinking; alliance arrangements were described as frequently legally informal; transcending typical contracts, and transforming relationships in a contractual and behavioural sense (Baker 1996; Construction Industry Institute Australia 1996; Schultzel & Unruh 1996; Larson & Drexler 1997). These points lead to the final set of research questions.

Research Question 4a – What principal factors influence selection of particular partners to an alliance?

Research Question 4b – What processes and/ or interactions allow relationships to become forged in alliance projects?

By answering the above questions the aims and objectives of this thesis are fulfilled.

It is suggested that this thesis contributes to emerging theory on RM in a project environment and its application to construction. The thesis also contributes to relationship development theory and its application to project driven and temporary organisations. These organisations are particular to the construction industry.

1.5 Scope and Limitations

This research study focuses on RM, a body of knowledge largely observed from the perspective of researchers in non-project environments. An initial study (study one) provided assurance from the Perth construction industry that there was sufficient interest in certain aspects of RM to warrant further investigation. Whilst the scope of the overall study was underpinned by literature and empirical studies that are *worldwide*, the final scope of the study was construction in Australia.

The scope of this PhD research project was broadened and deepened through its development and transition. The scope was expanded from a limited focus group study to a broad based quantitative questionnaire. Both of these studies were limited to Perth, Western Australia. Finally an Australian wide qualitative investigation into Alliance projects provides a depth of contemporary knowledge to conclude the study. The third study was designed to enhance the reliability of the final research model and was tested for consistency via participation in several industry workshops.

It should be noted that the model of RD and selection criteria is not intended to be appropriate to all construction projects and care should be taken to recognise that

the scope of a project, its complexity, risk/ reward considerations and the final cost all impact on the chosen selection process. However it is considered that understanding the generic attributes of the model displayed provides a solid foundation from which an organisation may develop a bespoke model for individual projects.

1.6 Research Approach

The research approach combines both qualitative and quantitative methodologies as part of the study. Multiple data collection methods were employed including a literature review, focus group interviews, questionnaire survey and a series of semi-structured interviews followed by alliance workshop attendance and desk-based investigation of project specific documents. The arguments for adopting this particular approach are set out in Chapter 3 where Figure 3-1 shows the research approach adopted. The thesis comprises three studies that incrementally build on one another in an effort to answer the research questions that are listed in Section 1.4.1.

Study one is a focus group interview. It was established that this would be the most effective way to clarify and generate the research questions for subsequent investigations. A full account of the methodology adopted for the focus survey will be presented in Chapter 4. Several clear research objectives came from the focus study and were used as the basis to construct a mail out questionnaire. The questionnaire for **study two** was formulated in accordance with the aims and objectives of the thesis. Several additional research questions were determined from the earlier study. Many of the questions were designed in accordance with study one findings and a literature review on relationship marketing, as it is understood, in non-project industries. The questionnaires sought respondents' general opinions about procurement and then asked them to reflect on existing and proposed relationships in the supply chain. The questions were designed to solicit answers falling into both upstream and downstream categories. A full account of the methodology adopted for study two will be presented in Chapter 5. The final stage of the research program, **study three**, was an in-depth analysis of the construction procurement method known as alliance contracting or alliancing. The purpose of the study was to add depth to the earlier studies, particularly study two, and to investigate specific aspects of the research questions.

Earlier research by Whiteley (2004a) identified several experts in the field of alliance projects that were suitably qualified to assist in the research. A process of

snowball sampling was used to establish a comprehensive list of practitioners from Australia, able to take part in a qualitative survey (Sarantakos 1993). The qualitative survey instrument was designed to evaluate relationship building and key variables that impact upon the relationship between the various stakeholders participating in an alliance project. The industry stakeholders comprised; consulting engineers, consulting project managers, contractors, and client representatives. These industry practitioners were chosen because they were specifically representative of typical consortia associated with alliance projects.

This combination of methods and methodologies provides advancement in RM and RD when applied to the Australian Construction Industry. The benefits arising from this research include an improved understanding of aspects of selection that can be applied to construction organisations.

1.7 Order of Presentation/ Thesis Outline

This thesis is arranged in ten chapters. The content of each chapter is set out below:

Chapter one sets the context of the research, provides the research questions, sets out the thesis' aims and objectives and provides an overview of the methodology undertaken to complete the research. Chapter one also identifies the scope of its work and describes some limitations to the overall research. Essentially the overall thesis structure is outlined.

Chapter two reviews the body of knowledge relating to Marketing, RM and RD. A series of existing frameworks and models are described concerning supply chain management, service selection together with collaboration and cooperation. Gaps in the knowledge are identified that provide direction and context to the research questions.

In **chapter three** the research strategy, design and methodology of the overall thesis is presented. The chapter sets out possible theoretical approaches and follows with an argument that presents the paradigm used that overarches the thesis. There are five primary research activities, including a literature review, a focus study, a quantitative study, a qualitative study and finally an analysis of action research/

alliance workshop attendance and desk-based investigation of project specific documents.

A focus group survey is described in **chapter four**. The focus group survey is the first of three integrated studies that form the research project addressed in this thesis. The chapter initially addresses specific research, design and methodology issues and follows with a comprehensive account of the process and findings/ outcomes that generate the initial research question, the thesis aims and objectives. The outcome of the chapter generates the second and subsequent stages of the research.

Chapter five introduces the second study and initially describes specific research, design and methodology issues, and follows with a comprehensive account of the process and outcomes of the quantitative mail out survey that aims to address the questions raised in the focus group survey accounted in the previous chapter.

Chapter six details the findings and sets out a detailed analysis of the different perceptions between the stratified groups of construction actors concerning relationship drivers. It identifies the impact of RM variables including commitment, trust, satisfaction and mutual outcomes, have on construction actors in their project environment. It also identifies which variables have a stronger impact on upstream and downstream relationships. The chapter provides a full account of the data obtained from the questionnaire survey that is described in Chapter five.

The structure of chapter five and six is adopted for the third study. **Chapter seven** initially describes specific research, design and methodology issues, and follows with a comprehensive account of the process of the qualitative semi-structured survey that aims to investigate several issues concerning RD that arose from the earlier study – characteristics of relationship development building.

Chapter eight presents the findings and a detailed analysis of the semi-structured interviews with key alliance stakeholders from a stratified sample containing contractors, design and client actors. It identifies the principal factors that influence selection of particular partners to an alliance and the processes and/ or interactions that allow relationships to become forged in alliance projects.

To ensure internal consistency of study three an additional task was undertaken. The activity comprised an analysis of action research/ alliance workshop

attendance and desk-based investigation of project specific documents. **Chapter nine** describes this activity and presents the findings.

Chapter ten provides the conclusion to the research exercise, displays the models of RD and concludes with a presentation of the overall findings. It also outlines future research that may be considered by the reader of this thesis.

A series of **appendices** display supporting evidence associated with this research.

1.8 Summary of Introduction Chapter

This chapter has introduced the background to the research that identifies an argument for construction companies utilising RM and adopting RD assessment practices. Gaps in the knowledge were identified in construction literature that will be bridged with RM models developed as part of this research. The research aims were stated and a series of research questions posed to focus this research activity. A methodological approach was described and this included five primary research activities, including a literature review, a focus study, a quantitative study, a qualitative study and finally an analysis of action research/ alliance workshop attendance and desk-based investigation of project specific documents. An outline of each chapter of this thesis was provided and the scope and limitations of the research were outlined.

In the next chapter the existing body of knowledge relating to RM and RD will be reviewed and this will include discussion of existing selection processes, supply chain management issues together with service selection; collaboration and cooperation.

Chapter 2 Relationship Marketing

2.1 Introduction

This chapter provides a review of the existing body of knowledge relating to marketing, relationship marketing and aspects of construction procurement associated with the research questions. The literature review includes identification of fundamental components of relationship marketing, relationship development and supply chain management. Several writers indicate the purpose of a literature review should be to; increase the familiarity of the researcher with previous research; benchmark other studies and provide a framework for establishing the importance of a study (Anderson and Poole 1994, Creswell 1994, Sarantakos 1993). The literature review in this study was a continuous and dynamic process spanning three studies (Fellows and Liu 1997, Kumar 1996). It was developed as new information was found for clarification and integrated into the study.

The discussion in the following sections discloses considerable research and theory building relating to relationship marketing and relationship development from a non-project background. If this theory can be applied to a construction project environment then there would be a substantial body of knowledge that would become available to construction and other project environments.

The chapter commences with a brief contextualization of marketing; describing categories of marketing and the marketing mix. Relationship marketing is defined and several important characteristics of relationship marketing are discussed. This initial discussion is followed by a review of appropriate supply chain issues, supplier selection, and relationship development together with their underlying attributes.

This literature review justified the need for further investigation into construction relationship marketing and relationship development and highlighted a lack of research in relationship development in construction. The research questions were developed from the literature review.

2.2 *The Context of Marketing*

Marketing is generally concerned with organisations their clients and the relationships of exchange that take place between the two parties (Christopher, Payne and Ballantyne 1991, Cundiff, Still and Govoni 1985). It aims to afford client satisfaction (Kotler and Armstrong 1993). Kotler and Armstrong provide a pertinent definition of the marketing process:

Marketing is a social and managerial process by which individuals and groups obtain what they need and want through creating and exchanging products and value with others (Kotler and Armstrong 1993).

Marketing is a sub-system of organisational systems, it interlocks and interacts with the other business components (Cundiff, Still and Govoni 1985). Many professionals are confused by marketing and think of it only as selling or promotion (Kotler and Armstrong 1993, Cohen 1987). Selling is only part of marketing and if the marketer does a good job with other aspects of the marketing mix, for example; offer good service, price and promotion, then the selling in a transactional marketing sense will be straight forward (McColl-Kennedy *et al.* 1994, Kotler and Armstrong 1993, Cohen 1987).

Apart from this lack of understanding some professions perceive marketing to have negative impacts upon their image (Stevens, McConkey and Loudin 1993, Connor and Davidson 1990, Gummesson 1984). Despite these misconceptions, Connor and Davidson (1990) amongst others indicate that the success or failure of an organisation largely depends upon the focus and direction of marketing . It is becoming recognised that in highly competitive markets good buyer/ seller relationships are essential for success (Dorsch, Swanson and Kelley 1998).

2.2.1 *Categories of marketing*

Historically industry generally have centred their marketing on acquiring clients, this is known as *transactional marketing* (Christopher, Payne and Ballantyne 1991). Transactional marketing focuses on price and fails to recognise the interrelationships between key elements of the marketing mix (Nickels and Wood 1997, Woodside, Wilson and Milner 1992, Christopher, Payne and Ballantyne 1991, Ferguson and Brown 1991, Lovelock 1984).

An alternative model known as *relationship marketing* (RM) which focuses primarily on client service enhances the transactional model (Kotler *et al.* 1998, Boström 1995, Day and Barksdale 1992, Christopher, Payne and Ballantyne 1991). It is indicated that the relationship model provides; integral linkages in keeping clients for the long term, adds value to the project, and reduces the emphasis on price (Kotler and Armstrong 1993, Christopher, Payne and Ballantyne 1991, Kotler and Bloom 1984). At a micro level, marketing emphasis should move from a transaction focus to a relationship focus to ensure repeat business through client loyalty (Christopher, Payne and Ballantyne 1991, Ferguson and Brown 1991, Kotler and Bloom 1984, Lovelock 1984).

2.2.2 *Components of services marketing*

The essence of marketing is providing client satisfaction and value (Kotler and Armstrong 1993). There is a great deal of literature and contemporary research concerned with product marketing (Kotler and Armstrong 1993, Christopher, Payne and Ballantyne 1991, Cundiff, Still and Govoni 1985). Lovelock (1984) questions whether marketing skills developed in manufacturing companies are directly transferable to service organisations, whilst other writers are more specific and maintain that service marketing requires a different approach to product marketing. They assert that established strategies suitable for product marketing cannot be transferred (Bloom 1984). Several writers identify four particular characteristics that separate marketing a service from marketing a product (Boström 1995, Srivastava and Smith 1994, Kotler and Armstrong 1993, Dawes, Dowling and Patterson 1991).

a Intangibility

Due to the fact that services lack the physical dimensions of goods they are said to be intangible. It is relatively more difficult to define the nature of services and evaluate them against alternatives (Lovelock 1984). If services are unclear, then it follows that comparison is difficult. As such a client's ability to put a value on these services before they purchase them is difficult (Fisher 1986, Lovelock 1984).

b Perishability

Services are a mainly person based in other words there is a large human component involved in performance. This leads to an ever-present potential for heterogeneity and perishability. Clients are actively engaged in helping to create an outcome that involves assembling and delivering output. The output is of a mix of

physical facilities and mental labour (Boström 1995). Many clients view a product as a physical output rather than a beneficial outcome; for example an intangible decision support mechanism or process centre that translates knowledge, expertise and coordination. These examples have comparable value because they lead to the physical manifestation of a product. High levels of trust need to be developed whilst performing a service to ensure that intended results/ outcomes are realised. These may perish if mutual understanding and relationship maintenance measures are not developed.

c Inseparability

Because a service is an undertaking of performance, it cannot be inventoried (Lovelock 1984). Services are immediate and are produced and consumed at the same time. In this model supply is difficult to quantify and define explicitly and separate from demand. In procurement, inseparability may be reduced with the use of highly detailed and specified schedules of deliverables; however such an approach increases transaction costs and still does not guarantee client satisfaction. Long project life cycles that include delivery often results in separation between the client's intent expressed in the design brief and the final product that transpires many years later.

d Variability

In product marketing perceived variability of products is unaffected by mode of delivery. In service industries quality relies on an organisation's personnel selection and training, the quality of delivery and its identification (Christopher, Payne and Ballantyne 1991, Kotler and Bloom 1984). Clients are aware of this high variability and will frequently talk to colleagues, seeking favourable comment that reduces variability, before selection.

2.2.3 Marketing mix

Christopher, Payne and Ballantyne (1991) describe the work undertaken by Borden, at the Harvard Business School in the 1960's, in devising a 12 point marketing mix.

Over time the 12 points have been rolled up into four components:

1. Product
2. Price
3. Promotion or presentation

4. Place or channels of distribution

These points have become widely accepted by their current acronym, the “Four (4) P’s” (Denis 1995, Kotler and Armstrong 1993, Christopher, Payne and Ballantyne 1991, Fisher 1986, Gummesson 1984).

The 4 P’s are the elements that make up a marketing program (Christopher, Payne and Ballantyne 1991). They are the blend that an organisation uses to produce the desired response it requires in the target market (Kotler and Armstrong 1993, Brion 1967). The 4 P’s each have sub-activities, for example promotion includes both advertising and personal selling (Christopher, Payne and Ballantyne 1991). The manipulation of the 4 P’s is a challenge for any organisation (Brion 1967).

The 4 P’s by definition is applied to products. However it may be related to marketing a service. The 4 P’s then become (Fisher 1986, Gummesson 1984):

1. The services offered
2. The professional fee
3. The ways and method of communication
4. Where the service can be offered, its channels of delivery in the service industry

The relationship between the 4P’s in products and services are presented in Table 2-1.

Table 2-1 The relationship of the 4 P’s in products and services (Fisher 1986, Gummesson 1984)

<i>Products</i>	<i>Services</i>
Product	Services offered
Price	Professional fee
Promotion or presentation	Ways and method of communication
Place or channels of distribution	Where the service can be offered, its channels of delivery

The marketing mix represents the heart of an organisations’ marketing program. If any one of these elements is wrong the marketing program will fail and the organisation will not profit from its operations (Cohen 1987). As identified above the basic 4 P model fails to capture the full extent and complexity of marketing in practice (Meldrum and McDonald 1995, Christopher, Payne and Ballantyne 1991).

Further, it fails to recognise the interrelationships between the elements of the mix. Relationship marketing provides additional dimensions to the 4 P model. These additional dimensions are a particular requirement for successfully marketing services (Kotler and Armstrong 1993, Christopher, Payne and Ballantyne 1991).

2.3 *Relationship Marketing*

To be successful at relationship marketing, Gordon (1998: 9) indicates that a company must transform itself and revisit its views of marketing. It should be prepared to review almost every aspect of its enterprise. The review should reassess the work the company does and the structure it currently has, that enables it to achieve its objectives. Essentially RM attempts to create value for customers and share that value with the key stakeholders in a venture. RM helps organisations recognise those customers it will form relationships with and enables organisations to create value *with* them (Gronroos 1994). For example, the parties will work together to design and realign processes to support each other in the RM environment. Fundamentally there is a continuous and collaborative effort between the parties to the relationship and an understanding of long term commitment (Tomer 1998: 210). This long term commitment creates bonds that will subsequently becoming increasingly tight. It is indicated there is the creation of a *chain of relationships* (Gordon 1998: 10). This relationship chain can be described as the *upstream* and *downstream* interactions forming a network of relationships; the complexity of which Gummesson (1999: 2) uses to define RM.

The implications of a review proposed by Gordon above impacts on a company's customers, the scope of its business, a company's chain of relationships and reliance on rethinking the 4 P's of marketing (Gordon 1998), as discussed in Section 2.2.3. The indications are that every firm can benefit from RM, although in some sectors it may be easier than others (Gronroos 1996: 12). Grönroos goes on to show that relationship marketing is a paradigm shift that changes marketing thinking.

2.3.1 *Definitions of Relationship Marketing*

Many authors accept the definition of RM proposed by Berry (Gronroos 1994). Berry (1983: 143) focuses on keeping existing relationships intact, establishing new relationships and overall enhancing the process of exchange allowing the

stakeholders to strive toward predetermined objectives. The definition recognises the monetary value of the exchange. Berry's definition of RM is:

The business task of establishing, maintaining, and enhancing relationships with other parties defined as stakeholders at a profit so that the objectives of all parties involved are met (Berry 1983: 143).

Over time authors have endeavoured to enhance the definition of RM, for example Grönroos proposes that RM endeavours:

To establish, maintain, enhance and commercialise customer relationships, so that the objectives of the parties are met. This is done by mutual exchange and fulfilment of promises (Gronroos 1990).

Other authors have endeavoured to indicate that RM has a particular focus, for example Christopher, Payne & Ballantyne (1991: 5) suggest that "At a macro level and a micro level ... interrelationships with the customer are changing". The focus of "Relationships, networks and interaction" is noted as a key part of RM by several noted writers (Gummesson 1999: 2, 1995: 113, Kotler and Armstrong 1993: 499). The length of the relationship in RM is developed in a definition proposed by Nickels and Wood (1997: 6). This concept is mirrored by Berry who defines RM as:

The process of establishing and maintaining mutually beneficial long term relationships among organisation and their customers, employees and other stakeholders (Berry 1983: 143).

Finally Morris, Brunyee and Page bring into the RM definition the aspect of strategy and indicate that RM is:

A strategic orientation adopted by both the buyer and seller organizations, which represents a commitment to long term mutually beneficial collaboration (Morris, Brunyee and Page 1998: 239).

In one paper that describes a move from marketing to relationship marketing as a paradigm shift Grönroos (1994: 18) reviews several definitions of RM indicating that many writers simply provide descriptions of activities. This notion provides an insight into principles or essentials of RM. They are listed in Table 2-2 Grönroos (1994: 19). Grönroos postulates that they only consider the direct relationship between a supplier and its customer, which is a rather narrow view of relationship marketing. This point is discussed in Section 2.9.

In conclusion there is no agreement on a definition of RM, although there are many common characteristics portrayed in the definitions outlined. Grönroos (1996: 7, 1995b: 7) suggests a comprehensive description that seems to encapsulate the foregoing;

Relationship marketing is to identify and establish, maintain, and enhance relationships with customers and other stakeholders, at a profit, so that the objectives of all parties involved are met; and this is done by mutual exchange and the fulfilment of promises (Gronroos 1996: 7, Gronroos 1995b: 7).

Table 2-2 Characteristics of relationship marketing from various authors (Gronroos 1994)

<i>Grönroos, 1994</i>	<i>Gummesson, 1993</i>	<i>Blomqvist et al, 1993</i>	<i>Rapp and Collins, 1990</i>
Customers tend to be less sensitive to price	Management of interactions relationships and networks	Every customer is an individual person or unit	Create and maintain rewarding and lasting relationships
Long term focus		Activities are directed to existing customers	
Real-time customer feedback		Increase profitability and decrease turnover	
Interface of substantial strategic importance		Strengthened relationships	
Quality of interactions			

Hence, the definition of RM encompasses several characteristics that are expanded upon in the next section.

2.3.2 Characteristics and principles of relationship marketing

In an interview with the editor of the Journal of Business Strategy CEO of Hercules Inc Hollingsworth (1988) characterised RM using phrases; *win-win outlook*, *common goal attainment* and *search for synergy* when he discussed his company's strategy concerning international global joint ventures.

As may be seen with reference to Table 2-3 both Christopher Payne and Ballantyne (1991: 5) and Nickels and Wood (1997: 6) focus on similar fundamental principles of RM. The collected principles that are listed in the right hand column are a benchmark that most other writers in the discipline of RM accept. Both Christopher, Payne and Ballantyne (1991: 5) and Nickels and Wood (1997: 6) identify a focus on client retention and emphasise the importance of keeping customers as well as getting

new ones (Gronroos 1996). Product benefits (success) are noted by both authors, however it is only Christopher, Payne and Ballantyne (1991: 5) who distinguish RM as orientated around product benefits. The long time scale associated with RM is also noted together with high customer service emphasis as a priority. Nickels and Wood (1997: 6) additionally highlight the requirement for continuing research on customer needs to further enhance the enduring nature of the relationship. In this context Grönroos (1996: 8, 1990: 5) refers to promises and commitment to create an enduring relationship. High customer commitment and contact are emphasised by Nickels and Wood and Christopher, Payne and Ballantyne (1997, 1991). These factors also rate highly with both Morris, Brunyee and Page (1998: 239) together with Tomer (1998: 210), who refers to senior management and long term commitment associated with the relationship. Both of the foregoing authors stress that quality is a concern of those in the relationship. This point is reinforced by Woodside, Wilson and Milner (1992) when describing a model outlining *service quality performance* in the context of Certified Practising Accountants. The relationship proposed in RM is not just concerned with relationships administered by a marketing department within an organisation, but with all departments of an organisation. RM is marketing embedded in the whole management process (Gummesson 1995: 113).

Other issues that noted writers identify as characteristics/ principles of RM include goals and stratagem (Ferguson and Brown 1991: 145, Hollingsworth 1988: 12). Both Ferguson and Brown (1991: 145) together with Wilson (1995) indicate that RM has the potential to enhance goal achievement, cement long term relationships, and establish performance standards from which to recruit new members. Gummesson (1995: 113) refers to strategy where both parties voluntarily remain loyal to each other by retaining the relationship. One principle of RM is the allocation of resources. Grönroos (1990: 5) elaborates the concept of resources beyond the core product itself to include personnel, technology, knowledge and time (Gronroos 1996: 7). Grönroos indicates that these factors have an effect on the perception of quality and satisfaction of customers.

Interaction and information exchange is highlighted as a RM principle by Donaldson and O'Toole (2001: 12). This concept is supported by Gordon (1998: 10) who refers to the creation of a *chain of relationships* and by Gummesson as a *network of relationships* (Gummesson 1999: 2).

Transaction costs are noted by Donaldson and O'Toole (2001: 33) in the context of the raising of switching cost associated with RM. For example the “Trust typically associated with RM creates an atmosphere where costly safeguards and checks are not needed.”

In sum it is proposed that through continually dealing with a particular organisation, a client will develop a level of trust and commitment that is not evident in transactional marketing. The end result using RM is value for the client as well as satisfaction (Nickels and Wood 1997, Berry and Parasuraman 1991).

Table 2-3 A comparison between transaction and relationship marketing (Nickels and Wood 1997, Christopher, Payne and Ballantyne 1991: 9).

<i>Transactional marketing</i>	<i>Relationship Marketing</i>
Focus on single sale	Focus on client retention
Orientation on features	Orientation on product benefits
Short time scale	Long time scale
Little emphasis on client service	High customer service emphasis
Limited client commitment	High customer commitment
Moderate client contact	High customer contact
Quality is primarily a concern of production (output dominated)	Quality is the concern of all

The following outlines issues associated with each of the RM attributes listed in the right hand column of Table 2-3.

- **Focus on client retention**

RM is designed to retain customers rather than allow them to go elsewhere (Gummesson 1999: 9). In a transaction sense the emphasis of marketing has been directed toward obtaining customers rather than keeping them. In their book “Relationship Marketing, Bringing Quality Customer Service and Marketing Together” Christopher, Paine and Ballantyne (1991: 4) propose a model that links three key aspects; customer service, quality and marketing that aim to close the retention loop. The model comprises three overlapping circles. At the point of intersection RM becomes the focal point. Customer needs are identified to generate specific client related customer service. Quality is determined from the perspective of the client whilst managing both *process elements* of quality and *people elements* of quality. Christopher, Payne and Ballantyne (1991: 3) provide examples of process

elements that are design failure points and people elements that are *moments of truth* in the customer encounter.

- **Orientation on benefits**

It is argued by Gummesson (1999: 9) that RM should be more of a “Plus sum game” rather than just “Win-win”. The point being that the parties create rather than just increase value for one another (Gordon 1998). Gummesson (1999: 9) proposes that a constructive attitude is anticipated as part of the relationship process. The relationship should be meaningful at two levels, a personal level and a company level. If these conditions are fulfilled then the relationship will become long term. As may be seen in the section below the time scale associated with the relationship is one of the factors that provide differentiation between transactional marketing and RM. This point is elaborated upon by Grönroos (1994: 11) who refers to the Nordic School of services and their developments concerning customer perceived quality. This school indicates that there is an element of *functional quality* throughout the interactions that take place in the process of delivery. In the text this is balanced against *technical quality* or the outcome/ solution of the process. Section 2.4 discusses the concept of product and process success to provide a deeper understanding and context.

- **Long time scale**

Customer retention is an important issue. Often there is too much emphasis on obtaining new customers at the expense of existing customers (Gummesson 1999: 9). Gummesson suggests that “Extending the duration of the relationship” should be a fundamental goal. In another article Tomer refers to ultimate features of RM that includes a long time scale that is “Authentic and deep” Tomer (1998: 210). Tomer continues and explores two characteristics that define a patient relationship; the first is the ability and willingness to make short-term sacrifices for a longer-term benefit and second a long term perspective to the relationship. The former aligns with commitment, a construct that is discussed in section 2.5.1.

- **High client service emphasis**

In developing a model of effective relationship marketing Evans and Laskin (1994: 440) indicate that there are major RM inputs. The first is the understanding of clients *needs*. These should be differentiated from client *wants* (Tomer 1998). This is described as a difficult process as often many firms have trouble identify a client’s

expectations. This is due to the gap between the customers' point of view and the firms' point of view (Evans and Laskin 1994: 441). In the first instance there is a gap between what customers want and what they see the firm delivering. And in the latter instance the gap exists between what firms believe customers desire and what customers actually want.

The gaps exist for three reasons; initially firms are convinced they know what clients want but fail to interact with the client to solidify their knowledge; second, some firms cannot determine their client's expectations; and third, the cost of collecting the data can be higher than the firm wishes to pay.

- **High client commitment**

The main focus of RM is on the individual. Peters (1992) uses the phrase *one-to-one* marketing. RM focuses on groups of individuals with like minds. There is commitment to the client. These relationships are important in an organisational or institutional sense. In addition to this they are often important at a personal level (Gummeson 1999: 6). This aspect is exemplified by Gummeson (1999) who indicates that relationships are at the core of human behaviour, highlighting relationships with neighbours, corner shop owners and colleagues at work; each having its particular mutual benefit and purpose. Tomer refers to this as "Intimacy" (Tomer 1998).

- **High client contact**

In RM value is created *with* customers, not *for* them (Gordon 1998: 9). It is a continuous collaborative effort where a bond is created that becomes progressively tighter as the relationship evolves (Gordon 1998: 9). Throughout the life of the transaction a good marketer will be in contact with their client, constantly making sure that they are satisfied, obtaining feedback and developing their customer emphasis. Nickels and Wood (1997: 53) indicate that this is true for internal as well as external clients.

- **Quality is the concern of all**

Quality is a product of an interaction of equal partners, or partners prepared to act on an equal basis in a business venture (Gummeson 1999: 55). RM is not just concerned with relationships administered by a marketing department within an organisation, but with all departments of an organisation. In a RM environment it is

the responsibility of all employees to build a relationship with clients (Gummesson 1998, Kotler *et al.* 1998, Gummesson 1995). Typically transactional marketing is administered with an external perspective. RM however, is concerned with the interdependencies of all departments and individuals within an organisation and their exchanges both internally and externally. The objective is that all “Employees build [on] relationships” (Gummesson 1998, Kotler *et al.* 1998, Gummesson 1995). In principally the same way as services marketing, when compared to product marketing, there is no place for an individual quality division in a RM environment. Quality becomes the concern of all those involved in the venture. It is indicated that building a reputation for process and product quality is critical to sustaining a long-term customer relationship (Nickels and Wood 1997: 260).

2.4 *A Marketing Continuum – Transactional to Relationship Marketing*

Transaction marketing (TM) focuses on discrete projects; process features, short time scales and has little emphasis on client service; it operates in a environment of low commitment and contact, producing negligible vertical integration (Christopher, Payne and Ballantyne 1991). It fails to recognise interrelationships between other important elements of the marketing mix, communication and the customer’s concept of value for example (Nickels and Wood 1997, Woodside, Wilson and Milner 1992, Christopher, Payne and Ballantyne 1991, Ferguson and Brown 1991, Lovelock 1984). Christopher, Payne and Ballantyne (1991: 5) provide an example of this as a move from a narrow perspective of transactional marketing focussed on distribution, logistic and conformance to a customer specified system based upon quality; in other words-from a process success orientation to a product success orientation. This is an important issue in many industries due to high levels of intangibility in the service that they provide. To date using TM there has been an emphasis upon getting clients rather than keeping clients for the long-term. Transaction marketing (TM) typically has a focus on price (Woodside, Wilson and Milner 1992, Christopher, Payne and Ballantyne 1991, Ferguson and Brown 1991, Lovelock 1984). TM focuses on discrete activities and short time scales, with little emphasis on client service, giving limited commitment and necessitating minor contact (Christopher, Payne and Ballantyne 1991). A comparison that indicates the different focus of transaction marketing as compared to relationship marketing (RM) is set out in Table 2-3 below drawing on the works described above.

Overall the end result of TM is negligible supply chain interdependence (Love *et al.* 2002). It is indicated that at a micro level marketing emphasis should move from a transaction focus to a relationship focus as this will ensure repeat business (Christopher, Payne and Ballantyne 1991, Ferguson and Brown 1991, Lovelock 1984).

RM pinpoints client service and fundamentally enhances TM (Kotler *et al.* 1998, Boström 1995, Day and Barksdale 1992, Christopher, Payne and Ballantyne 1991). The relationship model's integral linkages assure long term clients, it adds value to service encounters, and reduces price emphasis (Kotler and Armstrong 1993, Christopher, Payne and Ballantyne 1991, Ferguson and Brown 1991, Kotler and Bloom 1984, Lovelock 1984). RM focuses primarily on quality and client service. RM provides integral linkages in keeping clients for the long term (Boström 1995, Day and Barksdale 1992, Christopher, Payne and Ballantyne 1991).

Kotler (1984) considers the emphasis on price highlighted above is reduced in relationship marketing due to inherent client loyalty and added value arising from RM. RM provides additional dimensions to the transactional model, that are particularly useful for successful exchange relationships (Kotler and Armstrong 1993, Christopher, Payne and Ballantyne 1991).

Care is counselled in the use of RM as opposed to the 4 P transaction model (Gronroos 1994). It is suggested that instead of isolating the 4 P model the marketer should integrate a RM approach into a companies business strategy and consider a marketing continuum (Gronroos 1994: 10). A typical marketing continuum is shown below, Figure 2-1. A predominantly transactional marketing model is depicted on the right; packaged goods for sale in a supermarket for example. Whilst on the left a physician provides services where RM techniques are readily employable.

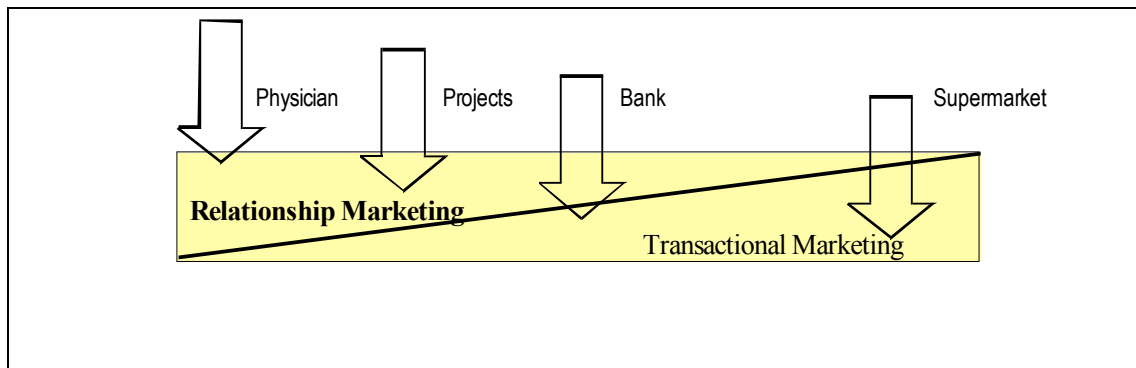


Figure 2-1 Indicative service providers along a continuum from services to products, adapted from (Barnes 1995: 112)

Figure 2-1 indicates that transaction marketing is at one end concentrating on quite discreet transactions; the *one shot deal* that does not envisage building long term relationships (Gronroos 1994: 10). The product or service that is the exchange moves one way and money moves in the other direction (Tomer 1998: 209). Relationship marketing is at the opposite end of the continuum where building long term broad relationships are the focus (Tomer 1998). In a subsequent paper Grönroos describes four aspects of the predominant marketing orientation that ostensibly dictates the orientation toward either transactional marketing or relationship marketing. The five factors are:

1. Dominating marketing orientation. As we have seen above part-time marketers are key factors in successful RM. However with a TM approach they would be subordinate to advertising or special offers for example.
2. Dominating quality dimension. In RM the functional quality or interaction process is important making the production and delivery an important factor. Whilst in TM the end result or output quality at the end of the production process is the most important feature.
3. Customer information system. TM focussed on quantitative data and statistics whilst RM is very qualitative in its outlook concentrating on depth of satisfaction or dissatisfaction.
4. Interdependency between marketing and human resources. The interface between the organisational functions of a firm makes the difference between a TM and a RM approach. In RM the interface and overlaps are much stronger and considerably better developed.

5. Internal marketing. The firm should have an internal training program in place to induct part-time marketers. There are limited uses for part-time marketers in a TM oriented firm.

(Gronroos 1995a)

Tomer offers alternative sets of characteristics that are the essence of RM:

1. Create and sustain a bond between provider and customer
2. Develop mutual commitment and forsake short term financial opportunities
3. Develop mutual RM strategies
4. Sustain continual communication that enables learning

(Tomer 1998: 209)

In TM it is the image of the firm, its core products or brands that will attract the customer. Eventually price will become an issue in TM, however by adding value to a core product a firm committed to RM will develop strong ties with its customers over time (Gronroos 1994). These ties may be technology, knowledge, information-related or social in nature (Gronroos 1994: 11).

In recent research two measures of project success are identified (Baccarini 1999). These are *process success* (project management success) and, *product success*. These may be associated with RM and are elaborated as follows.

Process success is short term and transactional in marketing terms involving meeting time, cost and quality objectives and satisfying project stakeholders' needs as they relate to project management processes. In effect it may be seen that process success is a development of transactional marketing, leading from low levels of marketing achievement and similar low levels of organisational achievement. Consequently there are limited and fundamentally short term benefits provided to project stakeholders in any venture adopted.

Product success matches long-term RM criteria involving satisfying user and stakeholders' needs where they relate to products and meeting project owner's strategic organisational objectives. Once again, it may be seen that product success is derived from a RM approach. RM leads to high levels of marketing achievement, with the use of concepts such as trust, cooperation and stakeholder satisfaction. This in turn produces high levels of organisational achievement derived from innovation and value

adding. Consequent benefits to stakeholders include mutual goal achievement and repeat purchases.

From this it is suggested that whilst transactional marketing provides process success, RM is more powerful, concerned with product success and importantly, a long-term view of client relationships. Interestingly, RM can be applied to client-contractor relationships and contractor-sub-contractor relationships. Mutual benefit accrues in each case.

To realise and maintain these relationships and enhance the likelihood of long term success the construction manager should focus their efforts, building upon attributes including; trust, cooperation and satisfaction. These are covered in the following section.

2.5 *Constructs of Relationship Marketing*

There are many variables to consider in developing a RM approach within an organisation. This section of the literature review concentrates on those variables and constructs that have appeared most consistently and featured highly in the review. For example, Wilson (1995) provides an extensive list of relationship variables established from theoretical and empirical research. The relationship variables relevant to the scope of this literature review are discussed below.

2.5.1 *Commitment*

Commitment is the desire to continue the relationship and to ensure its continuance (Mowen and Minor 1998, Wilson 1995: 337). It may be defined in three dimensions; the inputs to it, its durability and its ongoing consistency (Dwyer, Schurr and Oh 1987 :23). A concise definition is provided by Hennig-Thurau as,

...A customers' long term orientation toward a relationship grounded on both an emotional bond to the relationship and on the conviction that remaining in the relationship will yield higher net benefits than terminating it (Hennig-Thurau and Klee 1997 :752)

This sentiment is borne out by Morgan (1994) who indicates that the committed parties believe the relationship that they have is worth working on to ensure that it endures indefinitely. It is a critical variable in measuring the future of a relationship (Wilson 1995, Dwyer, Schurr and Oh 1987).

In order to meet project objectives a manager must engender commitment in the stakeholders (Verma 1995: 72). The organisation must also show they are concerned for the client, and portray a positive attitude towards that client (Hawkins, Best and Coney 1988).

2.5.2 *Trust*

There are various characteristics which separate marketing a service from marketing a product. The element of intangibility is one of four main characteristics according to the several writers researched, including (Barnes 1995, Boström 1995, McColl-Kennedy *et al.* 1994, Srivastava and Smith 1994, Kotler and Armstrong 1993, Dawes, Dowling and Patterson 1991, McDonald 1988, Fisher 1986, Berry 1984, Kotler and Bloom 1984, Lovelock 1984). Due to the intangible nature of the construction service for example, the lack of objective measures for evaluating service quality, high level of trust are required from the client.

Accordingly trust is an important concept in any construction relational contact (Doney and Cannon 1997: 47, Han, Wilson and Dant 1993, Dwyer, Schurr and Oh 1987). It influences the interpersonal and group behaviour of the project team (Dwyer, Schurr and Oh 1987). Wilson (1995) considers it to be a fundamental building block. Haines (1995) found in his research into the concept of partnering, that the operating parties are a team that cannot function without trust. This is largely due to high levels of personal interaction (Morris, Brunyee and Page 1998). High levels of trust that are found in relational exchanges enable partners to clearly focus on the long-term benefits of the relationship. These aspects are found to enhance competitiveness and reduce costs (Doney and Cannon 1997 :35, Hennig-Thurau and Klee 1997 :754).

Trust may be defined as:

...The belief that a party's word or promise is reliable and a party will fulfil its obligations in an exchange relationship (Dwyer, Schurr and Oh 1987).

Other writers consider that trust relates to confidence and the recipients' perception that it will provide benefits or obtain a desired goal (Dorsch, Swanson and Kelley 1998). Also see Lewin (1994:28) and Gwinner (1998).

Doney (1997 :36) indicates that two dimensions, credibility and benevolence, are integral to trust. They may be expanded on as follows:

- *Credibility* is determined by the expectancy that a partners word or written statement can be relied upon and,
- *Benevolence* is the extent to which ones partner is genuinely interested in the other partner's welfare and motivated to seek joint gain.

Therefore, in a successful buying situation the relationship is built on two constructs. The belief that the supplying party is credible, (it will perform in an effective and wholly reliable way) and benevolent (it is interested in the customers best interests) (Doney and Cannon 1997 :36).

Doney (1997) and Mowen (1998) provide characteristics of the supplier firm relationship that increase the buying firms trust in a supplier. The characteristics are:

- *Willingness to customise* is the willingness of a supplier to provide specialist equipment or adapt existing processes to meet with the buyer's needs (Gwinner, Gremler and Bitner 1998). The cost of changing to meet with the buyers' needs may be considerable. These actions provide evidence that the vendor can be believed.
- *Confidential information sharing* involves the extent to which the parties are prepared to share private information. The extent and nature of information disclosed provides a signal of good faith. The parties provide tangible evidence that they are willing to make themselves vulnerable (Pascale and Sanders 1997 :24, Dwyer, Schurr and Oh 1987 :18).
- *Length of relationship*. The outcome of past ventures provides predictability to the process, the outcomes of previous business records provides a framework for subsequent interaction. As a counter point Wilson (1986) indicates that successful past experience does not guarantee commitment to the relationship.

It seems a trusting relationship operates as an order qualifier, and not as an order winner, in other words an order qualifier meets the general selection criteria as a possible supplier for tender consideration.

2.5.3 Cooperation

Trust is a prerequisite to cooperation. Strategies that build trust are enablers of cooperation. Cooperation is the actions taken by interdependent firms to achieve mutually beneficial outcomes; it provides a competitive edge (Dorsch, Swanson and

Kelley 1998, Wilson 1995, Christopher, Payne and Ballantyne 1991). Cooperation is highly valued and fundamental to project success (Davis 1996, Boström 1995, Lundin 1993, Lovelock 1984). Good projects exist only when conflicts are managed appropriately (Lundin 1993: 152). In other words good projects exist when relationships are operating well (Davis 1996). The growing trend toward alternative dispute resolution techniques in contracting is a testament to the desire for the productive alignment of goal setting, moving beyond the misaligned adversarial lose-lose contemporary tendencies that are contrary to RM.

2.5.4 Performance satisfaction

In order to be successful in a relationship it is necessary for construction organisations to analyse clients' needs, and determine satisfaction.

Customer satisfaction is positively associated with repeat purchase intentions. Considerable evidence suggests relationships remain intact if the parties are continually satisfied, receiving added value (Patterson, Johnson and Spreng 1997, Wilson 1995, Evans and Laskin 1994, Han, Wilson and Dant 1993, Berry and Parasuraman 1991). Main reasons for client satisfaction fall into categories including; a demonstrated understanding of the client's problems, needs or interests, an interactive and communicative relationship, consistency in time and budget (additional costs providing value), meeting expectations, and matching previous favourable experience, together with process predictability (Doney and Cannon 1997, Patterson 1995, Day and Barksdale 1992);

In a cross sectional survey directed at marketing executives from industrial firms Morris (1998) found that clients' preferred companies that had a reputation for fairness and an established track record. Often clients did not appear to rely on formalised criteria in the supplier selection process.

Whilst it may seem simple, many firms have trouble identifying a client's expectations (Lovelock, Patterson and Walker 1998, Nickels and Wood 1997, Evans and Laskin 1994). Mistakenly, firms think that they already know what their clients want.

2.5.5 Mutual goals (relational partnering)

Partnering is part of RM, and fosters the term *relationship partnering* that the researcher has used in this section.

Partners in the relationship must have a “Win-win” outlook and they should work toward common goals (Tomer 1998, Wilson 1995: 338, Kubal 1994, Han, Wilson and Dant 1993, Hollingsworth 1988). Hollingsworth (1988) describes this as “The search for synergy”.

Partnering focuses on relationships (Pascale and Sanders 1997: 22). It restores trust in a business agreement (Kubal 1994). It goes a little further than simple relationships. The parties involved in a partnering agreement seek aligned objectives and are involved closely in the development of the scope from the early stages (Hollingsworth 1988). They consider change and disruption and agree to plan together (Pascale and Sanders 1997: 22, Allen 1995, Haimes 1995, Evans and Laskin 1994: 441, Kubal 1994, Hollingsworth 1988).

Allen (1995) indicates that the terms partnering and alliance are freely interchangeable, often used synonymously to describe collaborative relationships. Generally speaking an alliance is a group of companies working together in a cooperative arrangement to reduce overall costs and increase profits (Das and Teng 1998, Allen 1995).

When there are some differences between partnering and an alliance they appear in the numbers associated with the partnership. Partnering normally has a maximum of two parties in the relationship, whereas an alliance relationship may have multiple partners (Allen 1995). Kubal (1994) uses the term second level partnering in this context.

Partnering, in a similar way to RM, is a process that provides opportunities to the partnering parties. It allows the parties to allocate risk, which is one of its major advantages. Additionally partnered transactions provide reduced costs and time, improved quality and greater payback to the parties involved (Pascale and Sanders 1997 :24, Allen 1995: 11, Kubal 1994 :109). Haimes (1995: 48) indicates that synergy is one of the most significant outcomes of the cooperative team approach that partnering engenders. Kubal (1994) provides a list of partnering advantages. These are included within section 2.6, relationship benefits.

2.6 *Relationship Marketing Benefits*

It is argued that saving money is the primary motivation for engaging in relationship exchanges (Peterson 1995). Whilst it is true that mutually satisfactory relationships reduce transaction costs (Rahman and Kumaraswamy 2004, Baker, Buttery and Richter-Buttery 1998) building strong customer relationships primarily provides a means for gaining competitive advantage (Gwinner, Gremler and Bitner 1998).

As we have seen trust is crucial to relationship efficiency. It may serve to replace contractual agreements that in turn reduce transaction costs (Conrad, Brown and Harmon 1997, Doney and Cannon 1997, Hennig-Thurau and Klee 1997, Wilson 1995, Leavy 1994). These writers also agree that a relationship that displays high levels of trust and commitment are able to overcome problems, problems with scope for example. Whereas a relationship that focuses on contractual governance with limited trust and commitment has less chance of surviving in the event of confrontation. Leavy (1994) notes economies of cooperation including the closer coordination of schedules, cooperation on process improvements and reduction in the risk associated with control of cost and quality are all derived from RM.

RM enables clients to minimise decision effort and reduce risk in a tendering scenario (Gwinner, Gremler and Bitner 1998, Kubal 1994). They are often able to obtain optimum satisfaction from a relationship partner who is permitted to gain a better understanding of their needs and preferences.

Han (1993) and Wilson (1986) cite examples where relationships between long-term buyer-suppliers' save inspection costs and consequently provide benefits in quality and reduced lead-in times. The trust developed enables organisations to reduce the number of suppliers and assists in solving development and production problems in many recognised procurement scenarios (Zeithaml and Bitner 1996). Other fundamental benefits are the ability to resolve conflicts (Kubal 1994).

Additional advantages applicable to organisations' are (Kubal 1994):

- Increased opportunity of Value Engineered decisions,
- Quicker payment processes,
- Reduced litigation and claim documentation,

- Repeat business,
- Increased opportunity for financially successful projects.

Projects typically require a fast rate of learning to meet production and process requirements. By maintaining relationships the learning costs associated with switching providers is reduced (Gwinner, Gremler and Bitner 1998).

Other objectives that can be better accomplished through a RM program include; the retention of the most desirable clients, the enhancement of an organisation's image and the ability to attract desirable prospective clients (Connor and Davidson 1990). Non-core benefits result from cultivating long-term relationships and include feelings of familiarity, recognition, friendship, rapport, and social support (Gwinner, Gremler and Bitner 1998).

In a RM environment the client is likely to purchase additional services from an organisation and they are unlikely to switch to other competitors. These clients are the most profitable to an organisation for the following reasons:

- They will spend more money with an organisation as they feel that they are receiving value for money
- They will stay with an organisation longer as they are satisfied with the service or products that they are receiving (Patterson, Johnson and Spreng 1997)
- They will spread favourable recommendations to others resulting from their happiness with their dealings with the organisation
- They may be willing to pay a premium price for the service (Berry and Parasuraman 1991)

2.7 Relationship Marketing Drawbacks

The cost of withdrawing from a relationship is a significant drawback, as is the potential for lost opportunities with better relationships that might become available in the future (Tomer 1998, Han, Wilson and Dant 1993). A further problem is the possibility of becoming over dependant on the relationship and losing flexibility (Morris, Brunyee and Page 1998). Examples of over dependency are; having no alternatives to provide occasional comparisons on the downstream side, or cushion

against the loss of a key customer on the upstream side (Evans and Laskin 1994). Becoming locked in a relationship with a partner for example; that lacks drive in technological developments may change the direction of a once mutually fruitful relationship. This scenario can lead to loss of income (Leavy 1994, Han, Wilson and Dant 1993). Das (1998) considers the opportunity for particular firms to attempt to learn a skill or steal the resources possessed by another firm through forming a relationship. Trust in the form of confidential information sharing mitigates this behaviour (Das and Teng 1998).

Traditional forms of contract are a fundamental flaw in many relational agreements (Kubal 1994 :110, Latham 1994). They foster adversarial relationships and do not allow the required trust and commitment to build which forges the ongoing relationship. Standard forms often fail to allow the team to establish themselves at an early enough point in the Project's Life Cycle (PLC) to be effective (Kubal 1994, Latham 1994).

2.8 Relationship Development

Employee behaviour cannot be wholly governed by contract, to fill gaps in the employee-employer relationship a body of knowledge known as *The Psychological Contract* (PC) has evolved that deals with unwritten expectations as opposed to conscious expectations (Argyris 1990 cited in Anderson and Schalk (1998). This premise is confusing and problematic, intimating that an organization can have uniform expectations, or *feelings*. A better concept is provided by Rousseau who narrows the PC definition to an individual's belief concerning mutual obligations in the context of a relationship between an employer and employee Rousseau (1990). By using this definition in the arguments below that concerns the development of the relationship process, the perspective shifts from a relationship between individuals and organisations to the singular level of individuals.

Many activities fall into distinct phases. In project based industries there is a project life cycle (PLC) that is identified as; feasibility, planning and design, production and start-up (PMI 1996: 14). Other writers refer to concept, development, implementation, and termination or conceive, develop, execute, finish (Wideman 1991, Cleland and King 1988).

To describe a partnering process Pascale (1997: 24) refers to five phases; internal alignment, partner selection, partnering relationship alignment, project alignment and work process alignment. Whilst in RM terms Wilson (1995: 340) considers partner selection, purpose definition, setting boundaries, creating value and relationship maintenance as stages when relationship variables of commitment, trust, cooperation, mutual goals become active or latent. Active constructs as described by Wilson receive a great deal of management time and energy, whilst latent constructs require little time or attention (Wilson 1995: 340). These constructs will appear to varying degrees in each of the phase of the project life cycle (PMI 1996: 30). Initial contact, lock-in, institutionalisation, and dissolution are terms used by Donaldson and O'Toole (2001: 109). These may be balanced with the developmental stages set out by Dwyer, Schurr and Oh (1987: 15) who define the stages as an iterative process that includes the following development stages; Pre-relationship, exploratory, developing and stable. Ford (1998) uses the terms; awareness, exploration, expansion and commitment to describe the relationship phases, whilst Boddy, Macbeth and Wagner (2000: 1008) conceptualise the process as emerge, evolve, grow and dissolve. Whilst a phased partnering continuum that suggests three stages of objective alignment and commitment by participants is offered by (Thompson and Sanders 1998: 74).

Overall relationships are evolving, incrementally redefined strategies that change the context in which people in partnering organisations act. It is an iterative and evolutionary learning process (Boddy, Macbeth and Wagner 2000: 1016, Dwyer, Schurr and Oh 1987: 15). Significant variables in RD are experience; uncertainty, adaptations, commitment and distance (Ford 1982). Distance between partners has several aspects (Ford 1982):

- Social distance - familiarity with each others ways of working
- Cultural distance - degree to which norms and values differ
- Technological difference - difference between products and process technologies
- Time distance - the amount of time that passes between contract placed and commencement of service or product
- Geographical distance - distance between partner's locations.

In a similar vein Dwyer, Schurr and Oh (1987: 16) conceptualise corresponding recurring variables as:

- Attraction - represented by either tangible or intangible rewards rooted in perceived similarity of beliefs; information, services and complimentary resources are cited as examples,
- Communication and bargaining - develops as the relationship development takes place and is essential for the relationship to survive
- Power and justice – avoiding coercion and enhancing mutual benefit in transactions helps relationships to develop. Although the writers indicate that in reality the process of bargaining and power are impossible to separate.
- Norm development – these are expected patterns of behaviour that set the ground rules for future exchanges.
- Expectation development - These variables will appear in varying degrees of intensity in all RD phases.

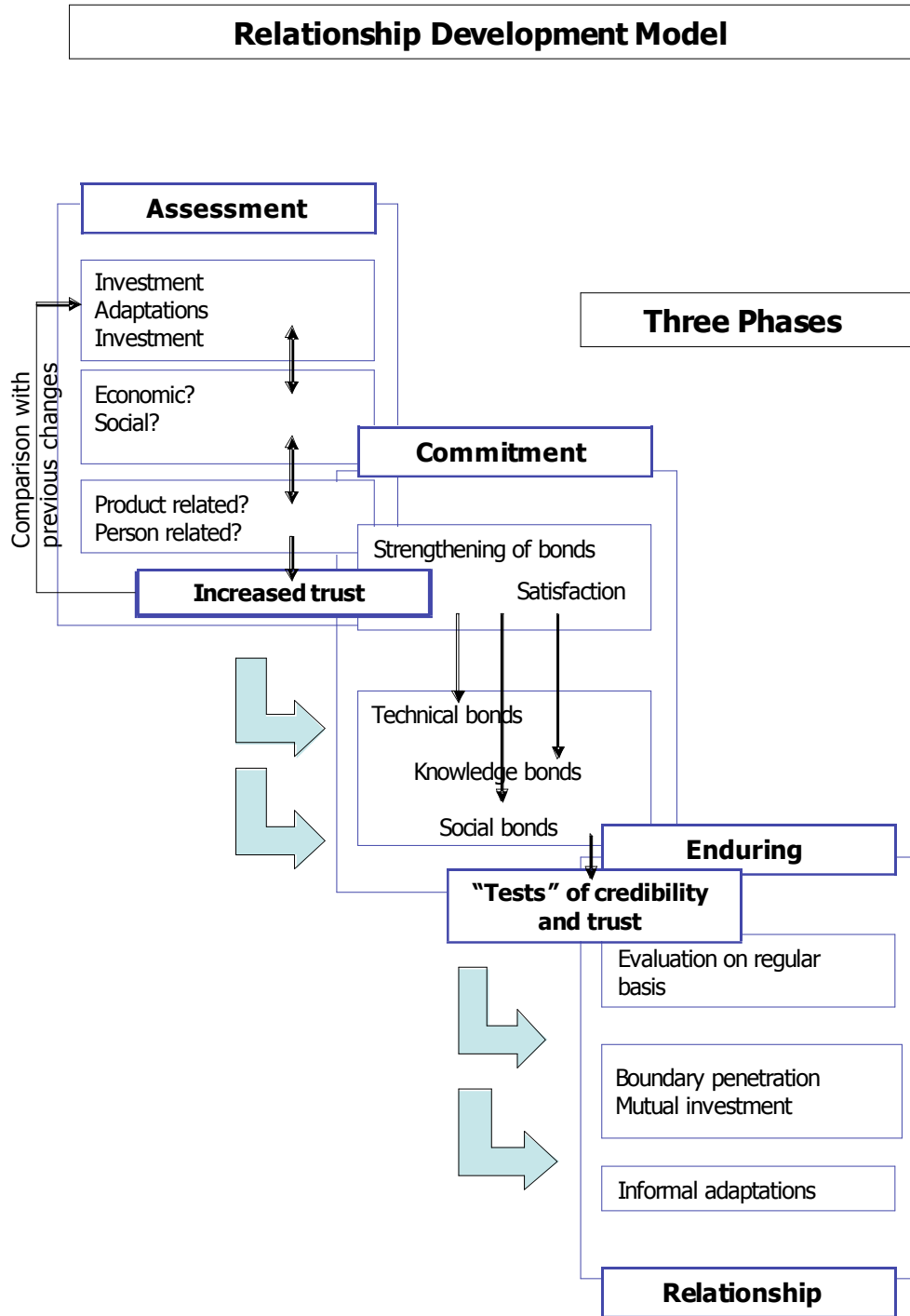


Figure 2-2 Relationship development adapted from (Walker and Hampson 2003a, Donaldson and O'Toole 2001, Ford 1998, Thompson and Sanders 1998, Pascale and Sanders 1997, Wilson 1995, Dwyer, Schurr and Oh 1987, Ford, Hakansson and Johanson 1985)

An interesting comparison between the contractual elements that are represented in a discrete transaction and a relational exchange are provided by

(Dwyer, Schurr and Oh 1987: 13). A discrete transaction is described as the foundation of a relationship and is manifested by money traded in exchange for a simply specified commodity. They entail limited communication and narrow content (Dwyer, Schurr and Oh 1987: 12). In a relational exchange dependence is prolonged, deeper communication takes place and the rudiments of cooperative planning together with expectations of trustworthiness may arise through personal characteristics.

A review of the literature identifies several key papers that discuss relationship development (RD) (Walker and Hampson 2003a, Donaldson and O'Toole 2001, Ford 1998, Thompson and Sanders 1998, Pascale and Sanders 1997, Wilson 1995, Dwyer, Schurr and Oh 1987, Ford, Hakansson and Johanson 1985); these findings are summarised in the Table 2-4 below. Similarities may be observed in the phases outlined; these form the basis of the following discussion that is encapsulated in Figure 2-2.

2.8.1 Phase 1 (assessment)

Initially the process relies on one party to identify a need; Dwyer, Schurr and Oh (1987) refer to this as *awareness* whilst Ford, Hakansson and Johanson (1985) refer to *capability*. In essence this first phase is one of strategy with potential partners looking for alignment and fit (Johnson and Scholes 1999). Particularly they are looking to determine goals and objectives at an institutional level (Pascale and Sanders 1997: 24) or at a project level (Thompson and Sanders 1998: 75). An organisation must be able to analyse itself and describe itself in terms that the prospective partner can comprehend and relate to (Ford, Hakansson and Johanson 1985: 31). It may be as simple as asking the following question (Ford, Hakansson and Johanson 1985: 31); “What can you do for me?” or “Can you do this or that for me?”

In this initial phase it is unlikely that either party will have experience with others at a project level, the scope of the relationship is ill defined, requirements from others and benefits to be received will be unclear (Ford 1982). There may be *positioning* to enhance attractiveness (Dwyer, Schurr and Oh 1987: 16). Consideration is given to finance, physical plant, technology or managerial expertise. This is a critical phase in RD, which will often happen without commitment. This may be due in some respects due to the difficulty in assessing commitment (Ford 1998: 33, Wilson 1995: 340, Ford 1982). To move away from competing objectives in this early phase the relationship driven entity (RDE) must improve communication and increase

trust and respect (Thompson and Sanders 1998: 75). Due to this difficulty in analysing partners in this early phase uncertainty is high and any judgements will be made on reputation as a substitute for experience, which is actively unknown (Ford 1982). Discussion with multiple partners is a typical risk reduction strategy (Wilson 1995: 340). Sometimes partners will endeavour to move slowly thereby minimising commitment (Ford 1998: 34), or enact limited exchanges (Donaldson and O'Toole 2001: 107). Even in this early phase mutual trust will begin to develop as the cultural distance as described by Ford (1982) decreases. This aspect mitigates the high levels of uncertainty more quickly with some potential partners than others, accordingly some potential partners will be quickly lost or disqualified (Ford 1998: 34). A loss may happen if trust fails to build and the supplier forms the belief that the customer has no intention of placing an order or building a relationship and disqualification may happen if behaviours or competence counter to RD are displayed (Boddy, Macbeth and Wagner 2000, Ford 1982).

Choosing the right partner and positioning your organisation in the relationship web are crucial issues (Donaldson and O'Toole 2001: 34). Should a collaborative approach be pursued, which relationship warrants development, how should the organisation structure be developed to manage these relationships (Donaldson and O'Toole 2001: 62)?

In their research considering the evolution of relationships Boddy, Macbeth and Wagner (2000: 1009) using a grounded theory approach determined three components that suggest propositions appropriate to early phases of RD. Their propositions consider the prior context of partnering organisations and how it affects behaviour through the relationship; partners reconstruct context to encourage cooperative behaviour that leads to better cooperation. This in turn constructs more formal institution that consequently supports further cooperation. This may be likened to norming behaviour discussed in the following second phase.

To summarise phase one of relationship development reference is made to Thompson and Sanders (1998) who highlight several characteristics of development in a cooperative environment. Characteristics they describe include common project-specific objectives, improving interpersonal relationships and team membership not exclusively committed to the relationship development entity, which portray guarded information and exhibit limited trust.

2.8.2 Phase 2 (committed/ collaborative)

This second phase is more intensive and may be described as the *definition* phase (Wilson 1995), *lock-in* (Donaldson and O'Toole 2001) or *exploratory* (Ford 1998, Dwyer, Schurr and Oh 1987). Serious discussion or negotiation takes place with overt exchange of information and mutual learning (Ford 1998: 34, Dwyer, Schurr and Oh 1987: 16). The negotiation must entail bilateral communication of wants, issues, inputs and priorities (Dwyer, Schurr and Oh 1987: 17). Ford, Hakansson and Johanson (1985: 33) use a term, *mutuality* to describe this phase of RD as it rests on the importance of common goals.

Mutuality is a measure of how much a company is prepared to give up its own individual goals or intentions in order to increase the positive outcome of others...., it is a trade off between opportunism and long-term gain. (Ford, Hakansson and Johanson 1985: 33)

Trust is not yet principally in play and there are mutual concerns about commitment, however the parties to the potential relationship must display serious interest and consider relationship obligations to overcome a propensity to depart (Ford 1998: 35, Dwyer, Schurr and Oh 1987: 16). Additional commitment through this stage builds trust and adopting this premise Dwyer, Schurr and Oh (1987: 18) indicate that trust is fundamental to the relationship interaction; helping parties understand expectations for cooperation and planning in a relational contract (Wilson 1995: 341, Dwyer, Schurr and Oh 1987: 18). It affects buyer's behaviour and attitude impacting on negotiation and bargaining. This is supported by Wilson (1995: 341) who indicates social bonding and trust development are "Ideal outcomes". If they are not obtained "Lack of personal trust" or "Incompatible personal chemistry" is blamed for the failure. At this stage the relationship needs to reach a business friendship level (Wilson 1995: 341). Due to the seeming absence of common culture and understanding, scope and goal definition are critical decisions for the relationship partners (Wilson 1995: 341).

In this second phase norms, that dictate standards of conduct, are adopted (Ford 1982). In effect regulations of exchange are created and become *ground rules* for future exchanges. An example is provided putting norms into the context of social exchange.

More than 40% of purchasing agents described the following expected activities in a post quotation negotiation process: (1) salesperson arrival at purchasing agent's office, (2) exchange greeting with small talk (3) buyer opens negotiation [on price] (4) salesperson response... (7) Exchange of parting comments. (Dwyer, Schurr and Oh 1987: 17)

Whilst the above provides a good example of social exchange and norming behaviour it should be noted that concentrating on price is described as a "Zero-sum game" by Ford, Hakansson and Johanson (1985); there are many options.

These generalised expectations guide perceptions of social exchange and accordingly exert powerful influences upon behaviour. This is a concept supported by Boddy, Macbeth and Wagner (2000: 1012) who indicate that dealings become more direct as norms are developed.

As we have seen in the earlier phase of RD risk is prevalent due to a lack of understanding; as trust and the desire to work together increase the potential partners increase *risk-moves*. Examples of risk moves include (Dwyer, Schurr and Oh 1987: 18); (1) a large concession that requires reciprocation (2) a proposal for a compromise (3) a unilateral tension reduction action (4) a candid statement about one's motives and priorities. The trade off between risk and reward is of great concern. Thompson and Sanders (1998: 75) provide several examples;

- Future conditions may be contrary to the expectations of those in the RDE
- Assessment of quality may not have been comprehensive and unsatisfactory workmanship may be an outcome
- Unethical behaviour could be an undesirable characteristic.

Ford refers to *adaptations* that may be either formal or informal. Formal adaptations are contractual agreements that may take the form of special products for example; informal adaptations are more ad hoc and arise to cope with particular instances as the relationship develops, for example flexibility to cope with sudden demand (Ford 1982). Boddy, Macbeth and Wagner's (2000) study shows that this *working together* translates into informal cooperation in new roles developing as RD progresses. It happens at several levels and creates a new context of working together. The cooperative behaviour embeds new values in the wider context of both organisations. A counter point to the above positive change is the way that perhaps

unintentionally, behaviours that run counter to RD may be formed. In support of this argument Ford notes that commitment is built and displayed by the way in which a firm organises patterns of contact with its partner; the level of personnel involved and the frequency of contact enhance growing together in RD process (Ford 1982).

In conclusion to this phase the relationship remains fragile with limited commitment. It can end relatively easily, however dissonance will not dissolve the relationship development. It is common for firms to have overall mutual interest, whilst simultaneously being in conflict over what they should be doing for mutual achievement (Ford, Hakansson and Johanson 1985). The parties to the relationship will still make comparisons and measurement against strategic benchmarks, however, performance satisfaction will reduce this trait (Wilson 1995).

Once again a summary of one phase of a partnering continuum (Thompson and Sanders 1998: 75) highlight several characteristics of a committed environment. These endemic traits in the development process are;

- Longer term focus on the strategic goals of the RDE
- Relationship agreements without guarantees in terms of workload and resource transfer etc
- Reduced duplication and process improvements
- Shared authority with open and honest risk sharing

2.8.3 Phase 3 (*enduring and variable*)

The relationship is close to becoming in place. Indistinct boundaries that define the operational parameters of each organisation in the RD are formed (Wilson 1995: 341). However the RDE is not a contractually bound joint venture it is growing largely through a voluntary elimination of barriers that builds on the process improvements (Thompson and Sanders 1998: 76). These boundaries may change with individual contractors and are dependent on activities undertaken in the supply chain. Indeed (Araujo, Dubois and Gadde 1999: 497) propose four interfaces from *standardised*, through *specified* and *translational* to *interactive*, that serve to balance the costs and benefits of establishing and maintaining supplier interfaces. Boundary penetration is defined as the degree each organisation partner penetrates the other organisations in a joint action (Heide and John 1990: 25). The discussion on

boundaries and boundary definition that comes from (Gummesson 1999) is continued in section 2.9. As the actors within the RD process become more particular the outcome begins to impact more significantly on other organisational interactions (Ford, Hakansson and Johanson 1985: 34). Wilson (1995: 341) refers to a *hybrid* team to describe the actors in the RD process that commence to acquire assets. They begin to become more interdependent (Dwyer, Schurr and Oh 1987) and organisational lines disappear (Thompson and Sanders 1998: 76). Conflict for resources between the hybrid team and other colleagues not a party to the RD ensue as is typical in a project environment. However in this instance it is functioning on the basis of mutual goals, trust and social bonding that are established in the earlier phases of the now strong relationship. Knowledge of norms and values of associated actors is acquired (Ford 1982). Dwyer, Schurr and Oh (1987: 18) indicate that when exemplary exchange takes place surpassing expectations, attractiveness increases thereby enhancing goal congruence and cooperativeness. An example is provided of two organisations altering their own billing procedures to accommodate a partner (Wilson 1995: 341). Informal rules created in the RD team establish governance within the structure of the relationship (Wilson 1995: 341). Both organisations will alter their procedures and may make *informal* adaptations (Ford 1982). Reciprocal adaptation will involve cost, as asset specific resources will be difficult to transfer to other uses; these actions tend to bind the RD actors together more strongly.

Once again a summary of one phase of a partnering continuum (Thompson and Sanders 1998: 76) highlights several characteristics of a coalesced environment;

- A single common performance measuring system
- Cooperative relationships supported by collaborative experiences and activities
- Cultures that fit the project and process
- Indistinct boundaries
- Implicit trust and shared risk

The process of developing relationships draws together many facets from initial strategy through commitment to durability and finally enduring relationship quality. These three phases are not mutually exclusive and each represents a collection of iterative macro processes. These finally lead to the next phase through fuzzy

seamless boundaries that are punctuated with incremental investments. In the first of the three phases, the assessment phase, mutual investment leads to adaptations designed particularly for the relationship development entity. In turn this careful adaptation leads to further committed investment that may be either economic or socially driven. Subsets of these drivers in both cases are either related to the product/organisation or they may be individually related (Wilson and Mummalaneni 1986). In either case the commitments lead to the development of trust to greater degrees as increased interactions take place. At this point comparison with prior exchanges reinforces or reduces commitment within the relationship development entity. The commitment phase, the second phase, is measured by many factors such as satisfaction and comparison between the qualities of acceptable alternatives. Stronger ties are forged that may encompass technical, social, or knowledge areas. These are once again tested against benchmarks of credibility and trust. In the last phase, enduring relationship quality and regular evaluations take place in an environment of a strong relationship.

Table 2-4 Relationship development according to Authors identified

	Pascale 1997	Ford, Hakansson and Johanson 1985	Wilson 1995	Donaldson and O'Toole 2001	Ford 1998	Dwyer, Schurr and Oh 1987
1	Internal Alignment determine strategic goals (internal alignment and training)	Capability (effect) determine what each of the parties can do for one another	Partner Selection assessment and preliminary discussion aiming toward risk reduction.	Initial Contact expectations and roles set. Explore and expand structured formal relationships. Sign formal agreements. Choice and information search critical. Transaction may be reversed.	Pre-relationship What will be received? How much investment is required? What adaptations and learning is required? Is there trust?	Awareness Unilateral consideration of exchange partners
2	Partner Selection develop selection criteria and analyse response	Mutuality (effect) Focuses on the social relations between the parties consider shared goals and interests	Purpose Definition creation of mutual (focussed initially) goals. Identification of common culture	'Lock-in' loyalty bonuses or extra back-up services for example. Strategic choice with relationships developed to be close.	Exploratory investment of time for learning and distance reduction. No routines or commitment. Commitment is intangible at this stage.	Exploration Dyadic interaction. Increases in interdependence. Bilateral testing and probing. Simple termination if required.
3	Partner Relationship Alignment integration of company specific objectives. Develop trust through information sharing at strategic level	Particularity (implementation) Determines interaction in terms of uniqueness	Setting Boundaries the boundary is the degree each partner penetrates the other organisation and achieves joint action.	Institutionalisation norms and modes of working become unique. Keep changing to avoid competitive challenge.	Developing intensive mutual learning, building trust through investment and informal adaptation.	Expansion satisfaction with role performance. Deepening interdependence. Additional gratification sought rather than sourcing alternative partners.
4	Project Alignment integration of project specific objectives. Develop trust through information sharing at project level	Inconsistency (implementation) Considers ambiguity or lack of clarity in interaction. Conflict may occur between those with common interests as well as	Creating Values synergistic combination of the partner's strength, allowing each to gain.	Dissolution may be possible and could be natural. In any event should be managed.	Stable routine and institutionalisation. Not all relationships reach this stage.	Commitment Contractual mechanisms or shared value systems sustain interdependence. Mutual inputs are significant. Partners resolve

	Pascale 1997	Ford, Hakansson and Johanson 1985	Wilson 1995	Donaldson and O'Toole 2001	Ford 1998	Dwyer, Schurr and Oh 1987
		cooperation with those in conflict.				conflict and adapt.
5	Work Process Alignment activities to gain 'buy-in' on day-to-day activities.		Relationship Maintenance (stability) really based on success of the previous 3 variables			

2.9 *The Supply Chain Link with Relationship Marketing*

The supply chain is a strategic network of upstream and downstream organisations that collectively processes activity/ information flows and efficiently produce enhanced value products for the ultimate customer (Akintoye, McIntosh and Fitzgerald 2000, Vrijhoef and Koskela 2000). Barker, Hong-Minh & Naim simply refer to supply chain management (SCM) as “Bringing different parties together to develop shared goals and understanding”. (Barker, Hong-Minh and Naim 2000: 180). Actors in the supply chain are interdependent, collaborative and largely configured regardless of functional or corporate boundaries (Akintoye, McIntosh and Fitzgerald 2000, Vrijhoef and Koskela 2000). It follows that in this context they form *virtual organisations* a term that several writers use to describe consortia that are founded on relationship based procurement. Effectively managing a supply chain as a coherent single-team requires an understanding of organisational drivers that are characterised differently to their traditional ways of being managed including;

- Having longer joint planning and monitoring horizons
- Corporate philosophies that must be compatible with key relationships-in other words actors share essentially the same strategic vision
- Risks and rewards are shared over a long term
- A rationalised supplier base allows increased coordination and reduced transaction costs
- A propensity for information sharing; and
- A focus on total costs and a desire to leverage technology
(Vrijhoef and Koskela 2000, Spekman, Kamauff and Spear 1999: 105, 7, 9).

This contrasts a *silo approach* where areas of activity are partitioned and the flow of work passes from area to area in a discrete way (Barker, Hong-Minh and Naim 2000: 188, Spekman, Kamauff and Spear 1999). All of these management characteristics can be risky as an over reliance on relationships is a concern. This appears despite the contention that a limited number of strong relationships with high quality suppliers allows fast response to market shifts and demands (Spekman, Kamauff and Spear 1999: 104).

Vrijhoef & Koskela (2000) identify four major roles of SCM in construction depending on whether the focus is on the supply chain, the construction site, or both. The first role, shown in Figure 2-3 focuses on the interface between the project and supply chain activities. The goal is to reduce costs and the duration of on-site activities. A focus on the relationships between contractor and subcontractors/suppliers will achieve a dependable resources flow. This is fundamental for the continuance of benefits in the supply chain (Green *et al.* 2002). If they are treated as downstream strategic alliances they become more of a service than a product (Proverbs and Holt 2000).

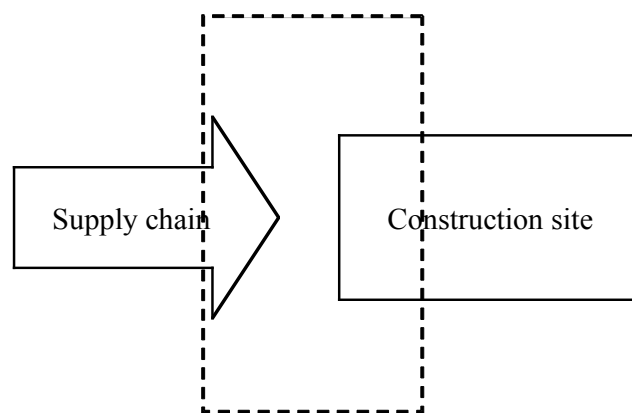


Figure 2-3 The supply chain interface between the supply chain and construction site from (Vrijhoef and Koskela 2000)

Araujo, Dubois & Gadde (1999: 499) list four interfaces with suppliers in this context; standardised, specified, translation and joint learning;

1. Standardised interfaces are characterised as an arms length relationship based on price with low transaction costs
2. Specified interfaces retain a certain amount of interdependence as they are often subcontractors or outsourced suppliers
3. Translation interfaces are typically performance based, and
4. Joint learning interfaces with suppliers are interactive in their relationship

In the above interfaces opportunities increase incrementally as does the risk involved with the relationship. The second major role of SCM in construction provides a focus on improving the supply chain itself. This approach, shown

diagrammatically in Figure 2-4, provides transaction cost reductions in several areas including lead-in time, logistics, and inventory.

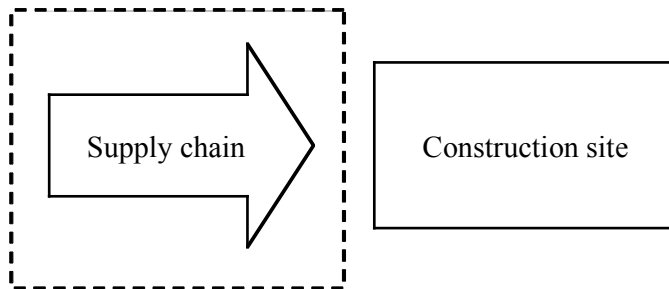


Figure 2-4 A focus on the supply chain itself from (Vrijhoef and Koskela 2000)

In the third major role of SCM activities are transferred from construction site to the supply chain. This will avoid inferior conditions on site and benefit the supply chain through a wider concurrency between activities. This role is displayed in Figure 2-5 where it may be seen that the importance of the supply chain supplants that of the construction site in term of importance to the anticipated outcome.

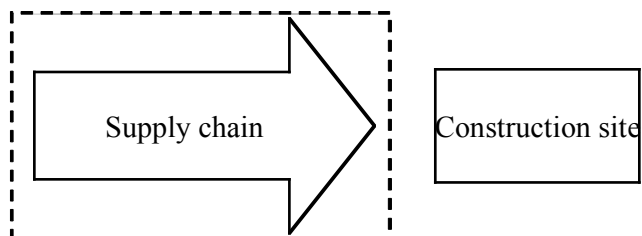


Figure 2-5 A focus on transferring activities from constructions site to supply chain from (Vrijhoef and Koskela 2000)

The fourth major role integrates management of both the supply chain and the construction site. In other words site production is integrated within the SCM process. This is an holistic approach advocated by Saad, Jones and James (2002). Spekman, Kamauff & Spear (1999: 103) indicate that managing every link in the supply chain is a prerequisite of success. In an alternative approach Love (2002) bases a model for supply chain integration on total quality management (TQM), learning organisations

and systems thinking that is tied to alliance based (integrative) procurement. Figure 2-6 shows this integration diagrammatically with the quality, learning and systems thinking constrained within the perimeter line.

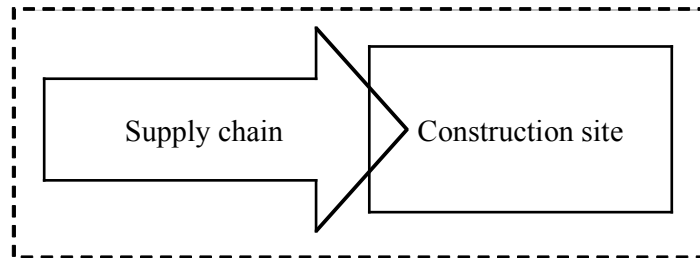


Figure 2-6 Integrate the supply chain and the construction site from (Vrijhoef and Koskela 2000)

Strong competitive positions may be built up with the use of tangible (for example mineral deposits) or intangible (for example patents) unique resources; these are easily copied sooner or later. Long term differentiation is sourced by some firms in the way that they “Build specific competencies...on synergies between resources readily available to everyone in the market” (Maskell 1998: 42). In other words resources can normally be bought if one is prepared to spend enough. Competencies like reputation, trustworthiness, reliability cannot. These competencies augment the competitiveness of a firm by their continuous reuse when selling on an expanding range of competencies (Maskell 1998: 52).

In a survey of the 100 largest (by turnover) UK construction companies Akintoye, McIntosh & Fitzgerald (2000) found that better quality service, cost benefits and simplified construction processes were the top three benefits in ascending order in downstream SCM. Whilst for upstream SCM relationships cost benefits, simplified construction processes and simplifying the tender process, were cited as the top three benefits in ascending order. In similar research of over 100 respondents in the UK Saad, Jones & James (2002: 178) found SCM to be a multi-faceted process. The research failed to differentiate between nine equally important variables defining its features. The features identified are similar to those outlined earlier in the literature review and focus on; breaking down barriers, long term stable relationships, open

exchange of data and information, early involvement, strong leadership in coordinating interfaces, negotiation of common objectives, sharing learning and innovation, and continuous improvement against clear targets. These factors are largely supported (Green *et al.* 2002, Akintoye, McIntosh and Fitzgerald 2000: 179, Love, Li and Mandal 1999: 10, Spekman, Kamauff and Spear 1999).

It may be observed that contractors in the survey were more orientated toward clients as opposed to subcontractors/ suppliers. This may be attributed to the fact that clients will pay their bills (Akintoye, McIntosh and Fitzgerald 2000). Other research supports this and indicates 63% of respondents believe that clients or their advisors are *significant* champions of SCM (Saad, Jones and James 2002: 181). However the large dependence on subcontractors and suppliers should require that contractors concentrate on downstream alliances that are often fairly stable but procured mainly in short term, competitively bid at arms length (Green *et al.* 2002, Dubois and Gadde 2000, Spekman, Kamauff and Spear 1999).

Key factors in SCM are (Akintoye, McIntosh and Fitzgerald 2000: 179):

- Trust
- Reliability of supply relationship
- Top management support
- Mutual interest
- Free flow of information with integrated communication (Love, Li and Mandal 1999: 10)

Other writers note SCM traits include being built around intra and inter-organisational relationships, they require a strategic and long term approach they are dependent on links and support from the external environment and they necessitate continuous learning and commitment from top management (Love *et al.* 2002: 13, Saad, Jones and James 2002: 178).

This research shows there is limited understanding of SCM, its prerequisites and success factors in general (Saad, Jones and James 2002: 183). These factors should make the economic system function with persuasion, negotiation, coordination and understanding whilst reducing transaction costs between the firms (Maskell 1998: 49).

Barriers to SCM include; lack of top management commitment; poor understanding; an inappropriate organisation support structure; low partner commitment; lack of common purpose; multiple or hidden goals; power imbalance, autonomy and accountability tensions; and an unwillingness to share information (Love *et al.* 2002, Saad, Jones and James 2002: 174-74, Akintoye, McIntosh and Fitzgerald 2000, Barker, Hong-Minh and Naim 2000: 190, Spekman, Kamauff and Spear 1999: 115).

2.9.1 Efficiency of the supply chain in construction

Dubois & Gadde (2000) identify four themes that hamper the efficiency of the supply chain in construction; low levels of customisation, specialisation and role of the actors, network interplay and relational exchange. These are explained below.

a Low levels of customisation

In construction typical exchanges are through standard products or a combination of standard products. This provides low levels of customisation. Very rarely are products developed for particular construction projects (Dubois and Gadde 2000). Modification/ specialisation seems to be undertaken on site. This is supported by Sidwell & Budiawan (2002) who note that innovations are more likely to be originated on site rather than in manufacture process.

Green *et al.* (2002) argue that construction suppliers and subcontractors tend to compete on cost efficiency rather than a preferred option of expertise. It is clear that a focus on total costs (initial purchase price, the relationship between cost drivers and value, quality, price, delivery) is required as opposed to the suppliers lowest price (Spekman, Kamauff and Spear 1999).

b Specialisation and role of the actors

Two characteristics of construction add to this; the propensity to organise the production into trades and the practice of large scale subcontracting (Love, Li and Mandal 1999). In the management of the process all parties to the construction project develop their own goals without any consideration of the other actors (Dubois and Gadde 2000, Love, Li and Mandal 1999).

c Network interplay

Whilst there is strong interdependency within particular projects in construction, the links/ relationships amongst the permanent construction networks

are relatively weak (Dubois and Gadde 2000). In effect projects are a temporary network in amongst a permanent network.

Dubois & Gadde (2000) identify four dimensions of coordination that must be addressed to manage the resources that are simultaneously activated in a number of projects:

1. Individual project coordination
2. Firm coordination input to associated projects (alignment of responsibilities)
3. Non project specific coordination associated with the firm generally
4. Coordination of subcontractors and supplier
(Dubois and Gadde 2000: 231)

Prominent coordination takes place at a project level (1) and a firm level (2, 3) (Dubois and Gadde 2000). Item four; the relationship level requires more research. It is often left to transactional exchange based on cost as opposed to expertise (Green *et al.* 2002). Green also notes that in times of recession or downturn overt competitive behaviour override collaborative SCM practices. The construction industry remains at loggerheads with a propensity for mutual competition (Green *et al.* 2002).

d Relational exchange

Purchasing behaviour determines technical development and innovation (Dubois and Gadde 2000, Araujo, Dubois and Gadde 1999). Arms length transactions together with a heavy reliance on traditional tendering make it difficult for those in the industry to capitalise on previous project experiences (Dubois and Gadde 2000). An argument is made to shift the focus from the qualities of the transaction to the qualities of the relationship. Proactive common learning; exchanging knowledge, working practice and personnel development are advocated by Barker, Hong-Minh & Naim (2000: 188).

In comparative research Green *et al.* (2002) conclude that construction actors perceive SCM as a means of improving project performance rather than a shift in the way they do business. Providing regular work flow can be achieved, contractors may be able to form collaborative relationships with key subcontractors and suppliers as is more usual in the Aerospace industry (Green *et al.* 2002). It is important to have a

balanced and diverse portfolio of supplier relationships as each one requires a different amount of resources to manage them (Araujo, Dubois and Gadde 1999). For example, depending on; volume of business, continuity of relationship, sourcing policy there may be either high or low involvement. Any company can only be highly involved with a limited number of suppliers and needs a variety of relationships (Gadde and Snehota 2000: 305). Investment costs with the supplier/ contractor will increase to match the level of involvement (Araujo, Dubois and Gadde 1999). Resource intensive relationships can only be justified when the costs of the extended involvement are exceeded by the relationship benefits (Gadde and Snehota 2000: 305)

2.10 Knowledge Networks

In a study of alliance/ partnering networks, Love (2002: 4) describes alliances as a tool that facilitates learning in supply chains. One of the key elements of this is that effective supply chains share information and knowledge that affect their delivery capacity because they are communicating more as teams addressing a joint enterprise through joint problem-solving that is the case in more traditional construction procurement arrangements (Spekman, Kamauff and Spear 1999: 110). The capacity and willingness to jointly solve delivery problems permits improved understanding of each participant's constraints, potential contribution and potential synergies. This means that the focus shifts from that of a *silo-approach* that frequently leads to bottlenecks or shortages in resource supply to the supply chain working as a network or a *knowledge* network.

2.10.1 Network relationships

Relationships within networks may be distinguished in three ways (Dubois and Gadde 2000). The first, *resources adaptation* may be represented in the content of products to ensure a perfect fit (Maskell 1998). Logistics or material flows are cited as examples. The second, *administrative routines* are represented in business transactions concerning tenders, inquiries, invoicing etc. Integration of information systems is cited as an example (Dubois and Gadde 2000). The third, "Knowledge based adaptations and coordination of activities" are represented by well developed partnerships sharing and amassing knowledge (Love *et al.* 2002: 6, Dubois and Gadde 2000, Gadde and Snehota 2000: 309). Maskell (1998) refers to this as the codification of tacit knowledge, in as much as it may remain tacit whilst it is available only to an

individual. It is only when information is shared with others having facilities to understand an idea and grasp its significance, that it becomes codified - codification is an *unpremeditated consequence* of knowledge use (Maskell 1998: 46). Due to the fact that it remains embedded in the relationship business culture, it remains difficult for those outside the relationship boundary to imitate it (Maskell 1998: 50). Maskell (1998) notes that over an extended period only ten percent of a firm's innovative activities were from in-house activities, the balance involved between four and seven independent organisations. Other surveys have shown the benefit to firms through enhanced competencies from informal cooperation (Maskell 1998). Inter-activeness is a basic building block for network relationships (Maskell 1998).

2.10.2 *Collaboration and cooperation*

Research in the area of Relationship Marketing (RM) provides an insight into key variables of collaboration and cooperation including various forms of capital.

Nahapiet and Ghoshal (1998) developed a useful model to explain how to create intellectual capital from its sustaining base of social capital. This section will also discuss the work of other leading writers to illustrate how communities of practice best deploy social capital assets to enhance collaboration and cooperation. Intellectual capital has been defined as:

The knowledge and knowing capacity of a social collective, such as an organisation, intellectual community, or professional practice (Nahapiet and Ghoshal 1998: 245).

This definition assumes intellectual capital is a dynamic and practical concept. In fact practice, particularly when reflected upon to actively build knowledge, becomes important in re-casting our view of project and organisational success. It has been suggested that rarely, other than on the National Museum of Australia project, has innovation and learning formed part of a success measure (Walker and Keniger 2002, Walker, Hampson and Peters 2002) and (Keniger and Walker 2003: Chapter 8) in (Walker and Hampson 2003a). Therefore one useful way of looking at knowledge is as an intellectual capital asset. Three types of intellectual capital assets were identified by Stewart (Stewart 2000) *human capital*, *structural capital*, and *customer capital*. A fourth was identified as *social capital* (Nahapiet and Ghoshal 1998). This asset encapsulates elements of both human, and customer capital as well as the human capital elements of a project's supply-chain.

a Human capital

Human capital embodies the energy, talent, experience, and behaviour of people who create an organisational culture to deliver products and services that attract customers to an organisation rather than its competitor (Stewart 2000: adapted from pp91). When viewed in this light, human capital forms the core of a relationship asset that, as argued earlier, can deliver longer-term reduced transaction costs.

b Structural capital

Structural capital is the means by which people deliver products and services that attract customers to an organisation rather than its competitor through connection to a physical, information and knowledge infrastructure (Stewart 2000: adapted from pp91). When seen in this light, it can be argued that much that appears on a traditional balance sheet is not an asset but a liability; it is merely a facilitation device rather than a core asset. This may explain the current corporate strategy concern with outsourcing and forming alliances with those best able to deliver this infrastructure in many industries. An effective supply chain configuration therefore can deliver valuable structural capital.

c Customer capital

Customer capital is the value of loyalty customers share with an organisation that enables it to continue delivering products and services that attract customers to it rather than its competitor (Stewart 2000). This loyalty can be envisaged as repeat business, co-development of products and services through development of a mutually beneficial relationship, providing feedback to an organisation, dissemination of customer opinion about an organisation and the development of its reputation. When seen in this light, investment by an organisation in customer capital can be viewed as a relationship building exercise using the enabling capacities of both structural and human capital. Customer capital is enhanced through a series of value adding stages from a transaction, to a product solution, to a business solution to an alliance in which customer and organisational goals and objectives are mutually met. In a supply chain upstream and downstream customers possess considerable customer capital.

d Social capital

Social Capital can be seen as:

The sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit (Nahapiet and Ghoshal 1998: 243).

This view, in which the employee, customer and supply chain network is seen as capital and an asset is in stark contrast to traditional procurement views of employees and the supply chain as being costs; not significant generators of wealth and not capital in this wider context.

In a construction context if business success included an improvement of the quality of its social capital then at least two areas of improvements in the industry would emerge. Firstly there would be an enhanced environment created for project constituent teams to recognise the incentive of sharing knowledge by exchanging and combining their knowledge. This point has been argued convincingly in the literature that discusses improved innovation and productivity. Secondly, by recognising social capital as an asset, clients and supply-chain partners together with construction industry investors might become better informed about leading indicators of success rather than lagging indicators such as declared profits.

e Communities of practice

Communities of practice are groups of people linked together through their interests in an environment in which sharing and exchanging knowledge is the principal goal. The literature on communities of practice has been growing with seminal works by Wenger and Wenger and Snyder (2000, 1999) being cited as an authoritative explanation of their existence and how they function. One of the first cases of a community of practice to be widely cited is the work undertaken by Orr in his ethnographic PhD study of service technicians working on photocopiers. For more in this area see Brown and Duguid (1989). One of the most common texts that discusses this case is Davenport and Prusak (1998). While all these authors effectively discuss the concept of a communities of practice and how Xerox encouraged the development of a community of practice through its exposure to their benefits, there is little available literature that specifically goes beyond the their nature and describes how they may be developed. The engine of communities of practice is goodwill and not only a perceived need but a desire to share knowledge and to help others in a problem solving environment. In one sense communities of practice can be highly transactional in that there is an implicit assumption that each member can call for help from other communities when needed. In another sense they are transformational in their attitude towards work. They engender a desire to be involved and keep up to date

and to commit to excellence in their particular skills and knowledge base. It is this inner motivation that makes Communities of practice so powerful and so valuable.

Social capital is categorised into three dimensions. Structurally, social capital comprises network ties, network configurations and appropriate organisation for these networks. It is worth reiterating Nahapiet and Ghoshal's (1998) definition that relates to potential as well as realised benefits of social networks. When considering financial assets we accept that cash and cheque account bank deposits represent assets even though they are inactive in generating immediate wealth. Similarly, we should recognise the intrinsic value of *contacts* through clients, employees, professional associations and more informal communities of practice such as colleagues that have built up a trusting long-term relationship from past/ present employment encounters. This latent asset is as potentially useful and potent as cash in the bank. The structural dimension of social capital infers that to develop and fully leverage social capital we need to understand, perhaps through mapping, network ties their nature, characteristics and configuration. If this is effectively done, then there is an opportunity to adapt the business organization to best avail itself of the benefits to be derived from social capital with respect to knowledge and intellectual capital. A second dimension of social capital identified by Nahapiet and Ghoshal (1998) is cognitive. This comprises firstly, shared codes and language and secondly, shared narratives. Shared codes and language is an easy concept to grasp. We all have felt at some time excluded by signs, *jargon* or forms of expression that seem to include some but not others. This is a natural part of forming cultures and sub-cultures. Such language contains subtle forms of communication, fine distinctions that mean something unique to those using the discourse. Often this subtlety is valuable as it embeds elements of tacit knowledge and/ or powerful concepts. Networks also share codes. Many communities of practice have a code that requires anyone with specific knowledge about a particular problem to share it when asked. Shared narratives have been termed 'war-stories', however, shared narratives are more than empty boasting or bragging; they are examples of the particular nature of the problem under discussion where the context as well as the story is explored. Often these narratives provide a deeper perspective for those concerned. The third dimension of social capital is relational. This represents four elements.

Trust as discussed in Walker and Hampson (2003b) is vital for alliances and partnership whether this be a communities of practice or more formal arrangement. Trust means an expectancy that promises will be delivered as well as a measure of knowing what any person within the social group may be expected to deliver.

Norms are the rules and degree of consensus about some important matters that concerns the social group. For example, it is the norm that when a group member sends out a general call for help on a specific matter, that anyone in a position to help will assist.

Obligations operate as a credit transfer system. Having been helped or been in a position to expect help one puts communities of practice members in a position of being obliged to offer help to other members. Obligation thus binds members into mutual dependency that is a very powerful force for maintaining and developing social networks.

Identification is a process whereby members of a group both feel and believe that they truly belong to their group.

Having described what social capital is comprised of and is characterised by; we need to know how it can be leveraged to generate new intellectual capital. Four conditions for exchange and combination of knowledge are describe by Nahapiet and Ghoshal (1998) that draw upon earlier work on value creation. They state that first there must be an opportunity existing for combination or exchange of knowledge through *access to a social network* with that knowledge and/ or access in terms of appropriate information and communication technology to do so. Second, there must be an *anticipation of the value* to be derived from the exchange or combination of knowledge. At a project start up meeting or tender briefing you are more likely to gain benefit from that experience if you started out with the goal of achieving something. There must also be a *motivation* to share knowledge or to combine knowledge and create new knowledge. The fourth condition identified by Nahapiet and Ghoshal (1998), *combination capability*, is an interesting condition. In a very insightful paper Cohen and Levinthal (1990) discuss a term they use 'absorptive capacity'. This is the capacity of an organisation (or individual) to absorb new knowledge. They discuss in their paper some of the precursors to innovation take-up, and identify many of the (cultural) organisational factors that indicate the capacity of organisations to absorb

new ideas. These include openness, tolerance of mistakes, and diversity of participants in terms of their world-view, past experience in having experimented with new ideas, and having boundary-spanning people. People that bridge several disciplines or areas of expertise that can *see* the potential of one idea transferred to another context or use of cross-disciplinary teams that truly interact. These four conditions are highly challenging for the traditional construction industry organisation in particular.

Social and intellectual capital adds an intangible benefit to participating in relationship based procurement systems.

2.11 Strategic Services Selection

In a review of strategic purchasing decisions Spekman (1988) highlights a traditional approach to purchasing goods and services that may be described as an adversarial or transactional model. The approach relies on three major activities (Spekman 1988). First the buyer relies on a large pool of suppliers that it plays off against one another in a trading game to gain price concessions. Second the buyer will only allocate orders to suppliers to keep them in check. Third the supplier will use arms length posture and short term contracts.

Collaboration in a project is provided as the answer to building trusting relationships that are built on interdependence. In the selection stage a two stage process is advocated. This may be utilised in both contractor-supplier and client-contractor relationships (Spekman 1988). Useful questions to be asked include (Spekman 1988):

- Is there a commitment to prevention of defects at source?
- Has the supplier committed resources that cannot be used in other relationships?
- Does the supplier understand the commitment required?
- Is the supplier able to grow with us?
- Does the supplier offer true innovation in the product or services that it supplies?

- Is the senior management team of the supplier committed to the strategic partnership?
- How much future planning is the supplier willing to share?
- What does the supplier demand of us?

In order that organisations may position themselves to meet with the needs of their clients it is appropriate that they have an understanding of how clients typically select professional services. An insight into the process is provided by Day and Barksdale (1992: 85) who distributed questionnaires to twenty architectural and engineering firms and seventeen client firms in an attempt to not just identify selection criteria but to review selection processes. The main research question focussed on what individuals and a firm will look for when they select another firm to work with. The research indicates the various phases of the relationship in which professional firms are selected and evaluated at or around the 'interview' or 'shortlist' stage.

Day and Barksdale considered three questions:

1. What are the criteria that a client uses in selecting firms from a short list?
2. How does a client determine that the service being provided is satisfactory after initial selection? (This will impact future selection),
3. What factors contribute to the clients' feelings of satisfaction or dissatisfaction with the service provide?

(Day and Barksdale 1992)

In answer to these questions the research indicates the major perceptions that underlie the selection decision are (Day and Barksdale 1992: 86);

- The relevance of quality in the selection process
- The indicators of performance quality
- The overall reasons for client satisfaction

Table 2-5 below indicates the main criteria that client's were found to use in evaluating service firms. The main criteria were experience, expertise, and competence, understanding client's needs and interests, interaction, relationship and communication and contractual and administrative performance. Supporting criteria

are indicated in each case, in some areas it may be seen that duplication is apparent. This duplication indicates the importance of the specific criteria.

Table 2-5 Client considerations in selecting professional services (Day and Barksdale 1992: 87)

<i>Considerations in selection</i>			
<i>Experience, expertise, and competence</i>	<i>Understanding client's needs and interests</i>	<i>Interaction, relationship and communication</i>	<i>Contractual and administrative performance</i>
Management competence	Creativity	Good presentation	Workload, over-committed
Reputation of the firm	Knowledge of project beyond RFP	Ability to work as a team	Competitive fee
Client orientation	Understanding the client's project standards	Listens	Able to meet schedule
Visible and active principles		Chemistry, rapport	Efficiency
Originality, innovativeness based on previous projects		Trust, integrity	
Qualifications of personnel team			
Technical ability of design team			
Staff capabilities			

Research by Day and Barksdale (1992) may be juxtaposed with work undertaken by Patterson (1995) who evaluated one hundred and forty two management consultancy firms in New South Wales, Australia, finding twelve important criteria for accepting a consultancy. Table 2-6 extracts the top five criteria and balances that against the reasons that the same consultancy firm will reject the *next best*. In support of the Day research Patterson shows that clients are attempting to evaluate the quality of the service they are likely to receive. In doing so they are searching for cues and information from various sources. Patterson (1995) suggests that clients are looking for evaluation in terms of process and outcome. Specific reputation may be the main reason to select a consultancy. However general reputation was ranked only ten out of twelve. Cost/ value for fees was ranked as second by the sample as a selection criterion. This was a contrast to the Day research that found price/ fees ranking ninth. Day reported that "Participants rarely talked about price even in discussion about selection criteria" (Day and Barksdale 1992: 88). They did however recognise the importance of price in "The ultimate evaluation".

Table 2-6 Criteria for accepting and rejecting a consultancy (Patterson 1995)

<i>Criteria for selecting a consultancy</i>	<i>Reasons for rejecting 'next best' alternative consultancy</i>
Reputation in specific functional area (31.3%)	Less experience than chosen consultancy (43.0%)
Cost/ value for fees (28.1%)	Cost/ value for fees (30.4%)
Previous favourable experience with consultancy (25.8%)	Lack of confidence/ unhappy with individual (21.1%)
Experience in the industry (23.4%)	Lack of industry experience (15.6%)
A demonstrated understanding of the client's needs/ problems (18.8%)	Methodology (14.1%)

In open ended responses the Patterson research revealed ten reasons for rejecting the *next best* alternative consultancy. The top five are shown in Table 2-6. In reviewing the pair wise Table 2-6 there is consistency with Day's research as Patterson indicates the crucial role of specific industry experience. Cost is shown to be a major factor in the latter researcher's investigations. In conclusion the Patterson research indicates that clients are evaluating the person and not the firm in isolation and look to the consultant for assurance and confidence to reduce risk perceptions. This may be provided by favourable past experiences (Patterson 1995: 185).

Other research found that consulting engineers evaluated themselves on criteria that are set out in Table 2-7 (Saleh and Sarkar 1973). In contrast the engineer's clients selected engineers on the basis of different criteria.

Table 2-7 and Table 2-8 are based on literature gleaned from research carried out in 1960's; however they reflect contemporary emphasis placed by engineers on their own competence as opposed to personality variables. For example it may be seen in Table 2-7 that three out of four criteria are competence variables. Clients for their part are more interested in selecting engineers on the basis of personality variables. This may be seen with reference to Table 2-8 where the top three in each are personality variables.

Table 2-7 Engineers self evaluation (Saleh and Sarkar 1973)

<i>Association of Professional engineers (1964) and Miles (1965)</i>			<i>Stanley (1961)</i>		
Criteria	Rank	C= competence P= personality	Criteria	Rank	C= competence P= personality
Competence	1	C	Reputation	1	P
Experience	2	C	Competence	2	C
Staff	3	C	Experience	3	C
Integrity	4	P	Problem solvn	4	C
Reputation	5	P	Adequate staff	5	C
			Knowledge	6	C
			Integration	7	P
			Cooperation	8	P
			Prof standing	9	P

Competence variables are quantifiable criteria associated with the task, whilst personality variables are subjective traits attached to the individual performing the service (Saleh and Sarkar 1973).

Table 2-8 Client's evaluation of engineers (Saleh and Sarkar 1973)

<i>Self (1966)</i>			<i>Kelsey (1968)</i>		
Criteria	Rank	C= competence P= personality	Criteria	Rank	C= competence P= personality
Personality	1	P	Professional affiliation	1	P
Honesty	2	P	Time in community	2	P
Objectiveness	3	P	Reputation	3	P
Professionalism	4	P	Samples of work	4	C
Ability	5	C	Former clients	5	P
Experience	6	C			

The review undertaken by Saleh (1973) concluded that there was considerable difference between buyers and sellers perceptions of the relative importance of selection criteria. The sampling of 370 urban and municipal government offices confirmed that clients were most likely to select engineers using personality factors. The findings were that apart from fees and experience (ranked 1 and 2), that are competence factors, the top six were personality factors that included (in rank order 3-6); honesty, personality, cooperation and objectiveness.

An evaluation of the project needs of clients via a semi structured UK building questionnaire provides an interesting comparison (Chinyio, Olomolaiye and Corbett 1998). The research that sampled one hundred and eighty five clients summarised fifty ranked needs within eight headings. The results that relate to projects largely complete between 1995 and 1996 are shown in Table 2-9. Table 2-10 shows a brief summary of some of the findings from Chinyio (1998) indicating the relevance to construction projects.

Table 2-9 Project needs identified by (Chinyio, Olomolaiye and Corbett 1998)

<i>Criteria</i>	<i>Top three attributes identified</i>		
Aesthetics	Look	Interior/ exterior	Decoration
Economy	Low price	Meets budget	Reduced tender cost
Functionality	Fit for purpose	Durable	
Quality	Match current standards	Innovation	
Working relationships	Avoidance of disputes	Familiarity	Active involvement
Safety/ risk	Min. exposure to risk	Risk recognition	Allocation of risk
Lack of surprises	Flexibility	No claims	Guarantees
Time	Timely completion	Timely planning	Speed of construction

Table 2-10 Summary of findings from Chinyio (1998)

Ninety eight percent liked timely completion
Clients are not particularly enthusiastic about lowest price or a reduction in tender costs.
Many of those surveyed are interested in firm project prices
Projects were to be functional.
Clients expressed the desire to be involved
Client prefer less confrontation in relationships
There is a desire to minimise risk (safety)
Reduce uncertainty
Clear allocation of responsibilities/ guarantees and no surprises

The Day research identified quality indicators as independent variables separate from the considerations made when making a selection as identified above in Table 2-5. They differentiated the quality indicators at the time of selection from indicators used to evaluate service quality whilst the project was in progress. They specifically disallowed the response of quality in particular because they were interested in the dimensions of quality (Day and Barksdale 1992: 86). Day notes that the indicators of quality in selection could easily be combined with those set out in Table 2-5 but points out that in doing so one would lose the important dimension

associated with quality cues used at the time of selection. An important point made is that most of the indicators of quality in selection come from referrals unless the client has prior experience with the provider under review (Patterson 1995, Day and Barksdale 1992).

Table 2-11 indicates the main criteria that clients were found to use in evaluating service firms at the time of selection. The main criteria were experience, expertise, and competence; understanding client's needs and interests; and interaction, relationship and communication.

Table 2-11 Indicators of quality in client selection of professional services (Day and Barksdale 1992: 87)

Indicators of quality in selection		
<i>Experience, expertise, and competence</i>	<i>Understanding client's needs and interests</i>	<i>Interaction, relationship and communication</i>
Satisfaction with previous projects	Asks questions about needs and concerns	Asks the right questions
Has worked on similar projects in the past	Seems to want to solve the clients problems	Coordination amongst design team members
Has dealt with similar problems	Willingness to listen	Listens
Satisfaction of previous clients		Likeable
Referrals		Brochures and other printed material
Prestige of clients		Presentation
Specialist knowledge		Apparent interest in the project
Latest technology		

Once a firm has been selected the criteria clients use to evaluate ongoing service quality may be categorised under five dimensions; experience, expertise, and competence; understanding client's needs and interests; interaction, relationship and communication; contractual and administrative performance and actual performance on the project. These are shown in Table 2-12.

**Table 2-12 Indicators of performance quality in client selection of professional services
(Day and Barksdale 1992: 87)**

Indicators of performance quality			
<i>Experience, expertise, and competence</i>	<i>Understanding client's needs and interests</i>	<i>Interaction, relationship and communication</i>	<i>Contractual and administrative performance</i>
Few change orders	Continues to ask questions about needs and concerns	Asks the right questions	On time, on budget
Specialist knowledge	Seems to want to solve the client's problems	Coordination amongst design team members	Adherence to terms
Latest technology	Willingness to listen	Listens	<i>Performance</i>
		Keeps clients informed	Timely completion
		On top of the project	Cost effective
		Likeability	Expectations met or exceeded
		Apparent interest in the project	Accomplished client's goals or objectives
		Documents	Conformance with terms of the contract

Table 2-13 identifies the factors that contribute to client satisfaction. These are not dissimilar to the quality evaluation criteria. The major groupings are; understanding client's needs and interests; interaction, relationship and communication; contractual and administrative performance and performance/outcome.

Table 2-13 Reasons for client satisfaction in the selection of professional services (Day and Barksdale 1992: 87)

<i>Reasons for client satisfaction</i>			
<i>Understanding client's needs and interests</i>	<i>Interaction, relationship and communication</i>	<i>Contractual and administrative performance</i>	<i>Performance/outcome</i>
Attitude	Responsive to client's questions and suggestions	On time, on budget	Did what they said they would
Appears to want long term relationship	Pleasant to work with	Extra work orders minimal	Consistency in quality
Willingness to listen	Project manager in top of the job	Provided detailed schedule up front and stuck to it	Did what was required without being told
Responsive	Constant communication	Informed client of... and explained... variations	Responded to client's needs
Personal attention	Attended to client's needs	Met schedule	Responded well to client on the job
	Continuous follow up		Functional thinking in early stages of project matched with final design
	Involvement of project executive		No turnover of staff, worked with same people throughout
	Well coordinated		Met or exceeded client's expectations
	Talked to each other and the client		

2.12 Construction Relationship Marketing

Traditional procurement like transactional marketing focuses primarily on price. Essentially transaction marketing and traditional construction procurement has similar shortcomings. They share the overall end result of negligible supply chain interdependence (Love *et al.* 2002).

Relationship marketing's focus on client service fundamentally enhances transactional marketing and moves construction organisations towards procurement innovation and integration similar to that proposed by Latham and Egan (Egan 1998, Latham 1994).

In the preceding sections we have seen that RM is characterised by phrases, that include; *win-win outlook*, *common goal attainment* and *search for synergy* (Hutchinson and Gallagher 2003, Hollingsworth 1988). This language, whilst familiar

to the reader of “Constructing the Team” (Latham 1994) and “Rethinking Construction” (Egan 1998) is at odds with traditional construction where it is widely acknowledged that relationships are poor, characterised by lose-lose adversarial episodes, antagonistic misalignments of objectives and indifferent attitudes to long-term interaction (Australian Constructors Association (ACA) 1999, Lucas 1997, Pascale and Sanders 1997, Leavy 1994).

There are many attributes to consider in developing and applying RM in order to create innovative emerging styles of procurement. Hutchinson and Gallagher (2003: 6) use a term “Gamebreaking” for a team approach to procurement that is looking for opportunities to break the traditional procurement model. As an example, in project Alliance procurement the concept of trust, a RM variable, appears consistently and is recorded to have enabled gamebreaking deliverables (Hutchinson and Gallagher 2003, Jefferies, Gameson and Rowlinson 2002, Love *et al.* 2000, Domberger and Fernandez 1999). Trust overcomes the intangibility inherent with construction procurement, whilst at the same time building interpersonal and group behaviours in project teams (Morris, Brunyee and Page 1998, Wilson 1995, Dwyer, Schurr and Oh 1987). In a trusting relationship, such as gamebreaking procurement, stakeholders are able to focus on long-term benefits.

2.12.1 Alliancing/ Relationship Contracting

Generally speaking an alliance is a group of organisations working together in a cooperative arrangement with an aim to reduce overall costs, share project risk and reward and increase profits (Das and Teng 1998, KPMG Legal 1998, Allen 1995). The parties have a focus on relationships (Pascale and Sanders 1997) that build on trust in construction business agreements (Kubal 1994). An alliance goes further than transactional procurement, or indeed partnering. The entities involved seek to align objectives and collectively develop an appropriate project scope from an early stage. An alliance links organisational performance of participating firms within the framework of a legally enforceable agreement (KPMG Legal 1998). Antagonistic issues such as price and change are accounted for in the earliest stages of the project (Walker, Hampson and Peters 2000, Pascale and Sanders 1997, Allen 1995, Haines 1995, Kubal 1994). Successful alliances are not based on low-bid tendering (KPMG Legal 1998).

A study of several definitions of alliance arrangements identifies several key concepts that differentiate it from traditional procurement thinking; alliance arrangements are frequently legally informal; transcending typical contracts, and transforming relationships in a contractual and behavioural sense (Larson and Drexler 1997, Baker 1996, CIIA Construction Industry Institute Australia 1996, Schultzel and Unruh 1996). They are said to provide synergy through a collaborative, cooperative management effort (American Arbitration Association, quoted in (Stephenson 1996, Haimes 1995). There are a number of factors that must be present if an alliance is to be successful. The most noteworthy in the context of this literature review are:

The parties involved in an alliance agreement seek to align objectives and become involved closely in the development of the project scope. They plan projects together from the outset and operate in a system of interdependence; understanding their partners' business drivers (Boyd and Browning 1998, Pascale and Sanders 1997, Allen 1995, Haimes 1995, Kubal 1994).

Partners in the alliance have a *win-win* outlook and work toward common goals (Tomer 1998, Kubal 1994). This attitude is resolved through mutual commitment, equity, trust, common goals and objectives and supportive communication behaviours (Hampson and Kwok 1997). These terms whilst not explicit, do form an implicit underlying theme of RC (Hutchinson and Gallagher 2003, Hollingsworth 1988). This language is at odds with transactional procurement thinking, although benchmark documents that have captured a change in contracting strategies do use these terms (Egan 1998, Latham 1994). These reports when compared with more recent texts that discuss relationship based procurement show where enhanced value is provided to project participants in a RC environment (Walker 2003).

One primary incentive for participants is the possibility of gaining enhanced rewards. Fair allocation of risk and rewards within the alliance provides motivation (KPMG Legal 1998). Risks are jointly identified and prime responsibility for their management assigned, no partner is expected to expose themselves to outcomes that could jeopardise their commercial existence (Fellows 1998, Scott 1993). Performance indicators are agreed and there is an open book approach to costs (KPMG Legal 1998).

Other attributes of alliance success hinge on several attributes that include; trust, cooperative rather than adversarial relations, collaboration rather than competition, problem solving and innovation rather than sanctions/ contractual penalties (Boyd and Browning 1998).

From the above discussion it may be seen that successful alliances are not based on low-bid tendering (KPMG Legal 1998). They are based on *soft-dollar* factors that include; the ability to work cooperatively within an agreed framework, a *preparedness to do business*, implicit trust, a willingness to be *open book* on costs and ready to risk profit. An understanding of project culture is imperative (KPMG Legal 1998, Thompson and Sanders 1998).

Competitive advantage stems from relationships bonded by integrity and trust. Once established, these bonds prove to be very strong and resilient to external forces. These relationships weave a net that will prevent competitors' entry.

2.13 Summary of Relationship Marketing

The literature review has revealed basic marketing theory and introduced the components of the marketing mix. A marketing model has been outlined that conceptualises the association between marketing products and services. Relationship marketing has been defined and the main characteristics that underpin the concept have been reviewed. In particular the departure that relationship marketing takes from transactional marketing has been portrayed focusing on issues of client retention; product benefits, a long time horizon associated with the interaction; high emphasis on customer service together with regular contact and a desire to provide quality in the process as well as the product. A marketing continuum that relays a possible transition from transactional marketing to relationship marketing was conferred together with its association with project and product success. Key constructs/ variables of RM were revealed and their association with overall organisational benefits were discussed. Shortcomings associated with a strategy of RM were outlined. The relationship development process was constructed using diverse sources from non-project environs and three phases of development were generated that linked with development of commitment and trust that were discussed in earlier sections. Networks of relationships and the development of those networks entailed a review of supply chain knowledge to contextualise the upstream and downstream

relationship models of supply chain interaction. These supply chain interactions were explored from a construction industry perspective. In exploring the supply chain interactions it was noted that several writers had investigated supply chains from the perspective of knowledge networks and a section developed several worthy themes that lead to an exploration of strategic services selection. This section took a clients perspective and identified research that explores their perception when making source selection decisions. Finally there is a brief discourse on alliance and relationship contracting that highlights the limited knowledge that is availed from its perspective. The limited knowledge forms the gap that this research will endeavour to fill.

Reflecting on the research objectives it is suggested that this thesis will:

- Identify key relationship and RM criteria from construction actors' perspectives;
- Catalogue different perceptions of relationships drivers between the stratified groups of construction actors;
- Identify characteristics of relationship development building.

The following chapter sets out the methodological aspects of the research and provides a framework for the three study approach that was undertaken to answer the research questions that were developed in the preceding chapter.

Chapter 3 Research Design and Method

3.1 Introduction

The previous chapter has outlined relationship marketing and contextualised it in terms of construction. Potential improvements for the management of projects through the application of relationship marketing have been identified. In this chapter the methodology adopted for the overall research program, its justification, and how the research was planned and expedited is explained. The chapter begins with a review of possible approaches, describes the chosen strategy and then discusses a series of methodological issues. There were five primary research activities, including a literature review, a focus study, a quantitative study, a qualitative study and finally an analysis of action research/ alliance workshop attendance and desk-based investigation of project specific documents. Limitations associated with the selected research methodology are also presented.

3.1.1 Outline of Research Methodology

The research commenced with an undetermined problem that was loose and ill-defined. Earlier studies had shown the importance of marketing to stakeholders in the construction industry (Whiteley 2004). Despite this no specific study had been carried out to address RM in the Australian construction industry.

A literature review was undertaken at the commencement of the research and this was incrementally refined in breadth and depth as the scope of the problem became defined as each phase of the research was established. Several writers indicate the purpose of a literature review should be to (Anderson and Poole 1994, Creswell 1994, Sarantakos 1993):

- Increase the familiarity of the researcher with the research object
- Provide a benchmark for comparing the results of the study with other findings
- Provides a check that the research proposed has not been previously carried out
- Share with the reader results of other studies closely related to your own
- Relate a study to a larger, ongoing dialogue in literature about a topic

- Provide a framework for establishing the importance of a study

The literature review was a continuous process (Kumar 1996), it was dynamic (Fellows and Liu 1997) and to some degree open ended. Throughout the research period refinement of the literature review took place as new information from interviews was clarified and integrated into the research. Due to the three study approach adopted the literature review was found to be a dynamic document and many versions were created through the course of the research program.

The aim of this research has been established to determine an appropriate model of relationship marketing (RM) for construction and study its impact on construction alliance procured projects. A number of research objectives had been set out:

1. Identify and document key relationship factors that should be considered when selecting a construction service.
2. Identify methods that enable relationship factors to be developed.
3. Propose a model that gives buyers in both upstream and downstream relationships the ability to pre-qualify and select contractors that are committed to providing value to the project across a range of relationship selection criteria.

RM knowledge is drawn from non-project industries where significant empirical data pertaining to RM is available. This RM theory is applied to construction. The overall problem is seen to be a practical one in as much as construction has many parallels and draws on many aspects of services marketing. RM was hypothesised to be a latent construction attribute. A peculiarity of construction is that it varies from non-project industries by integrating many stakeholders in a temporary project environment.

3.1.2 A three study approach

The choice of method was guided by the nature of the research problem and topic being researched. The thesis was designed to comprise three studies that sequentially delve into the topic of RM and its application to construction. The topic was found to be complicated containing many variables, relationships and interactions. It was determined that a sequential triangulated approach would provide

a rational solution to the research problem. A review of several authors indicated that a combined research approach or method known as *triangulation* would be most appropriate to allow for theories and themes to emerge (Love, Holt and Li 2002, Chau, Raftery and Walker 1998, Raftery 1997). Further investigation noted five purposes for combining methods in a single study, the relevant purpose for this study being; each method is sequentially developed with a view to helping inform its subsequent method (Creswell 1994: 175).

a Study one

In addressing the research objectives an understanding of the issues confronting construction stakeholders was required. To establish the issues and realise the objectives of the research a focus study group was convened. The focus study group consisted of a purposive sample of stakeholders from the Perth, Western Australia (WA) construction industry (Kumar 1996, Creswell 1994, Sarantakos 1993). They comprised a cross section of general contractors, sub-contractors, suppliers and consultants. These industry practitioners were chosen because they were judged to have knowledge about relationship issues in construction procurement. Twenty-one respondents were initially selected and invited. Thirteen were able to participate in the focus study. The thirteen included; general contractors, sub-contractors, suppliers and project management consultants.

A variety of issues came from the focus study. Of particular note was an underlying commitment to RM in the construction industry; however current procurement/ supply chain practice seemed to preclude its wider adoption.

b Study two

The issues raised in the focus study were used to form the basis of a questionnaire survey that was distributed to industry stakeholders in WA. The industry stakeholders comprised; architects, consulting engineers, consulting project managers, contractors, quantity surveyors and client representatives. These industry practitioners were chosen because they were specifically representative of the supply chain that is the focus of the construction RM. A comprehensive analysis of the data obtained from the questionnaire survey was carried out highlighting some interesting associations between RM and a particular construction procurement method known as alliance procurement.

c Study three

The focus study in parallel with a continuation of the literature review developed grounded theory upon which an interview survey was founded. Analysis of the data obtained from the questionnaire survey led to the third and final major phase of the study. This study was an in-depth analysis of the construction procurement method known as alliance contracting or alliancing.

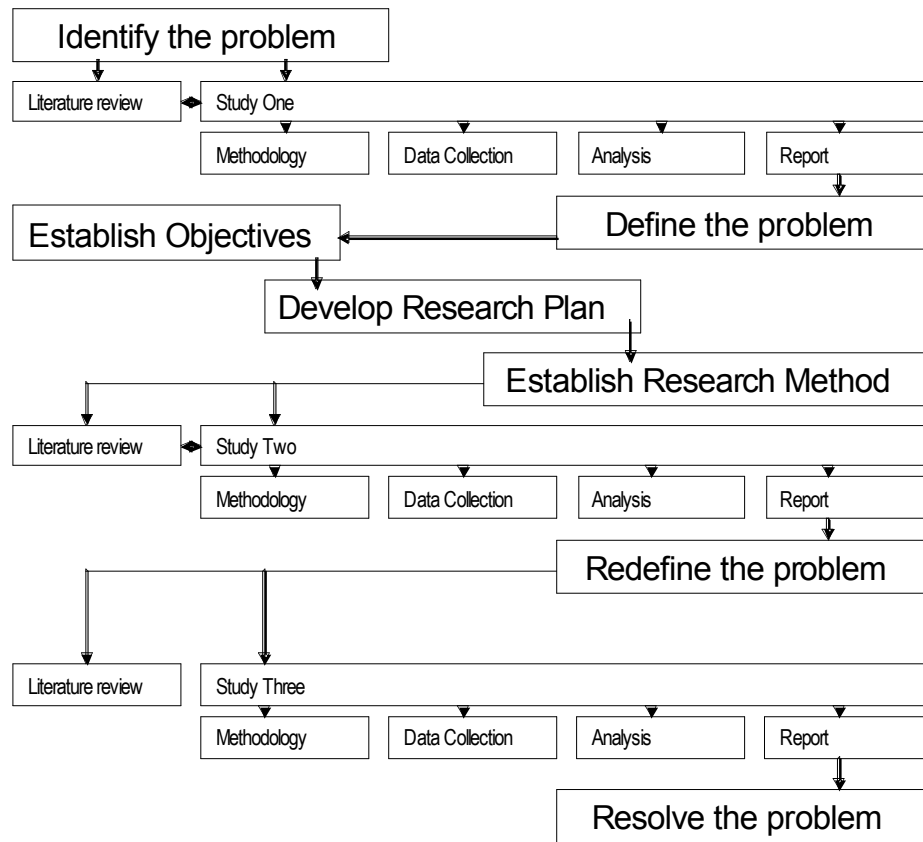
Earlier research by Whiteley (2004) identified several experts in the field of alliance projects that were suitable for the research. A process of snowball sampling was used to establish a comprehensive list of practitioners from Australia wide able to take part in a qualitative survey (Sarantakos 1993). A qualitative survey instrument was designed to evaluate relationship building and key variables that impact upon the relationship between the various stakeholders participating in an alliance project. The industry stakeholders comprised; consulting engineers, consulting project managers, contractors, and client representatives. These industry practitioners were chosen because they were specifically representative of typical consortia associated with alliance projects. Demographically the stakeholders in this phase of the research matched those that participated in each earlier phases of the research. Particular care was taken in the selection of participants in this final stage of the research.

To ensure internal consistency of study three an additional task was undertaken. The activity comprised an analysis of action research/ alliance workshop attendance and desk-based investigation of project specific documents. Chapter 9 provides full details of this activity.

The three stage triangulation method together with a desk-based investigation forms a process of internal and external validation. This leads to confirmation of the research findings and underline the reliability and robustness of the research.

A diagrammatic representation of the research strategy and its sequential stages are presented in Figure 3-1.

Figure 3-1 A three study research approach (Author)



The three study research process (Author 2005)

3.2 Methodology Adopted for the Research

The research program was carried out over a typical part-time PhD period of six years. Initially the most important point to consider was how the factors that influences relationships in construction tender selection were going to be identified. It was discovered that there was little previous research concerning relationship marketing in construction from which to source appropriate guidance with regard to theory building. Journals particular to construction were identified as suitable to determine an appropriate methodology. A search of the journal *Construction Management and Economics* lead to the discovery of several papers and notes that were able to provide direction in terms of theory and theory building. The papers and notes lead to active discussion of theory building in construction. The outcome of the discussion is not being explicitly clear and seemed to follow writers from other

disciplines in their deliberations. Social sciences were given as an example by Love, Holt and Li (2002) and Runeson (1997) where constant debate ensues. The debate essentially concerned the benefits of a qualitative method when compared with a quantitative method of theory building.

Raftery (1997) proposed a combined qualitative and quantitative approach, drawing on earlier research from Csete and Albrecht (1994) that indicated a combined theory building approach that allows the researcher to establish *trustworthiness* and *neutrality* in their study. The writers exemplify their point by providing an example of partnering procurement. It is stated that as a case study partnering projects would illustrate the theory building capable from a rationalist paradigm (Raftery 1997: 296). Their contention is that the definition of partnering that includes concepts such as good faith, commitment; communication and trust are far removed from terms used to describe adversarial contracting arrangements. These adversarial contracting arrangements are particularly familiar with construction personnel. In this circumstance it would be quite appropriate to use a rationalist paradigm to producing theory. It is interesting that within the scope of this research the concepts of partnering are not too dissimilar from those generically used to amplify the concept of relationship marketing.

Seymour, Crook and Rooke (1998) in their note of response to a paper by Runeson (1997) discuss the delineation of research methods according its focus and use. An example of a surgeon and a doctor is made. The surgeon is perceived to be concerned with the *scientific* discipline, viewing the patient not as a person but an object, the focus being on the required procedure. The doctor is interested in the *human* side of her patients. Seymour, Crook and Rooke (1998) liken construction managers to the doctor used in their example, concluding however that method building is not possible with the application of one method.

To summarise, it is possible to research any particular topic with either a qualitative or quantitative methodology and it is debateable if one is better than the other (Sarantakos 1993). Often the choice of methodology is influenced by how it relates to the goals and objectives of the research. The methodology is not necessarily a personal preference, but is rather based on the nature of the research project (Sarantakos 1993). Other factors to be taken into account are (Sarantakos 1993):

1. The structure and complexity of the population
2. The type of information sought
3. The availability of resources

3.3 *Research Approach*

According to Oppenheim (1992) the research process should consist of fourteen activities.

These activities should be balanced against flow charts developed by various writers, who in some instances provide simple explanations. The explanations counsel that complex adaptation may be required to account for the nature of a specific project (Collis and Hussey 2003, Fellows and Liu 1997, Kumar 1996).

Table 3-1 Typical activities in the research process (Oppenheim 1992)

<i>Typical activities in the research process</i>
Decide the aims of the study
Reviewing relevant literature
Study conceptualisation
Deciding on the research design together with its feasibility
Deciding the hypothesis to investigate and identifying the variables which must be measured against the hypothesis
Designing the research instruments
Undertaking the necessary pilot work
Designing the samples
Selection of the people to be approached
Undertaking field work
Processing field work data
Undertaking statistical tests
Test the hypothesis
Write the research report

The methodology used in this research was developed by careful consideration of the data that should be collected to support the research objectives that were identified in the Chapter 1 and repeated in section 3.1.1. The research approach undertaken was similar in nature to several contemporary writers (Fellows and Liu 1997, Kumar 1996).

The research design and outcome was sequentially developed through a series of refereed papers that were delivered to international conferences. They followed a logical sequence that connected the empirical findings. A summary of the refereed papers is set out in Table 3-2. The empirical findings were a product of research associated with the study's initial research questions. Ultimately the conclusions were based on sequential triangulation (Creswell 1994). An additional insight into triangulation can be views in section 3.8 and Figure 3-2.

Table 3-2 Refereed Conference Papers that theorise/ explain the concepts of RM in construction

Study/ Chapter	Paper Title/ Conference	Key Concepts	Theories
1	Davis, P R (1998) The Role of Marketing in the Project Management Organisations of Western Australia. In: Preece, C N (Ed.), The 1st International Construction Marketing Conference: Opportunities and Strategies in a Global Marketplace, 26/ 27 August 1998, Leeds UK. Construction Management Group: School of Civil Engineering. University of Leeds, 293-306.	Construction Marketing (CM), Barriers to CM, Problems to CM, Benefits to CM	Differences between marketing products and services. Marketing mix. Relationship marketing (RM) introduction.
1	Davis, P R (1998) Relationship Marketing and the Procurement of Subcontractors. Chartered Building Professional: The National Magazine of the Australian Institute of Building (February), 16-7.	Supply chain interdependencies Application of RM to construction actors	RM Service interaction
1	Davis, P R (1999) Relationship Marketing in the Construction Industry. In: AACE (Ed.), The 43rd Annual Meeting of the Association for the Advancement of Cost Engineering (A.A.C.E. International) June 27-30, 1999, June 27-30, 1999, Denver, Colorado. AACE, Vol. 1.	Focus group workshops Research methodologies	RM upstream and downstream relationships Qualitative research Interpretative analysis
1/ 2	Davis, P R (2001) New Thinking - The Operating Environment of Relationship Marketing in Construction. In: Preece, C N (Ed.), 2nd International Construction Marketing Conference. CIB W65 Task Group 1 International Construction Marketing, September 2001, Building Research Establishment. School of Civil Engineering, University of Leeds, 8-15.	Measures of project success Process success Product success	RM Trust Cooperation Performance satisfaction
2	Davis, P R and Walker, D (2003) Relationship Marketing: Providing opportunities and benefits for the Construction Industry. The International Journal of Construction Management, 3(2), 69-78.	Alliance procurement Commitment Cooperation Performance Relationship marketing Satisfaction Trust.	

Study/ Chapter	Paper Title/ Conference	Key Concepts	Theories
2	Davis, P R (2003) The Application of Relationship Marketing in the Construction Industry: Work in progress report. In: Greenwood, D (Ed.), ARCOM 19th Annual Conference, University of Brighton, England. Association of Researchers in Construction Management, Vol. 2, 827-36.	Construction RM Value adding Trust Commitment Collaboration	Quantitative research Quantitative analysis
3	Davis, P R (2004) Relationship Marketing Techniques in Construction Projects: A case study approach. In: Khosrowshahi, F (Ed.), ARCOM 20th Annual Conference, Heriot Watt University, Edinburgh, UK. Association of Researchers in Construction Management, Vol. 2	Alliance procurement Lessons learned from 'best practice' projects	Application of Case study methodologies
3	Davis, P R (2004) Relationship Development in Construction Partner Selection. In: Ashworth, A (Ed.), COBRA 2004: Responding to change, Leeds Metropolitan University. Leeds Metropolitan University.	Relationship development Alliance procurement	Relationship development Trust development and maintenance
3	Davis, P R and Walker, D H T (2004) Relationship Based Procurement. In: Khosrowshahi, F (Ed.), ARCOM 20th Annual Conference, Heriot Watt University, Edinburgh, UK. Association of Researchers in Construction Management, Vol. 2.	Supply Chain Management Organisational learning	Network relationships Communities of Practice Social Capital

A summary of the research design adopted that integrates these concepts can be seen illustrated in Figure 3-1.

In reviewing Figure 3-1 it should be noted that each Chapter that describes one of the three studies are introduced with their particular methodology section.

3.4 Justification of the Research Approach

It was determined from the literature that discusses approaches to research that there are two significant methodologies available for theory building. These two methodologies are a *positivist* approach that may be alternatively described as Collis and Hussey (2003: 47); quantitative, objectivist, scientific, experimentalist or traditionalist; and the *phenomenological* approach may be alternatively described as; interpretivist [interpretive Raftery (1997)], qualitative, subjectivist, humanistic. Creswell (1994: 5) referred to the positivist paradigm as quantitative and the phenomenological approach as qualitative; highlighting the different assumptions of each approach. The different assumptions are categorised under five headings; ontological, epistemological, axiological, rhetorical and methodological (Creswell

1994). Considering each of the five headings individually it may be observed that from an ontological perspective the quantitative researcher perceives the research objective as something *concrete*, independent of themselves and able to be scientifically observed and measured; often with the use of an instrument or questionnaire. The qualitative researcher considers not only the actors being investigated but also the audience or those charged with interpreting a study. The researcher wishes to faithfully report the findings. On the epistemological question the quantitative researcher would remain distant, constantly seeking pure objectivity in the study of what they perceive as knowledge (Collis and Hussey 2003). The qualitative researcher enshrines itself within the body of the question, observing and occasioning considerable interaction. The qualitative researcher “Minimises the distance between herself and those being researched.” (Creswell 1994: 6). The axiological aspect of differentiation follows these implications. The researcher ensures that impersonal language and the facts are reported from the study, whilst the qualitative researcher admits the values-laden nature of the research and reports her values and bias. The fourth consideration is the rhetorical or language concept. In a quantitative study the language is impersonal and formal containing well defined definitions. Whilst in a qualitative study the language is framed to exemplify the study from a personal and more informal perspective. Collis and Hussey (2003: 50) indicate that this aspect is particularly important when the thesis is reported, as writing styles supporting the paradigm will be sympathetic to the position made. The methodology refers to the entire process, and as the previous four constructs this differs when one considers a qualitative and quantitative paradigm. Creswell (1994) uses the terms deduction and induction to describe the logic attributed to the research. Deduction is used to describe a process of testing theory derived *a priori*; ideas and variables are chosen before the study begins and remain fixed. Induction has been used to describe the processes related to developing or testing theory; categories emerge from the collection of individual facts providing “Rich context bound” information leading to patterns, theory and conclusion (Leedy and Ormond 2001: 34, Creswell 1994: 7).

3.5 Quantitative Research

Quantitative research is favoured in natural sciences (Collis and Hussey 2003). It is widely accepted mainly due to its association with a perception of objectivity. Quantitative research is very effective in obtaining reactions from a large number of

people to a limited set of questions, which should be phrased in unambiguous and simple language. It is founded on the principle that the study of human behaviour may be conducted in the same way as studies conducted in the natural sciences (Collis and Hussey 2003: 52). In quantitative research objectivity and rigour replaces intuition and experience that returns to the comment made in the earlier section that refers to ontological issues.

The quantitative research method is (Collis and Hussey 2003, Sarantakos 1993):

- Succinct; making no effort to separate people from their social context
- It provides information that is easily analysed; the research output is highly structured and may be evaluated with statistical tools and computer software for example SPSS
- It is cost efficient in terms of each survey reply; allowing large volumes of data to be scrutinized
- It can produce results that are representative of a whole population, providing generalisable outcomes

3.5.1 Advantages of Quantitative research

The above characteristics of a positivistic approach provide the following advantages:

- It allows for a representative portion of the population to be surveyed
- It minimises labour requirement
- It reduces completion time and overall costs
- The sample coverage may result in more accurate results as more checks, tests and care can be given throughout the process
- The resultant data gives a broad set of findings, easily compared and concisely presented

3.5.2 Disadvantages of Quantitative research

Some writers contend that quantitative research represents a dehumanising approach, as the statistics are impersonal in nature. They do not convey emotion or intensity of respondent's views. The measurement of responses can tend to

pigeonhole opinions into standardised *boxes*. In other words it is subject to the researcher's own pre-existing expectations, which could be in error or biased.

Other disadvantages include:

- Quantitative research is not suitable where information is required quickly; it requires a lot of up-front work. For some outcomes it is not acceptable, for example measuring creativity and self-esteem
- Scepticism and debate abounds about the usefulness of surveys. For example vague or ambiguous wording may provide inconsistent answers, the questions may not address issues most important to the respondents
- If results show large variation there may be no way of knowing why
- Objectivity of the method can be compromised through bias in study results as reality cannot be defined objectively, but must be interpreted.
- Objectivity is not possible as standardisation and distance from the research object does not guarantee objectivity. Perceptions and meanings of the researcher penetrate research process in many ways
- Researcher bias in constructing of tests and questionnaires and manipulation of statistics. In other words a conscious or unconscious attempt to prove hypotheses. There may be an emphasis on the measurement of wrong/ unjustifiable data often resulting in *meanings* closer to beliefs of researcher than respondents.
- The hypotheses format may be problematic in as much as it predetermines a course of study and forces onto the respondent's opinions or intentions that are not their own
- Questionnaires not administered in standardised manner. The questions not asked in a prescribed order, or the wording of questions is varied which influences the respondent's answers. As a result of incorrect probing prompting, tone of voice or the use of gestures
- Not recognising complexity of the sample design. Non-random method used when random is in fact required. The total population not included in sampling frame

- Non-response to questionnaires or to some questions in questionnaires. The interview survey non-response rate can average 20%; mail survey non-response rate can average 10% - 90%. A very poor non-response rate can invalidate survey results – for example 20% - 30% response to mail survey. A standard error in excess of 5% may result in survey being too inaccurate for specific use

3.6 Mail Surveys

Using a quantitative methodology for study two afforded the opportunity for the researcher to use a mail survey, enabling responses to be captured from a large audience and efficiently reaching a widely based and thinly spread population. There are also additional advantages:

- They eliminate the need for personal interviewer/ respondent contact
- They are generally the cheapest form of survey
- They eliminate some sources of interviewer error and bias, for example a selection of answers cannot be influenced by interviewer
- The questionnaire is likely to be passed on to correct person to provide the answers
- They allow time for people to consider their answers and consult documents or other people before making a reply
- The questions are likely to be answered more willingly and accurately than at a face to face interview
- They avoid problems of appointment cancellations and postponements

3.7 Qualitative Research

Qualitative methodologies were used for studies one and three. In study one to determine the research question and in study three to add depth of meaning to the earlier study two. Qualitative methodologies produce a wealth of detailed information about small numbers of people and cases. It gives great depth of intimacy and understanding of a respondent's world. Qualitative research does not employ random sampling techniques and rarely measures any variables. It is said that qualitative

research researches people in their natural setting. This attribute tends to minimise distress and distraction from the respondent's perspective. Qualitative methodologies are a flexible approach to theory building. A less structured format allows research to be refocussed as and when pertinent information is discovered. It uses guidelines rather than strict rules. A qualitative research process presents a more realistic view of the world allowing the researcher to provide interpretation and meaning. The process of qualitative research is humanising in as much as the respondents are partners and experts whose opinions are sought. They are not perceived as scientific *objects*, or informants/ products of data. The respondents are not reduced to variables, units or hypotheses, but seen as parts of the whole. They are not *pigeonholed* into standardised categories.

Using qualitative methodologies the researcher can obtain contextual data from their own direct participation and observation. Using this observational data reduces the need for reliance on peoples' memories. This is useful as memories may be wrong, biased or selective.

Qualitative research suits situations that elude precise measurement; for example where the variables are yet to be identified, as in study one.

Often experiments are precluded for ethical reasons; in this situation qualitative research is a useful alternative. Qualitative research delves deeply into complexities and processes and seeks to explore where and why policy. It explores unknown societies or innovative systems that are informal and unstructured, for example linkages and processes in organisations. Finally qualitative research considers real issues in an organisational sense as opposed to stated organisational goals.

There are some disadvantages to qualitative research as a small sample size may reduce generalised data. Some criticise it as being less rigorous than quantitative research. This may be due, in part, to the fact that scientific fields in particular, have a preference for statistically *hard* data rather than *soft* data. Quantitative researchers propose that reality is objective, simple, and facts should be kept separate from values. This is the opposite of qualitative proponents. Quantitative researchers also propose that philosophical reasoning and speculations are an illusion, they can't offer

reliable and verifiable data or employ a clear procedure allowing replication and testing.

Non-standard data makes qualitative analyse difficult and expensive to do. For example time and cost of labour intensive collection, observation and time researching and formulating questions. Associate this with time to transcribe and analysing data and it is easy to see where costs can become a constraint (Cassell and Symon 1994). It is difficult and expensive to undertake research if there is a wide geographical spread of respondents. The skill, competence and rigour of the researcher can greatly affect an outcome of the research. To carry out qualitative research a researcher needs to be skilled in; interviewing, observing, reading non-verbal messages; understanding human behaviour and understanding cross-cultural norms and values.

In qualitative research biased and questionable data may result from any number of things including researcher fatigue or boredom. In this case important issues may be missed. Shifts in researcher's knowledge and researcher/ subject co-operation over the research period may cause bias. Changes in the group's behaviour may be problematic when the researcher is around. Runeson and Skitmore (1999) highlight the *Hawthorn experiment* as an example of behavioural changes caused by research interest.

A lack of anonymity for participants could produce reluctance to take part or provide answers that are not open and honest. The researcher may fail to gain entry to particular group for observational purposes possibly due to job skill or gender/ ethnic exclusions.

According to Chau, Raftery and Walker (1998) the quantitative method has no place if human behaviour is random and unpredictable; however, if this is the case, no research approach can help explain and understand human behaviour (Runeson 1997).

Construction projects in taken in isolation are dynamic and complex. The nature of the proposed research brought many interdependencies into play. The interdependent firms created a virtual organisation that was referred to as an alliance. Projects are essentially human enterprises, and so could not be understood solely in terms of hypotheses and tested variables from a purely quantitative approach. The fundamental problem concerning the management of projects is that of explaining and

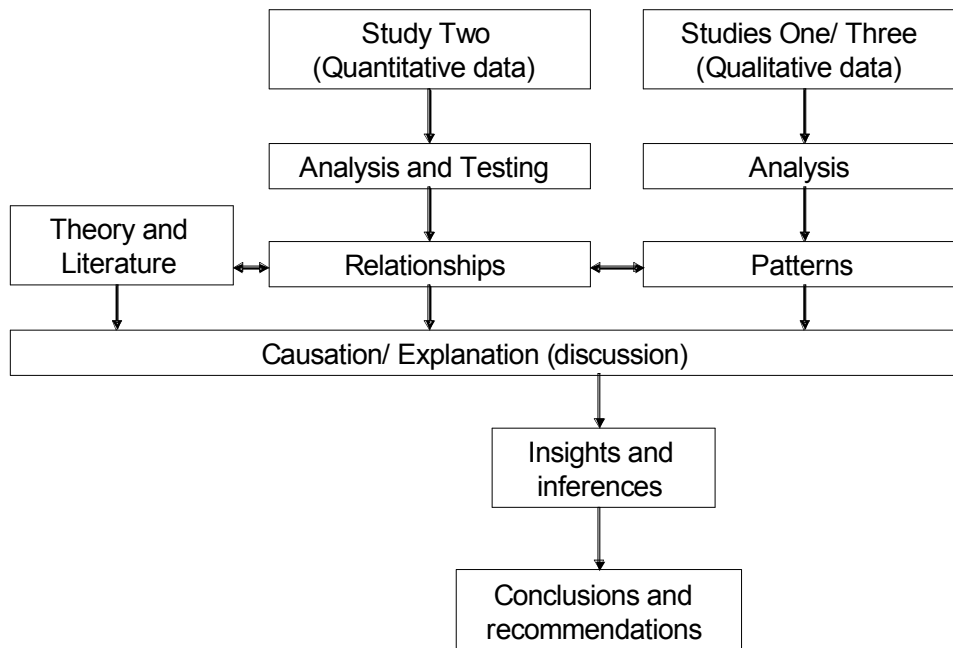
predicting human behaviour (Chau, Raftery and Walker 1998). For the reasons outlined a combined research approach was adopted known as triangulation.

3.8 *Triangulation*

The outcome of the foregoing review on contemporary methodologies was that the thesis should comprise three studies that sequentially build the theory of RM and its applicability to construction. The topic was complicated containing many variables, relationships and interactions. It was determined that a sequential triangulated approach would provide a rational solution to the research problem. A review of several authors that are referred to above indicated that a combined research approach or method known as *triangulation* would be most appropriate to allow for theories and themes to emerge (Love, Holt and Li 2002, Chau, Raftery and Walker 1998, Raftery 1997). Triangulation has been described as a method to supplement initial research with another research method to bear on the problem (Robinson and Reed 1998: 118). Data drawn from various sources for example; reports, interviews and surveys would constitute triangulation (Robinson and Reed 1998). This is referred to as a “Within method” that cross checks for internal consistency (Jick 1979: 603). Further investigation noted that there are five purposes for combining methods in a single study, the relevant purpose for this study being; each method is sequentially developed with a view to helping inform its subsequent method (Creswell 1994: 175). Jick (1979: 602) described this as a “Between [or across] method” using multiple approaches to collect and interpret data; testing for its degree of external validity.

It seemed reasonable that as a new researcher advice should be used from references sourced. In particular Jick (1979: 604) advocated that an effective aspect of triangulation was its ability to balance any inherent weakness in a single method. He cited many authors that confirmed integrating quantitative methods and fieldwork using triangulation consequently making important contributions to research.

The triangulation of research methods has been a popular and effective approach in construction research; for example Love (2002) employed triangulation to gain an understanding of quality failures in construction projects. Accordingly triangulation was found to be worthy of consideration in this research (Love, Holt and Li 2002, Stewart 2000).

Figure 3-2 The process of triangulation adapted from (Fellows and Liu 1997)

The process of triangulation adapted from Fellows and Liu (1997)

Figure 3-2 shows the process of triangulation used for this research project. The process was adapted from Fellows and Liu (1997). It may be seen that three of the four studies undertaken are noted in the diagrammatical representation and assist each other in assimilation of the rich data that became available from the sum of the interrelated projects. The fourth study comprised desk research and attendance of alliance workshops. This study is described in Chapter 9. In line with Jick (1979) it was determined that triangulation would add inherent strength to the overall research project, a notion that was supported by Creswell (1994). At the same time it was deemed to be appropriate that internal consistency of the responses to the third study were checked. Several of the projects that the participants reported upon were completed some time in the past and validation was import to the researcher. As workshop participation took place in parallel with study three, refinements to the analysis of the qualitative data using the software program QSR N6 was possible. In other words, actual circumstance could be cross-referenced with individual memory of the sample answering questions in study three. In a similar way the quantitative

data from study two was reviewed in the light of transcript as they became available as part of the third study.

3.9 *A Rationale for Pilot (focus) Studies*

Many studies commence with a pilot study; for example (El-Haram and Horner 2002) examined the appropriateness of failure mode and effect analysis on a sample of 18 houses drawn from the Dundee city housing stock. The objective of the pilot study was to generalize the outcome to the wider construction community and quantify savings. Wood and Ellis (2005) describe a pilot study that investigated the perceptions and experiences of 48 commercial managers employed by a leading national contractor with regard to partnering relationships on UK construction projects. The objective of the pilot study in this case was to provide critical analysis of sufficient empirical depth to establish the validity of earlier claims. As a final example Ashley, Lurie and Jaselskis (1987) used a pilot study to establish criteria used to measure construction project success. They concluded that the pilot study would enable future research achieving cost effectiveness and competition in the US construction industry.

Information gained from the pilot study/ (focus) interview in this study was used to gain an understanding and the possible extent of relationship marketing in construction. Once an understanding of the problem was developed a questionnaire survey was constructed. The questionnaire survey was mailed out to 838 professionals to validate the observations made during the focus interviews. Subsequently, to develop a deeper understanding and assist in theory building specific questions were developed from analysis of the questionnaire survey. The qualitative survey instrument was designed to evaluate relationship building and key variables that impact upon the relationship between the various stakeholders participating in alliance projects. In essence quantitative orientated research was validated with potent social observation to assist in interpretation and clarification of anomalies or puzzling features of the questionnaire (Krueger 1994: 24, Jick 1979: 604). This process is set out in Figure 3-1.

3.10 *Summary of Research Design and Methodology*

There has been limited research undertaken that has attempted to determine the factors that underlie RM and construction. This gap in the body of knowledge is particularly noticeable in the Australian Construction Industry. Since the inception of this thesis there has been a notable upsurge in papers that review aspects of relationships but none have provided such an in depth study triangulating focus studies, quantitative data and a qualitative study supported by desk-based studies. Therefore, this research aims to obtain a *balance* between inductive and deductive reasoning through a combination of both qualitative and quantitative research techniques (Creswell 1994). The benefits of this integrated approach are to:

- Display convergence of results through triangulation
- Provide incremental analyse of overlapping and different facets of phenomena as they emerge through the duration of the research program
- Show development in the findings from quantitative research as it is used sequentially to help inform qualitative research; and
- Add scope to the body of RM knowledge by applying it to construction

The design and methodology adopted for this research, which was developed and substantiated in three phases, has provided an original approach to identifying the underlying factors of RM in construction projects. This chapter provides detailed justification for the philosophical basis for the research approach adopted. The three phases of the research may be observed as discrete cases that are interrelated and incrementally build upon one another.

A full description of the analysis for each study can be found in Chapters 4, 5 and 7. In the case of the questionnaire and survey instrument used in the second and third study, instrument design; sample design and population; the methods and justification for the data analysis adopted; reliability and validity of the research instrument; and limitations are described in detail. In Chapter 9 a desk-based approach is described and the processes used to the collect data explained. The reliability, validity, and limitations of this study are also addressed. Models of RM based on the findings from the three studies and desk based study are presented in Chapter 10.

Finally it is noted that the methodological approaches described in this thesis were fundamental in seeking answers to the aim and objectives of the research.

The next chapter describes study one in detail commencing with a method overview.

Chapter 4 Study One: Focus Groups

The purpose of the focus group survey was to determine an appropriate research question to develop into a thesis. An initial literature review had identified the concept of relationship marketing as appropriate to construction and the researcher was interested to place the theory in the context of construction using a group of practitioners to focus on the pertinent and contemporary issues. The aims of the focus group survey were to develop a series of questions associated with the RM literature and to ask a panel of construction professionals in an open forum to discuss issues that they considered relevant. The relevant issues would then be extracted and used to define an appropriate thesis. The panel of construction professionals were invited to a suitable venue where the researcher facilitated a workshop designed to tease out important issues through mutually supported discourse. Many issues were discussed and with appropriate analysis and interpretation of the data several themes were forthcoming. The outcome of the exercise supported the openness of the construction industry to the concept of RM. The notion that the construction industry was knowledgeable regarding several RM constructs emerged. The focus panel identified key RM criteria and catalogued their different perceptions of relationship drivers. The panel also identified barriers to relationship building and determinants of value adding. As an overall outcome the focus group survey provided the direction for a suitable research strategy that is described in the subsequent chapters of this thesis.

4.1 Introduction to Focus Group Survey

In line with most investigations of this nature the research commenced with an undetermined problem that was loose and ill defined. Relationship Marketing and its underpinning concepts, whilst comprehensively researched in the non-project sector, were relatively unknown to construction actors. In the former sector, aspects of the topic have been discussed since the mid-eighties. For example Gronroos (1982) and Berry (1983) are credited with the initial research on what they referred to as *interactive marketing* and *relationship marketing* respectively; broadening the scope of marketing beyond individual transactions. Earlier studies in the construction industry had shown the importance of construction firms' marketing to their stakeholders (Whiteley 2004). The focus of this thesis was to pursue questions concerning RM that had arisen at the conclusion of the earlier Masters Dissertation

referred to above. The earlier research had considered marketing project management in construction. Throughout the literature review phase of the research on marketing project management, papers with the subject of relationship marketing had appeared successively. The documents were typically sourced via keyword searches of several commonly used electronic databases in Humanities research.

Subsequent to an initial review of the literature it was decided that the concept of RM was so new to the construction industry that a focus group interview would be the most effective way to clarify the research question (Hussey and Hussey 1997: 156, Kumar 1996: 109, Krueger 1994, Stewart and Shamdasani 1990). Focussed interviews have been used to gather data relating to the feelings and opinions of a group in a non-threatening environment (Hussey and Hussey 1997: 155, Krueger 1994: 6). In focussed interviews the interviewer provides the stimulus. The interviewees, who are familiar with the situation, are provided with relative freedom to discuss the issues (Hall and Hall 1996: 159, Sarantakos 1993: 184).

The composition of the focus group is important, and must be representative of the population associated with the research and consistent with the research objectives. Accordingly, the focus group for this stage one of the thesis was representative of stakeholders in the construction industry and included; general contractors, subcontractors, suppliers and consultants (Stewart and Shamdasani 1990: 51). The consultants provided a *client* perspective.

The initial literature review that investigated relationship marketing had established certain information that needed corroboration in a construction context to determine its validity (Yin 2003: 90). Accordingly a focus group design was chosen for the initial study in this thesis.

4.2 *Method Overview*

The steps in the design of the focus group meeting followed Stewart and Shamdasani (1990: 20) and are shown in Figure 4-1 below. Each activity shown in the diagram is a high level activity that includes several varied subordinate activities. For clarity of Figure 4-1 the subordinate activities shown are those associated with the initial step of problem definition. The balance of the subordinate activities is introduced in the text that describes subsequent high level activities. For example problem definition as a high level activity includes subordinate activities such as a

literature review for the purpose of becoming familiar with the area of research and identifying the proposed topic's relevance to construction. The literature review would also determine the importance of the topic area and to check to see that the problem had not been addressed before in the same context. In effect a benchmarking exercise with the current bodies of knowledge is undertaken.

The following sections describe the process that concluded with a write up of the focus group findings and its impact upon study two and the balance of the thesis. The following sections are:

- Problem definition

In this section there is a discussion concerning the literature review and its use to develop the broad focus of the research program appropriate to this stage of the research.

- Identification of the sample and sample frame

The sample is identified in this section and the credibility of the participants is justified. Several preliminary administrative components of the sample design are discussed.

- Interviews

The interview guide for the focus group meeting is discussed together with the justification for the process of the interview adopted.

- Method

In this section the actual method of carrying out the focus meeting is discussed together with a discussion concerning the participant's involvement, how recording and observation is undertaken together with the moderator's and his assistant's involvement.

- Analysis of the data

This section considers the approach that was taken by the researcher to analyse the raw data that was an outcome of the focus group meeting. The section includes some insight into general deficiencies in analysis.

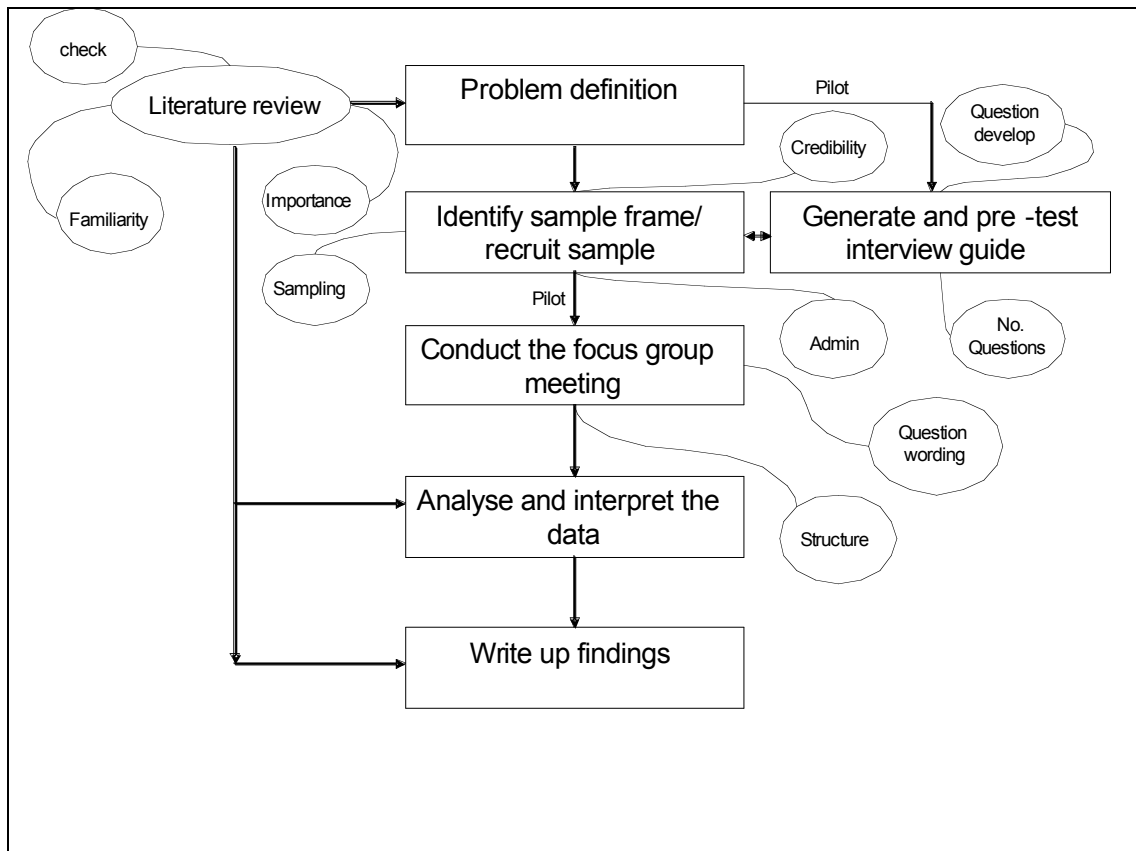
- Discussion

The discussion section focuses on five key aspects that were found using the data reduction techniques chosen for this stage of the research. The five key issues were; relationships, value adding to the service provided; commitment, trust and mutual goals; collaboration and relationship partnering.

- Conclusion

Finalise stage one and lead into stage two.

Figure 4-1 Steps in the design and use of focus groups adapted from (Stewart and Shamdasani 1990: 20)



4.3 Problem Definition

The main activity in the problem definition phase was to carry out a literature review to become familiar with the area of research and identify its relevance to construction. The literature review determined the importance of the topic area and checked to see that the problem had not been covered in a previous context. A benchmark was set with the current knowledge that enabled the initial study to relate to a larger, ongoing dialogue of literature about a topic (Anderson and Poole 1994, Creswell 1994, Sarantakos 1993).

The review of the literature is described as an iterative process. The outcome of the literature review in this stage of the thesis was the broad problem statement used to develop and frame the focus group questions.

The initial literature review covered a broad spectrum of articles sourced mainly from marketing journals and current marketing texts. This is where the broad body of relationship marketing literature disseminates. The literature review is described as a continuous process, it is dynamic and to some degree open-ended (Fellows and Liu 1997, Kumar 1996). As new information was sought, periodic refinement of the literature review took place to clarify and integrate subsequent thought into the study. Referring to Figure 4-1 a graphic representation of this may be seen as the arrow flows to the left of the flow chart.

Creswell (1994) suggests that a priority review of literature should include; journal articles in respected national journals, especially those reporting research studies; books related to the topic; recent major national conference papers and abstracts of dissertations. These were sourced from general to specific (Anderson and Poole 1994, Sarantakos 1993). Creswell (1994) further advises categorising primary and secondary sources. The literature at hand was catalogued as primary sources. These primary sources included; first hand accounts of investigation, original works and reports. Secondary sources included summaries of information gathered from research reviews, abstracts and other publications, containing factual information. Essentially it may be seen that primary data is data collected by the researcher whereas secondary data is data collected by a person or organisation other than the final user of the data.

As indicated in the introduction to this chapter a focus group interview was an effective way to clarify research questions for the thesis; the approach followed several writers (Krueger and Casey 2000, Hussey and Hussey 1997: 156, Kumar 1996: 109, Stewart and Shamdasani 1990). A research question was formulated as an outcome of the literature review. It was designed and framed around the following broad problem statement:

Construction companies that adopt a RM approach to tendering and procurement provide reduced costs to the construction process and attain higher levels

of efficiency that may be converted into growth of the company and the industry as a whole.

4.4 Identification of Sample and Sampling Frame

The process of sampling is linked to the population with the sampling frame producing an eligible population from which the survey sample is drawn (Robson 1993: 240). Following this, it is advised that the population refers to all cases or the entire population (Robson 1993: 260). In effect the main reason for sampling is that it is not possible to undertake complete coverage of the population, however the sample does need to be representative of the population to produce a result of value (Sarantakos 1993: 125). Sarantakos explains that sampling is effective in terms of a researchers time and its associated resources; indicating that a saturation survey, whilst often perceived as more generalisable in terms of output, may not provide substantial advantage (Burns 2000: 82, Sarantakos 1993). A sample design that is properly planned and programmed may provide comparable and equally valid results (Sarantakos 1993: 125). In addition Stewart and Shamdasani (1990: 53) indicate that convenience sampling is the most common method of selecting participants for focus groups.

As discussed above the composition of the group required for the focus group is important, and was to be representative of the population associated with the research and consistent with the research objectives (Stewart and Shamdasani 1990: 20). The key to a sample population is representativeness (Burns 2000). Accordingly, the selected focus participants for this stage one of the study were representative of stakeholders in the construction industry. Table 4-1 details the particulars of the participants who were involved with the focus group. The participants included; general contractors, key subcontractors, suppliers and consultants known to the researcher (Stewart and Shamdasani 1990: 51).

As noted below, the focus group in this study one consisted of a purposive/ convenience sample frame of twenty-one stakeholders associated with the Perth WA construction industry (Kumar 1996, Creswell 1994, Sarantakos 1993). The relatively large number was selected to allow for those that did not turn up on the day. Over recruiting is a strategy that is recommended (Bryman 2004, Stewart and Shamdasani

1990). Of the twenty-one initially selected and invited thirteen were able to participate. The thirteen participants included;

- Six general contractors,
- Five subcontractors,
- One supplier, and
- One project management consultant

For the purpose of anonymity the names of the respondents and particulars of their organisation have been removed from the table below.

Table 4-1 Details and particulars of participants in focus group meeting

Identification	Type of respondent	Particulars
1	Contractor	Senior Project Manager with international construction company
2	Contractor	Manager of Housing development company (BAppSc Construction Management)
3	Contractor	Managing Director of Project Management / Building Contractors organisation (BE MIE Aust)
4	Subcontractor	Commercial Manager of Electrical and Instrumentation company serving the commercial and industrial construction industry
5	Contractor	Senior Estimator and Quantity surveyor with national construction company
6	Consultant/ Client representative	Consultant to statutory instrumentality delivering infrastructure projects in Perth (MPM) Curtin
7	Subcontractor	Manager of air movement division Western Australia
8	Subcontractor	Director of Industrial Services Plumbing and Gas services
9	Subcontractor	Project Manager Fire Systems Company
10	Subcontractor	Manager Elevator Company
11	Supplier	Sales Manager National Roof tile Supplier
12	Contractor	General Manager International Construction group Western Australia
13	Contractor	Operations Director with national construction company

In general writers have suggested that multiple focus group meeting are often necessary to meet the needs of a researcher (Bryman 2004: 349). Stewart and Shamdasani (1990) suggest a maximum of three or four. Bryman (2004: 349) provides a table drawn from several writers that shows a good deal of variation and little consensus in the composition of groups and numbers of participants included in focus group research. The groups catalogued by Bryman covered an array of social

issues ranging from research undertaken in 1985 concerning heart attacks to more recent research in 1998 that investigated the reporting process of social science issues. In the studies the number of groups interviewed ranged from 8 to 52. The group size was generally shown to be between 4 and 10. Other writers suggest groups are composed of between 6 to 12 people (Stewart and Shamdasani 1990). Krueger and Casey (2000: 73) suggest that within marketing research the recommended size of a focus group is between 10 and 12. They point out that larger groups are more effective when the purpose is to pilot test ideas (Krueger and Casey 2000: 74) or to hear numerous brief suggestions and to avoid a “Wall of silence” (Bryman 2004: 350).

Whilst the need for several groups is accepted for national studies, as alluded to by Krueger and Casey (2000: 29) and Bryman (2004: 351) it is noted that resources and required outcome should be balanced against issues of complexity of the study and its analysis.

In this section of the thesis the purpose was to clarify issues that came from the literature review associated with the problem definition. The literature provided some direction that required focus. It was not anticipated that in the context of the topic there would be high levels of diversity in opinion arising from interactions between respondents; the sample frame was relatively homogenous (Stewart and Shamdasani 1990: 58). This fact together with the relatively simple problem statement suggested that additional groups were an unnecessary expense and impost to the time of the sample initially identified. The complexity of the analysis was also a deciding factor as it was intended to record and transcribe the meeting (Bryman 2004). In conclusion it was decided that additional groups would not add to the representativeness of the views gleaned from the initial group (Bryman 2004: 350).

4.4.1 Credibility of participants

A review of Table 4-1 indicates the level of seniority displayed by the participants in all segments. All the participants held senior management and in some cases chief executive positions. They had individually amassed a wide range and depth of construction knowledge; understanding the process and product outcome. The construction companies and sub-contracting organisations that employed the individual respondents were all significant with long successful track records. The respondents were ranked highly in both public and private prequalification criteria.

Several of the respondents had tertiary qualifications in construction, engineering and management. The participants covered the entire range of services that would be required to undertake a typical commercial construction project. Care was taken in this regard, being cognisant of the research question and in order to leverage on the outcome for the following stages of the research (Bryman 2004: 350, Stewart and Shamdasani 1990). As a point of clarification the absence of client representatives should be noted as a possible limitation to the focus group.

4.4.2 Preliminary administrative components of the sample design

As indicated above the sample was purposive. Care was taken however when making contact with participants to balance the demographics of the sample for the focus group in order that a bias sample was not created. Krueger & Casey (2000: 73) describe this as ‘homogeneity with variation’. For example if too many contractors’ representatives were present the subcontractors may have found themselves at a disadvantage in the conversations at the meeting. In other words the group has to be willing to share the group discussion. For this reason the sample frame was originally much larger than the final twenty-one invited to the focus meeting to accommodate for this particular problem highlighted by Stewart and Shamdasani (1990: 54). In particular this issue was addressed in the lead up to the meeting. The process of making contact followed (Krueger and Casey 2000, Stewart and Shamdasani 1990). Key activities in making contact included:

1. Creating a list of suitable respondents and managing the list to develop balance and representativeness
2. Identification of the general topic of research to the respondents. Letter to the general sample frame did this. In this context care was taken not to disclose too much information as individual participation was anticipated and personal opinions were expected.
3. Setting the meeting date, time and location. As indicated above a letter was sent to the respondents. The letter included all particulars necessary for the respondents to attend the meeting. As the interviewer was familiar with best practice in tender submission a basic format for a tender briefing was used to determine the actual day of the week that the meeting was proposed and the early evening timing.

4. Reminding respondents. Reminders were sent out by email shortly before the meeting day. This was specific to remind the participants of their earlier commitment as the researcher was aware of their typically busy schedules

Another administrative issue of relevance was the perceived requirement of an incentive. Following Stewart and Shamdasani (1990: 55) a snack was offered to the participants as the meeting was near a meal time. Refreshments acted as an icebreaker - informal discussion could take place over a cup of coffee prior to the more formal nature of the meeting. A subsequent thank you letter was devised to ensure a continued relationship with the participants in the anticipated future research.

4.5 Interview Guide

In the development of the interview guide, less structured general questions should be first, followed by specific questions that are more structured. The questions should be in order of relevance. However, due to the unstructured nature of the discussion, the issues may go beyond the planned themes and topics originally envisaged. The guide is simply a guide, and may be changed by the moderator (Hall and Hall 1996, Sarantakos 1993). It is usual to ask less than twelve questions allowing for the fact that some probing will be required in some instances to stimulate response and discussion. Terms used to start the discussion should include; “How do you feel...?”; “What are your thoughts...?”; “What do you think?”

Care must be taken in rephrasing a question that receives little response. The moderator should not answer question themselves, but should simply provide a key word or cue for the focus group to follow (Stewart and Shamdasani 1990).

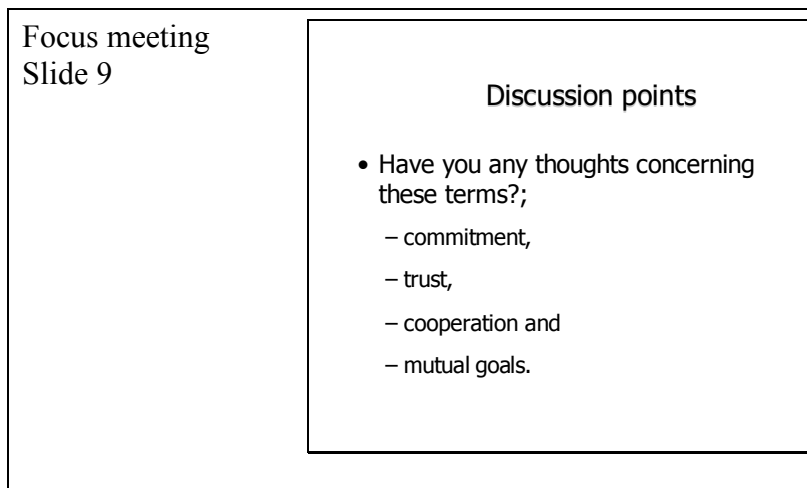
The interview guide was the agenda for the meeting and came directly from the literature review that generated the problem definition. The design of the questions was an iterative process pre-tested with several industry practitioners known to the researcher. The pilot participants were knowledgeable in both construction and management facilitation; they were able to assist in process and the final outcome. The questions followed good practice and included features of (Krueger and Casey 2000: 41, Stewart and Shamdasani 1990);

- Conversation to maintain an informal environment

- Semantic avoidance so the participants understood the conversation
- Easy articulation. The questions were trailed with pilot respondents separate from the initial design participants
- Clarity of understanding with little opportunity for confusion
- Shortness and succinct articulation to allow the respondents to digest the essence of the question
- Open-ended structure, as this is a hallmark of good focus group questioning
- Usually one dimension to avoid a single question becoming two questions in the minds of the respondents

Care was taken with the questions so that they did not suggest potential responses for the discussants (Stewart and Shamdasani 1990: 63). An example of the slides developed for the meeting is shown in Figure 4-2. The questions developed were relatively unstructured allowing the respondents the opportunity to react to several aspects of the general stimuli identified in each question.

The questions used did not draw the respondents' attention to any particular aspect or dimension. This process allowed the respondent with the opportunity to raise important and memorable issues that concerned them first and subsequently they are able to draw from the interaction of others (Stewart and Shamdasani 1990: 63). In addition, the use of *how*, *why* and *what* probes suggest to the respondent that the researcher is interested in complexity of the issues and interested in facilitating discussion. The moderator should avoid *yes* and *no* answers (Stewart and Shamdasani 1990: 65).

Figure 4-2 Example of slides developed for focus group meeting

The questions were handed to the respondents upon their arrival at the forum in an information pack. The pack contained some basic information about the meeting including the general purpose of a focus group meeting and a brief statement of the research. It included some ground rules for the participants and ethical guidelines to be adopted in the formative research meeting. Finally the information pack included the questions that were the essence of the meeting. The questions were described as *discussion points* to enhance the informality and information seeking nature of the session.

In addition an information pack that included the discussion points, the discussion points were reproduced as a PowerPoint slide show that enabled the participants to concentrate on the issue to hand whilst enabling them with the opportunity to see the current point in the context of earlier discussion points. This assisted in the flow of the discussion and enhanced the interactive nature of the session. An example of the power point slides used is shown in Figure 4-2.

The question set comprised five questions designed to broadly encompass the research objective that was set out earlier. Bryman (2004) points to examples drawn from social research suggesting that the number of questions may be as few as two; however the solution lies in a strategy that is somewhere between an open-ended approach with very few questions and a structured topic guide that has multiple questions with a clear outline.

4.5.1 Interviews

Interviews are characterised by verbal questioning as their main means of gathering data (Sarantakos 1993). Participants are asked questions about what they do,

think, or feel (Collis and Hussey 2003: 167). Kumar (1996) indicated that interviews are a part of everyday life but when used in social research the way that the instrument is prepared, constructed and delivered has an impact on the outcome of the research in several ways (Sarantakos 1993). The underlying methodological design has a bearing on the type of interview, although it is suggested that interviews are used with both positivist and phenomenological methodologies (Collis and Hussey 2003, Sarantakos 1993). Quantitative (positivist) surveys are predominantly structured in design and delivery, whilst qualitative (phenomenological) surveys have a tendency toward non-structured forms of interviewing. Focussed interviews are provided as an example (Sarantakos 1993: 177). Generally speaking the use of interviews affords the researcher the opportunity to probe deeply into a concept discovering clues and elaborate on problems that may be simply based initially on personal experiences. Sarantakos (1993: 179) provides a comprehensive list of interviews that are employed in both qualitative or quantitative research, that vary in terms of composition and structural design, who administers them, the type of media that is employed to deliver them and their epistemological purpose. Qualitative interviews are said to be similar, however there are variations in length, intensity, order and type of questions and the level of interviewee participation (Sarantakos 1993). Table 4-2 shows indicative characteristics of qualitative interviews (Sarantakos 1993).

Table 4-2 Characteristics of qualitative interviews (Sarantakos 1993)

Use open-ended questions
Predominantly interview one person at a time
Have questions with a structure that is loose and flexible
Offer freedom to the interviewer in question presentation, order and inclusion
Allow the interview to be adjusted so that it meets the goals of the study

Concentrating on aspects of methodology Lamnek (1988: 188) highlights several elements of qualitative interviewing. These are shown in Table 4-3.

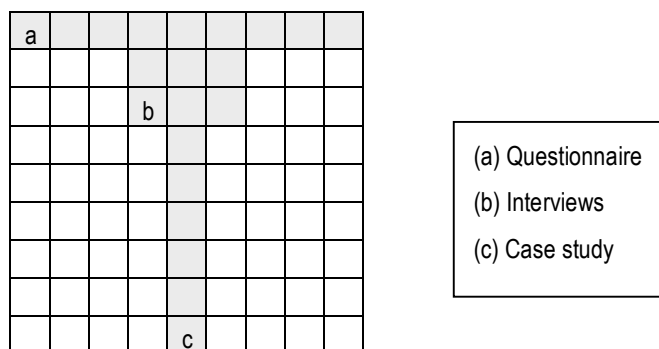
Table 4-3 Methodological issues associated with qualitative interviews Lamnek (1988: 188)

Concentration on the research object
A study on everyday life
The respondents are experts in a particular field rather than a source of data
Interviews are non-standard, recognising the ability of 'early' researchers
The communication determines the course and structure of the interview
The respondents are active and stimulated. The interview does not have a dominating role
They are developed on grounded theory

In the light of the previous discussion it is apparent that there is multitude of choice for research questioning. The choice comes down to scope, depth and the nature of the investigation (Fellows and Liu 1997: 90, Kumar 1996: 110).

(Fellows and Liu 1997) indicate in Figure 4-3 that questionnaires provide a shallow study in one extreme. The broad but shallow oblong shape indicated by a letter 'a' highlights this shallow attribute. This may be contrasted with interviews that provide a researcher with a more in-depth focus. The square shape indicated with a letter 'b' depicts a more focussed and deeper research approach as an alternative. Resources should be taken into account in the decision making and research design process.

Figure 4-3 Breadth v. depth in 'question based' studies (Fellows and Liu 1997: 90)



NB: area of each figure is the same

Leedy and Ormond (2001: 148) highlight several purposes for qualitative research studies. It is indicated that they enable the researcher “To gain an insight about the nature of a particular phenomenon and develop new concepts and theoretical perspectives of it” (Leedy and Ormond 2001: 148). In addition existing problems are highlighted. In particular Stewart and Shamdasani (1990: 15) suggest

that focus groups are very useful in the exploratory stages of research and are often followed by other types of research. In this instance a focus group would be used to “Generate research hypotheses and test them using more quantitative approaches”. (Stewart and Shamdasani 1990: 15)

4.5.2 Interview guide summary

Accordingly it was deemed appropriate that a focus group interview would be an effective way to initially clarify research questions for the thesis; the approach followed several writers (Krueger and Casey 2000, Hussey and Hussey 1997: 156 :156, Kumar 1996 :109, Stewart and Shamdasani 1990). Additionally and pertinent to this research it is suggested that focus groups should be considered when purpose is to uncover factors that influence behaviour, and the researcher is looking for a range of ideas or a attempting to understand different perspectives of categories of people (Krueger and Casey 2000: 24).

Focussed interviews gather information relating to the feelings and opinions of a group in a non-threatening environment (Krueger and Casey 2000, Hussey and Hussey 1997: 155). The interviewer provides a stimulus through carefully worded questions. The interviewees, who are selected for their familiarity with the situation, are provided with relative freedom to discuss the issues (Hall and Hall 1996: 159, Sarantakos 1993: 184). The focused environment enables the respondents to listen to their peers and provide reflective commentary; arriving at a shared understanding of their experiences and thoughts (Symon and Cassell 1998: 121). The interviewer should appear *genuinely naive* about the topic to allow commentary from the interviewees and avoid leading questions. If this fails, the aspect of desired corroboration may not occur (Yin 2003: 90). The interviewer should be careful to observe the participants to ensure that the interviewees are not simply echoing the same thoughts; and as Yin (2003: 90) indicates “Corroborating in a conspiratorial way.”

In a focus group environment the interviewer should be prepared to allow some latitude in discussion as this may provide some unexpected insights. (Bryman 2004) suggests that a structure that is too ridged may inhibit some spontaneity, although it is unlikely to remove it altogether.

4.6 *Focus Group Meeting*

In previous sections sample design, problem definition, participants' credibility and determination of the interview technique have been discussed. Clarification of these issues enabled a smooth process in the actual meeting. It had been determined at an early stage in the focus group design that the meeting was to be informal in structure to enable a depth of interactive discussion. The depth of discussion was to inform the researcher on the focus of the proposed research (Stewart and Shamdasani 1990: 87). Several matters were considered that included (Bryman 2004, Krueger and Casey 2000, Stewart and Shamdasani 1990);

1. Participation of the respondents
2. Recording and observations
3. Moderator involvement and style
4. Probing questions

These matters are discussed in the sections that follow.

4.6.1 Participation of the respondents

The group was designed to be representative of the population and consistent with the predetermined research objectives. The researcher had to be sure that all the participants that attended had their say and left the meeting with the view that their presence and opinion was valuable and valued (Stewart and Shamdasani 1990). The researcher was careful to make sure that all the members of the group had the opportunity to speak and there were no overly dominant members in the group. Sensitivity to non-verbal cues such as facial expressions and body language was of paramount importance. Krueger and Casey (2000) refers to experts, dominant talkers and shy participants in this context. They point out that many of the characteristics of each of these persons may be spotted at the pre-meeting small talk. The researcher did not miss this issue and was one of the reasons for the coffee time prearranged prior to the formal meeting.

It was recognised that the group in this particular study were fairly homogenous; in addition they were selected as part of a judgemental sample. For these reasons it was determined that many of the issues described would not become a

problem. The researcher was an academic staff member of an Australian University. This attribute of the moderator was helpful in the management of the focus meeting.

4.6.2 Recording and observations

It is usual for the moderator in focus group interviews to have an assistant. In this study the researcher had solicited the assistance of a post graduate student from the School of Marketing at Curtin University of Technology to assist. The assistant gave the researcher the opportunity to avoid continual note taking and concentrate on the interactions between the participants with each other and the participants with the moderator. The interview was recorded with an audio-tape recorder verbatim and the assistant moderator was charged with time-keeping and hand writing notes to supplement the audio-tape. Recording of the interview was agreed with all participants. In accordance with advice from Krueger & Casey (2000: 105) the tape recording equipment was in plain sight of participants to capture their comments and ensure that they did not feel that there was any vestige of unethical conduct.

4.6.3 Moderator involvement and style

The above section that discusses interview style and the alternative approaches to interviews sets out much of the researcher's approach to moderation style. In this stage of the research, remembering its qualitative and explorative nature, an open and unobtrusive style of moderation was adopted (Bryman 2004: 352). The questions were limited and latitude in answering was provided. In addition to digression, latitude for inter-group discussion and follow up discussion was encouraged. These activities were supported via active probing from the moderator. Essentially, the moderator was actively involved but passive when the discussion was in full flow. To enhance this effect the moderator used a white board to make notes. The respondents confirmed the notes as a true record of their contribution in each case. This subsequently formed a conduit for further discussion and consensus.

4.6.4 Probing questions

Probe questions may be used as a tool to solicit additional information (Robson 1993: 276). They can also be used to explain to respondents the importance of precision in providing answers; they suggest that considerable detail is required (Krueger and Casey 2000, Sarantakos 1993: 194). Several writers draw the reader's attention to the benefits of probe questions but counsel that too many probe questions

can become a distraction (Bryman 2004, Krueger and Casey 2000, Stewart and Shamdasani 1990). In the focus group meeting the moderator found two uses of relevance:

1. Reminding the participants of the value of differing points of view
2. Following up apparent consensus with a probe that asked if there were any dissenting views from other respondents

This latter point had a secondary benefit of giving overt permission to *quieter* respondents to contribute. As the focus meeting was part of an interactive and fact finding study generally probe questions were chosen relatively freely in accordance with the general direction of the discussion.

The full transcript was subsequently transferred from audio tape to a Microsoft windows media player WAV-file.

4.7 *Analysis of the Data*

Primarily the researcher's task in analysing focus group data is to reduce subjectivity and provide assurance of accuracy of interpretation of the data. The focus group was used to uncover information about a topic that little was known (Stewart and Shamdasani 1990). The first step in the analysis process was to transcribe the interview. The research assistant was commissioned to transcribe the interview from the audio tape recorder; this recording was balanced against the hand written notes made by the research assistant and the copied white board notes made by the moderator during the course of the one hour meeting. Care was taken during the transcription of the audio tape. It was found on occasions that several voices were audible at once and it was difficult to discern the comment being made. The moderator foresaw this and throughout the meeting clarified points and asked for confirmation from the group of particular noteworthy points of consensus. The moderator was also careful to identify particular points in time throughout the meeting for the *benefit of the tape* to make the transcription a more straight-forward task. Stewart and Shamdasani (1990) note that occasionally there is the tendency by a researcher to attempt to complete unfinished sentences in the final transcript. These unfinished sentences naturally occur in the process of typical focus group meetings where participants collect their thoughts or associate participants interject in the

conversation. In the focus meeting this happened on several occasions, however there was always sufficient clarification and probing to overcome non-particular problems. In the focus meeting the assistant was also charged with the responsibility of recording non-verbal communication that may have been lost in the relatively neutral environment of the audio tape.

As a preliminary exercise to analysis the researcher listened to the audio tape in conjunction with reading the transcript and other notes to ensure that the transcript was a very accurate record of the meeting. This also served the purpose of re-familiarising the researcher with the content of the meeting and its association with the research question.

4.7.1 *Cataloguing the data*

Several writers have attempted to catalogue the types of qualitative data analysis available (Creswell 1994: 155, Robson 1993: 457, Sarantakos 1993: 305). In doing so they have noted that there are few clear conventions for the analysis of such data (Collis and Hussey 2003: 253). Robson (1993) and others, for example, Sarantakos (1993) draw on the work of Tesch (1990) indicating that forty six categories of qualitative research may be condensed to four basic groupings that display analytical interest in;

1. The characteristics of language used in the conversations
2. The discovery of irregularities in the grouped transcripts
3. The comprehension of the meaning of the text, and
4. Reflection upon its holistic content.

A different typology more closely linked to methods of analysis used in this study are referred to as a *template and editing* approach (Robson 1993).

A further method that is referred to as a “Quasi-statistical” approach relying on converting qualitative data into a quantitative format is known as *content analysis* (Robson 1993, Stewart and Shamdasani 1990). Content analysis has a long history in social sciences. Essentially content analysis is a process of reducing text to numeric variables through various means to match predetermined coding units constructed by the researcher (Collis and Hussey 2003). An example is provided where content analysis has been used in the past to evaluate mass communication content i.e. radio

and TV advertisements. However content analysis may be readily adapted to qualitative interviews (Robson 1993: 351). Many of the attributes of content analysis are presented in the analysis used for stage one research (Stewart and Shamdasani 1990). For example using QSR N6, a qualitative analysis software program, the researcher decided on a sampling strategy, defined a recording unit, constructed categories for analysis, tested the coding on samples and finally carried out the analysis (Robson 1993). A full insight into the use of QSR N6 in this research may be found in Chapter Seven.

A summary of the different approaches considered and used for study one is set out in Table 4-4.

Table 4-4 Different approaches to Qualitative analysis (Robson 1993)

Approach	Key points
Quasi-statistical approach. Often termed Content Analysis	Uses word or phrase frequencies and inter-correlations as key methods of determining the relative importance of terms and concepts.
Template approaches	<p>Key codes are determined either on an a priori basis (e.g. derived from theory or research questions) or from an initial read of the data.</p> <p>These codes then serve as a template (or 'bins') for data analysis; the template may be changed as analysis continues.</p> <p>Text segments, which are empirical, evidence for template categories are identified.</p> <p>Typified by matrix analysis, where descriptive summaries of the text segments are supplemented by matrices, network maps, flow charts and diagrams.</p>
Editing approaches	<p>More interpretive and flexible than the above.</p> <p>No (or few) a priori codes.</p> <p>Codes are based on the researcher's interpretation of the meanings or patterns in the texts.</p> <p>Typified by grounded theory approaches</p>

Robson (1993: 459) lists some common features of qualitative data analysis noting that while the possible approaches to analysis are very diverse, there are recurring features. These classic analytical moves are shown in Table 4-5.

Table 4-5 Analytical moves from Robson (1993: 459)

Giving codes to the initial set of materials obtained from observation, interviews, documentary analysis, etc;
Adding comments, reflections, etc (commonly referred to as 'memos')
Going through the materials trying to identify similar phrases, patterns, themes, relationships, sequences, differences between sub-groups, etc; taking these patterns, themes, etc out to the field to help focus the next wave of data collection
Gradually elaborating a small set of generalizations that cover the consistencies you discern in the data
Linking these generalizations to a formalised body of knowledge in the form of constructs or theories

Collis and Hussey (2003: 262) capture the elements of various writers and conceptualise them several headings. The headings are shown in Table 4-6.

Table 4-6 Elements to conceptualise in qualitative data from Collis and Hussey (2003: 262)

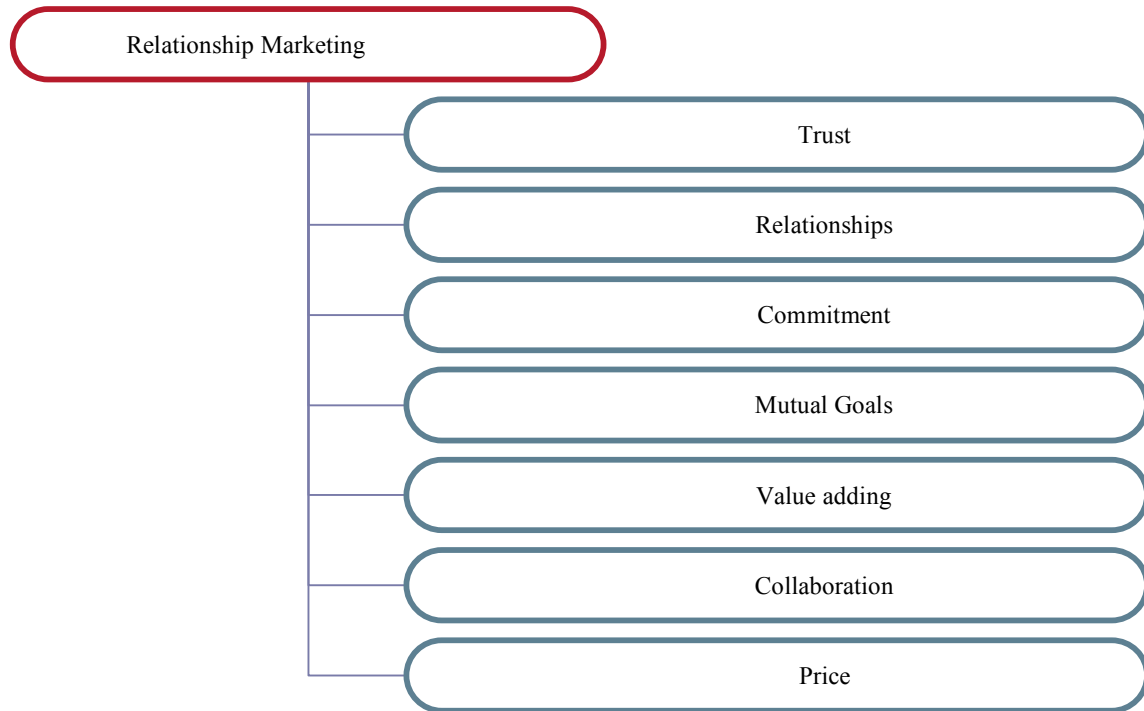
Understanding. Preliminary tentative analysis looking for new discoveries in the data and finding initial thoughts
Synthesising/ data reduction. Coding and drawing together different themes. Providing a general explanation of what is happening.
Theorising/ explanation. Finding explanations and making senses of the actions of the respondents
Recontextualising. Applying generalisable theory to other settings and populations. Revisit theories to investigate new linkages or models.

Broadly speaking the above activities defined by Robson and Collis were adopted for study one. Using QSR N6 the focus meeting transcript was initially coded under seven headings that came from interpretation of the raw data derived from the focus group transcript. The seven headings may be seen with reference to Figure 4-4 that shows the node tree created using QSR N6. Codes (nodes on the tree) are described as tools of analysis or keywords used to categorise or classify text (Sarantakos 1993). The codes were derived from the various responses to the questions posed to the focus participants. These open codes were established early in the analysis of the focus group transcript. To identify emergent themes Sarantakos (1993: 304) suggests that of the many types of coding that may includes; descriptive, interpretive and explanatory; pattern coding seems to be the most significant. Pattern coding helps a researcher to reduce the data and direct them to trends, themes and patterns.

Using grounded theory as a method of analysing qualitative data three forms of coding were used (Collis and Hussey 2003: 272, Creswell 1994, Sarantakos 1993). The three forms incrementally increase the ground material and elements of theory

building. These were used to enabling the researcher to feed the outcome of study one into study two.

Figure 4-4 Open coding categories used to develop the discussion for study one research plan



Initially open coding was used to identify simple topical themes that appeared from the focus group discussion. This enabled the transcript to be condensed, preliminary concepts to be determined and “Themes to come to the surface” (Sarantakos 1993: 304). The initial codes may be seen with reference to Figure 4-4. The final structure of the analysis was determined by using more complex coding that is described as *axial* and *selective* coding (Collis and Hussey 2003, Sarantakos 1993). These two types of high level coding are more abstract than open coding and arise from the researcher attempting to find interrelationships, causes and consequences coming from the raw data of the transcript. Using QSR N6 this was achieved by searching and comparing nodes. Boolean searches of the seven nodes shown in Figure 4-4 enabled intersection and overlap comparisons. *Boolean* refers to the relationship between search terms and a process of combining word searches using operands of *and*, *or*, *not* for example. The comparisons brought together the raw data combined within several nodes. For example the open codes of trust, commitment and mutual goals were brought together as were the open codes of value adding and price.

In general terms this activity may be referred to as reduction and interpretation (Sarantakos 1993) or de-contextualising and re-contextualising (Tesch 1990). The outcome is a higher level analysis of the raw data and an understanding of a larger more consolidated picture.

4.7.2 *Deficiencies of the analysis*

There are several deficiencies that a researcher may come across in research of this nature. Table 4-7 identifies commonly occurring deficiencies of the analysis (Robson 1993: 460).

Table 4-7 Commonly occurring deficiencies of the analysis (Robson 1993: 460)

Deficiency	Key points
Data overload	Limitations on the amount of data that can be dealt with. There is too much to information received processed and remembered.
First impressions	Early input makes a large impression so that subsequent revision is resisted.
Information availability	Information, which is difficult to get hold of, gets less attention than that which is easier to obtain.
Positive instances	There is a tendency to ignore information conflicting with views already held, and to emphasize information that confirms them.
Internal consistency	There is a tendency to discount the novel and unusual information.
Uneven reliability	The fact that some sources are more reliable than others tends to be ignored.
Missing information	Something for which information is incomplete tends to be devalued
Revision of hypotheses	There is a tendency either to over, or to under react to new information.
Fictional base	The tendency to compare with a base or average when no base data is available.
Confidence in judgement	Excessive confidence is rested in one's judgement once it is made.
Co-occurrence	Co-occurrence tends to be interpreted as strong evidence for correlation.
Inconsistency	Repeated evaluations of the same data tend to differ

4.8 *Focus Group Discussion*

RM and its underpinning concepts, whilst comprehensively researched in non project sector, were relatively unknown to construction actors. In the former sector aspects of the topic had been debated since the mid-eighties For example Gronroos

(1982) and Berry (1983) are credited with the initial research on what they referred to as *interactive marketing* and *relationship marketing* respectively; broadening the scope of marketing beyond individual transactions. Earlier studies in the construction industry had shown the importance of construction firms' marketing to their stakeholders (Whiteley 2004). The focus of this study one was to pursue general questions concerning RM that had arisen at the conclusion of the earlier Masters Dissertation referred to above. A focus group approach was adopted. In focus group discussion it is difficult to identify substantive answers that are specific or mutually exclusive to one particular question. Accordingly data making, inferencing and content analysis described above in the analysis section provided the key outcomes.

4.8.1 Relationships

In terms of relationships, the group concurred that historically there had been attitudes in construction that could simply be described as "Them and us attitudes". The size (scope) of the project was determinant of the type of relationship realised throughout the project. From the perspective of the group the divide in the relationship was between the construction team, (consisting of the general contractor, subcontractors and suppliers) and the design team. However, they recognised a move to change. The group proposed that the situation is currently different from recent past as they recognised mutual benefits being an outcome of alternative procurement methods. The method of project procurement has an impact on relationships generally. The group predominantly differentiated relationships between those arising from design and construct procurement and traditional procurement. The former was more inclined to support a position of working together, supporting collaboration and alignment of organisational goals. The group alluded to a virtual organisation that forms to create a project team, highlighting relationships that evolve within the structure of the temporary organisation. In the context of traditional procurement a special relationship that develops between a specialist consultant and a client was cited, suggesting that it could be visualised as concentric circles around a core that is the client. Specialist consultants were visualised to be within the inner circle and general contractors in the next boundary spanning circle. Investigating this argument it was determined that the inner core relationship i.e. the relationship between the client and the specialist consultant is possibly a "Stronger permanent relationship [or an] established relationship".

Following this the group discussion moved toward the topic of teams and their relationship as an effective vehicle to manage projects. Team working was one of the group's measures of project success. They indicated that good relationships were built on successful past projects and anticipated "That repeat business will generally come from a relationship". The group recognised that "Rivalry [or] friction" within the team could engender motivation in the project process.

The group considered that supporting all of those within the project team to realise a profit was a better solution than one stakeholder gaining at the advantage of others. They were interested in win-win solutions to clients' problems. The win-win solutions were to allowed mutual gain.

It was suggested that the relationship fostered on or about the time of tender usually set the tenor for the balance of the project. Group discussion on power-struggles occurring at the tender stage highlighted them as a fundamental cause of conflict. The power-struggles would invariably revolve around price; the ensuing conflict would underpin the formative stages of a project and its relationship development. In this circumstance it was suggested by the group that these conflicts tended to permeate to various degrees through the project's life. The conflict would not only be sporadic but would occur at various levels of the team hierarchy, with an adverse effect on the overall relationship of the team.

One respondent provided an example with additional comment provided by others in attendance that essentially indicated:

If you go back after a tender award and try to make too much of a meal of giving someone a job, continuing to drive down their price at all costs because you want to maximise your own profits. It could possibly engender something later down the track. The subcontractor could think; 'I've got the job but I've got to pull some money back from somewhere so I will claim things that I mightn't have otherwise. That will start a ball rolling that wouldn't perhaps have otherwise started.

It was noted that there were few clients in construction that carry out several projects. This fact influenced a client's propensity toward forging relationships. However, this is different to engineering projects where *mature* clients developing repeat business are more typical and accordingly relationship building is more likely. One respondent indicated;

In the resource sector there is continuation of work and you are able to build up a relationship, but in construction this is not the case. There are not too many repeat clients.

There is a tendency for the relationship to become weakened if interaction through projects does not continue on a regular basis. The general consensus was that repeat business between all stakeholders was *enjoyed*, that it was probably “What kept them going in the industry”.

As a conclusion to this section it is noteworthy to provide a closing comment on relationships:

...The biggest benefit [of relationships] is if you can sit down with the client/ architect/ engineer and not have to do too much to persuade them to believe what you're saying is the truth. It comes down to trust. A lot of that or whatever you call it. If you've got a long term relationship that makes it [construction projects] more beneficial

4.8.2 *Value adding the service to clients*

The answers to this discussion point were tempered by the economy at the time of the focus group meeting. It was considered that relationships tended to evolve more successfully in a buoyant market. At the time of the focus group meeting the construction market was commencing a recovery from a cycle that was characterised by low levels of activity. It was in this context and somewhat understandable that nearly 4% of the focus group discussion revolved around tender price. This discussion also covered the relationship of tender price to the expression “Value for money” that was an important aspect of tender selection. The group's consensus appeared to be that there was very little scope in providing added value to their clients' tenders if, as they suspected, clients were reluctant to use alternative criterion other than price in their tender evaluation. It was expressed that in some cases despite documented alternative criteria, the value adding criteria was not considered at all. It was eluded that clients are paying a *lip service* to the issue of value adding evaluation criteria. Several of the group suggested:

Our biggest problem is our clients - If you're breathing and you're the cheapest then you've got the job. The dollar wins. They [clients] really haven't got any other criteria to be quite honest, [or at least] very few of them have

In contrast to this comment it was suggested that the resource sector of the industry appeared to have a genuine approach to weighting value-adding criterion.

...The resource industry tends to have a genuine weighting for things other than price - past performance, safety. They do have a genuine weighting other than money but I think government, housing and pure commercial work is dollar only

The group were proactive in providing opportunities to enhance their service by value adding in product *quality* and an *ethical* and *honest* approach to the process; however the opportunities for this approach were perceived to be limited. To differentiate their service some of the group were providing finance for projects and development deals to secure a client. Another moderator pointed toward the relationship that exists between a general contractor and client. The group suggested that *similar* relationships were applicable to the association between general contractors and subcontractors. In other words the group believed that value adding and relationship development affected both up stream and down stream relationships in construction.

Price is the definitive criteria with relationship throughout the supply chain. It drives the relations of the construction team. Competition is always keen and whilst some contractors would like to be able to work with particular subcontractors, due to positive existing relationships affording some added value, they were unable to. This inability was found to be an outcome of traditional price selection in construction procurement. In traditional procurement moving to the cheapest subcontractor where no relationship existed would invariably cost the contractor the job. One respondent encapsulated this overall sentiment;

Generally in terms of tendering we send out invitations to tender to people we want to get prices from. The only people we send them to are those people that satisfy criteria as far as we're concerned. Quite often we get prices from other people we haven't even asked because they price the market. You may or may not use them depending what their price is. When you try to close a tender off you've gone to those subcontractors who you have a relationship with

However in *design and construct* the sentiment was somewhat different. Design and construct gave the contractor an ability to be more in control of the design

process of the project. This shift enabled the contractor to deal with subcontractors that they had pre-existing relationships with. The opinion from the group was that relationships between the parties were more carefully managed in this scenario. In addition to the management of relationships in the design and construct scenario the contractor also had the opportunity to add value by using their technical and managerial expertise to provide a lower price for the client with better return. The group sentiment was encompassed in the following;

In traditional tendering then we're stuck with some people. If it's like some of us here we do a lot of design and construct and we generate our own work a lot of those things come into play because you only ask people where you can have trust

The dynamic nature of projects invariably caused uncertainty. To overcome high levels of uncertainty in projects, contractors regarded relationships with regular subcontractors as a vehicle to assist in developing certainty. The comment was made that if you consistently use the same subcontractor that subcontractor will be familiar with your aims and "Then you can all work on the same basis". A downside emerges when alternative subcontractors chastise contractors if despite providing a cheaper price than the norm, they fail to have their quote accepted.

In a continuation of the discussion concerning efforts to reduce uncertainty the contractors at the meeting focussed on standard forms of contract for some time. Concerning this the view was expressed that onerous contracts simply raise levels of contingency included by various parties.

4.8.3 *Commitment, trust and mutual goals*

The group viewed commitment, trust and mutual goals to be important aspects of a relationship. Once again the state of the economy was reinforced as having important part in their strength. In *good* times it was perceived to be easier to build relationships than in *harder* times. In more difficult times price became the essential criterion for contractors selecting subcontractors and clients selecting contractors. There was clearly a good deal of mistrust in the construction industry. The group spoke about their reluctance to share ideas citing pretend briefing meetings that breached security. The contractors would only share information with a handful of *trusted* subcontractors to maintain their *intellectual property* concerning process and product improvements during the tender stage. They noted that trusting behaviour

could be a *big gamble*. An example of the gamble likely to be undertaken was becoming locked-in with a particular contractor or subcontractor for a reasonable period of time.

It was expressed by the group that an important ability is one of shifting a client focus toward a commitment-trust paradigm and simultaneously balancing this with price. A key was to establish commitment and trust as a value for money forward indicator. The group were of the opinion that due to an historic industry-wide propensity toward price selection, price would generally be the first move toward a relationship. Once established through price selection the tendency was to build an ongoing relationship based on mutual commitment and trust whilst performing on an established project.

As noted in the section covering value for money the method of procurement was a factor in relationship building. The group were unanimous that through traditional procurement, and in many instances design and construct, limited opportunity to establish and build on relationships founded on commitment and trust were provided. Given the opportunity the contractors segment of the focus group had a desire to generate their own work using people that they could “Trust”. Having the opportunity to “Pick the people you know you can trust”. One respondent encapsulated the feelings of the group and summed it up as follows;

...A [traditional] straight past the post tender can't work because you must really have the commitment of your team together first so that nobody feels that they're going to get stabbed in the back or their ideas are going to be stolen or whatever. It will work in the design and construction sector - the team has already been created, the team has decided to work together and its up and running.

Using the same team repeatedly provided some elements of consistency (tangibility) in the ever-changing project environment of construction. The consistency provides mutual goals, and aligned values. In many cases these mutual goals and aligned values were unwritten but nevertheless there. On the downside it was expressed that there are lost opportunities with relationship marketing. As an example, subcontractors will not attempt to price general contractors if there is the perception that established relationships cannot be toppled. This scenario is the same in the relationship between clients and contractors. It is equally as difficult to break

in-between established relationships. Trust and commitment were said to be built up over a long period in many cases. In a client-contractor relationship the client is often assessing at the team:

...Individuals within the [construction or subcontractors'] company make an enormous difference. Its how different people perceive you as a company your reputation and particular individuals in that company as well

Good relationships rely on reciprocity. The group made reference to this aspect and with examples from past experience showed that without two way commitment attempts to build relationships “Were a waste of time” with the uncommitted party seemingly accepting benefit without providing mutual gain. The resolution to this point as far as construction stakeholders were concerned was to ensure that the project sponsor was the driver of relationship building.

4.8.4 Collaboration

Collaboration is only available if alternative forms of procurement are available. For example it was suggested;

If its design and construction or a negotiated contract there are heaps of collaboration whereas on a traditional tender there is not

Given the opportunity the group indicated that they “Would love to collaborate”. Traditional procurement provides no opportunity for relationships to form or collaboration to take place. Innovation, in the form of alternative tenders associated with traditional procurement, tends to confuse clients. Traditional procurement was stated to make the process of tendering very complicated with complicated and often unclear documentation. With alternative methods of procurement, the contractor wins a tender by being *clever* through applying process and product innovations for improvements and not just putting in a “Stupid margin [of profit]” to ensure that they commence the project with the lowest price. Trust was indicated to be important when collaborating on tenders. The group stated that they would only use their most *trusted* subcontractors to ensure security of their *ideas*. The group was aware of the reciprocal nature of trust and the risk associated with it. However, done well it could provide success in alternative procurement scenarios. Teams that were formed very early in the project life cycle provided the essential commitment to the project and mutual goals generated by the stakeholders.

Traditional procurement did not allow this to happen. It was suggested that to select appropriate partners to collaborate with matching capability was considered. The capability decision revolved around parity with ones own organisation. It seemed that the focus group participants were interested in dealing with their peers in an industrial context.

4.8.5 Relationship partnering

Relationship partnering was in existence only when the project champion sponsors them. In general, they were dependent upon strength in the building industry. When the industry is quiet construction projects are *dollar driven* and business becomes *brutal*. However, the group enjoyed the relationship that comes with repeat business. They appeared to thrive on both upward and downward collaborative relationships that come from alternative methods of procurement rather than traditional procurement. Traditional procurement seems to be at conflict with the terms; collaborative relationships, alignment of objectives, and relationship partnering.

4.9 Summary of Focus Group Study

The purpose of the focus group meeting was to establish the opportunity of researching the concept of relationship marketing in the construction industry. There had been significant debate concerning relationship marketing in process based industries over a number of years. In the relationship marketing literature, certain principle components of relationship marketing had come to the fore. The principle components were found to be trust, commitment and mutual goals. It was established in the literature that these components support RM.

A problem definition exercise enabled the researcher to become familiar with contemporary RM literature and benchmark the components of RM against other research carried out in the construction industry. Several questions were developed to enable the researcher to obtain an in depth understanding of the construction perspective with regard to RM.

The focus meeting established that there are opportunities for the evolution of relationship marketing in the construction industry. There are some drawbacks. The focus group discussion found that the Perth construction industry was interested in

teamwork, associated with friendly rivalry and ‘win-win’ solutions to project problems.

Market forces typically have an impact on relationships and the strength of RM. The method of procurement appears to have a great impact on RM. A badly considered contract strategy has the potential to stifle many of the relational building constructs. These constructs; commitment, trust, performance satisfaction, cooperation and mutual goals have the ability to enhance RM.

The focus group participants tended to differentiate between the relationships that underpinned different construction procurement routes. For example they considered that relationship development would be different in a traditional procurement scenario when compared to design and construct. The participants highlighted a special relationship that would often evolve within the confines of a temporary project organization. The relationship would often have evolved from successful past projects. The group was mindful that early relationships in a project sense would determine the course that future relationships may take through the balance of the project. The focus group represented the familiarity that enabled relationship building founded on experience. This representation covered links that existed between clients and contractors, and contractors and their subcontractors. The relationships provided consistency to the respondents in their dealings with others; this in itself often precluded entry by outsiders into often established market segments. Strong relationships were said to create particularly effective bonds making it difficult to break in-between established relationships.

It was noted that whereas engineering clients are mature with the number of projects they undertake, construction clients tend to have less project experience. The reduced experience has a bearing on the pace at which relationships would develop.

There was a considerable amount of discussion that revolved around ways in which construction actors may add value to the product, asserting that positive relationship development affects both upstream and downstream relationships in a fruitful way. It was suggested that relationships were difficult to foster in traditional procurement although value adding could be engendered in an ethical and honest approach to all parties associated with the project.

Trust and trustworthy behavior was described as a forward indicator regarding the project outcome; it was perceived to be a big gamble as there was clearly a good deal of mistrust in construction. Having said this trust was perceived to be an important attribute that underlined a relationship. The respondents cited the use of alternative forms of contract as a way forward - to allow relationships to develop and incrementally build in the early stages of a project.

4.10 Continuation of research

The aims of this focus survey were to;

1. Identify key relationship and RM criteria from construction actors' perspectives;
2. Identify barriers to relationship building;
3. Catalogue different perceptions of relationships drivers between the stratified groups of construction actors in a purposive sample, and most importantly;
4. Determine a suitable research strategy for the continuation of the thesis.

Largely the research objectives have been achieved in the foregoing. With regard to Objective One several notable aspects of RM have been documented as important to construction. These include; the concepts of trustworthy behaviors being observed that leads to trust and commitment; the development of mutual goals together with early collaboration and the concept of adding value through intangible means.

Objective Two was concerned with barriers to RM. Barriers to RM in construction were noted to be power struggles that invariably revolved around price and becoming locked into relationships that were not as expected.

Objective three was concerned with the different perceptions that construction actors have regarding others in the supply chain when considering RM. It would appear from the limited response that there was some divergence in opinion from the three corners of the stratified group and further investigation may clarify this.

The final objective, number four, builds on the earlier objectives. The outcome of the focus study suggested that there is sufficient interest in RM from a non-project

background to further investigate RM. Study Two; a quantitative survey is designed to do this.

Chapter 5 Study Two: Quantitative Survey

The purpose of the following Chapter is to present the development of a strategy that would allow analysis of empirical data that was obtained from the questionnaire. This chapter provides details of the questionnaire, how it was developed and the creation of the data set arising from the responses received. Comment is provided as to its validity as a research instrument. Chapter 5 also describes how the data was processed and then used to achieve the research objectives associated with relationship variables derived from the focus study outcome and the supplemented literature review. The influence that relationship variables of trust, commitment and mutual goals (independent variables) have on relationship development (dependent variable) is analysed using responses from 238 industry practitioners. The final sample was developed from several comprehensive sample frames. The data is analysed using exploratory and non-parametric confirmatory statistical techniques, such as Spearman's *rho* non-parametric correlation matrix, Kruskal-Wallis test, Mann-Whitney U test and Principal Axis Factor analysis.

As an overall outcome this chapter provides a discussion and evaluation of the methods used to undertake a quantitative survey to address the questions that were developed for the research. It provides the direction and instruction for suitable analysis that is described in the subsequent chapters of this thesis.

5.1 Introduction to Study Two

The questionnaire for study two was formulated in accordance with the aims and objectives of the thesis. The aims and objectives were determined at the outset of the research and redefined at the end of study one. The questions were determined in accordance with study one findings and a literature review on relationship marketing as it is understood in non-project industries. A copy of the questionnaire can be found in Appendix One. The questionnaire asked respondents to think about relationships that they have with others in the construction supply chain and put it into the context of soliciting work. The questionnaires sought respondents' general opinions about procurement and then asked them to reflect on existing and proposed relationships in the supply chain. The questions were designed to solicit answers falling into both upstream and downstream categories.

5.2 *Rationale*

A focus group indicated that there was an underlying commitment to Relationship Marketing (RM) in the construction industry; however selection processes currently adopted seem to preclude its wider adoption.

The focus group identified that typical, widely adopted selection processes have an impact on the ability of the project stakeholders to add value to the project.

The focus group indicated from a qualitative perspective that different stakeholders have a different perspective with respect to relationships that build through the selection process and flow into the project. These may be evidenced to varying degrees and be displayed as commitment, trust, (client) satisfaction and relational partnering (mutual goal achievement). The preceding four variables are all part of RM. RM has a long-term product focus. It was proposed to canvas the respondent's views directly on their views concerning transactional and relationship issues. As discussed in the introduction chapter and described in Chapter four the response to the focus interview suggested there was divergence in the three tiers of the stratified groups that took part in the focus survey. A second set of research questions that formed the framework for the quantitative survey, described as follows, endeavoured to clarify this divergence.

5.3 *Questionnaire Development*

The questionnaire was designed to extract information about upstream and downstream relationships that respondents have with their associates in the construction industry. For example a contractor would consider an architect or engineer as upstream from them whilst they would consider a supplier or subcontractor downstream from them in a traditional supply chain sense. As noted below, both closed and open-ended format questions were used in the questionnaire. With the exception of the nominal data, a Likert type scale with responses categorised from 1 to 7 was used to determine the extent of agreement to particular questions. Naoum (1998) refers to these response categories as *quantifiers* and indicates that they afford a respondent with the opportunity of not only answering a checklist but to record a level of intensity of agreement or disagreement. Some questions were open-ended for the purpose of gaining additional comments. This was appropriate as

research into RM and its underpinning concepts, whilst comprehensively researched in non-project industry sectors were relatively unknown to construction actors.

Several questions asked respondents to rank on a seven point Likert scale. Recoding the raw data subsequently reduced the seven Point Likert scale. Recoding entailed the combination of results registered at Likert scale two and three to create a new Likert scale two. This was followed by combining the results registered at Likert scale five and six to create a Likert scale four. This may be seen in the Table 5-1 below. These changes were made to enable ease of interpretation and reporting of the data without loss of depth or clarity. Additionally the change simplified scale anchors and had no impact on the overall reliability of the instrument.

Table 5-1 Conversion of seven point Likert scale to five point Likert scale

<i>Seven point Likert scale indicators</i>	<i>Five point Likert scale indicators</i>
1	1
2	2
3	2
4	3
5	4
6	4
7	5

5.3.1 Questionnaire

The questionnaire was mailed to 898 industry practitioners in Western Australia (WA). Responses were received from 254, which equates to a gross response rate of 28%. In addition, 23 questionnaires were returned as undeliverable due to changes of address or possibly an incorrect address being advised to the researcher. Included in the 254 returned forms 16 were returned blank, as recipient's reported that they were either retired, unwilling to participate, a lecturer with no practical experience, recently returned from overseas, a full time student or were not involved with the procurement of construction projects.

The balance of the questionnaire was checked for missing data and found to be suitable as it had appropriate coverage of the data required.

Accordingly there was a net useable response rate of 27% ($254 - 16 = 238/898$ 27%). This response rate was considered to be low but acceptable. Fife-Shaw (1995b) indicates that postal surveys may drop to below 40% and interview-based surveys

obtain a better response rate. Postal surveys were applicable in this instance due to the geographic diversity of the potential respondents. An interview questionnaire was rejected for this study in order to alleviate interview bias, and the pressure of an observer. The honesty of answers in a postal survey is heightened due to privacy.

5.3.2 *Creation of the Dataset*

Each of the completed questionnaires was given an identification number to ensure anonymity. The questionnaires were pre-coded numerically to each variable. This pre-coding was designed to allow for ease of data entry (Collis & Hussey 2003). A syntax file and database was created in the Statistical Package for Social Sciences (SPSS) version 11.5. An assistant who was familiar with SPSS entered the syntax file and responses into the database. The researcher checked the data for completeness and accuracy. Responses to the open-ended question were transcribed verbatim onto a Microsoft Excel spreadsheet. Data from the main questionnaire, described below, was entered in accordance with the process described in this section.

Discussion later in this chapter at section 5.7 provides justification of the methods used for data analysis. The 22 questions in the survey instrument fell into 8 groups. Table 5-2 identifies the group of questions associated with the section and briefly highlights their scope. Subsequently an outline of the question rationale is provided.

Table 5-2 Group number and scope of questions

<i>Group / Section reference</i>	<i>Question</i>	<i>Comments</i>
1/ 5.4.1	Questions 1-5	General introductory and demographics of the respondents
2/ 5.4.2	Question 6	The impact the respondents perceives they have on the outcome of projects as an outcome of the selection process
3/ 5.4.3	Questions 7-10	Attitude to relationships generally
4/ 5.4.4	Questions 11-12	These questions show the respondents commitment to upstream and downstream relations with other stakeholders
5/ 5.4.5	Questions 13-16	These questions show the respondents trust in upstream and downstream relations with other stakeholders
6/ 5.4.6	Questions 17-18	These questions show the respondents client satisfaction with

<i>Group / Section reference</i>	<i>Question</i>	<i>Comments</i>
		upstream and downstream relations with other stakeholders
7/ 5.4.7	Questions 19-21	These questions show the respondents relational partnering approach to upstream and downstream relations with other stakeholders
8/ 5.4.8	Question 22	This question show the respondents marketing focus (transactional v relationship marketing)

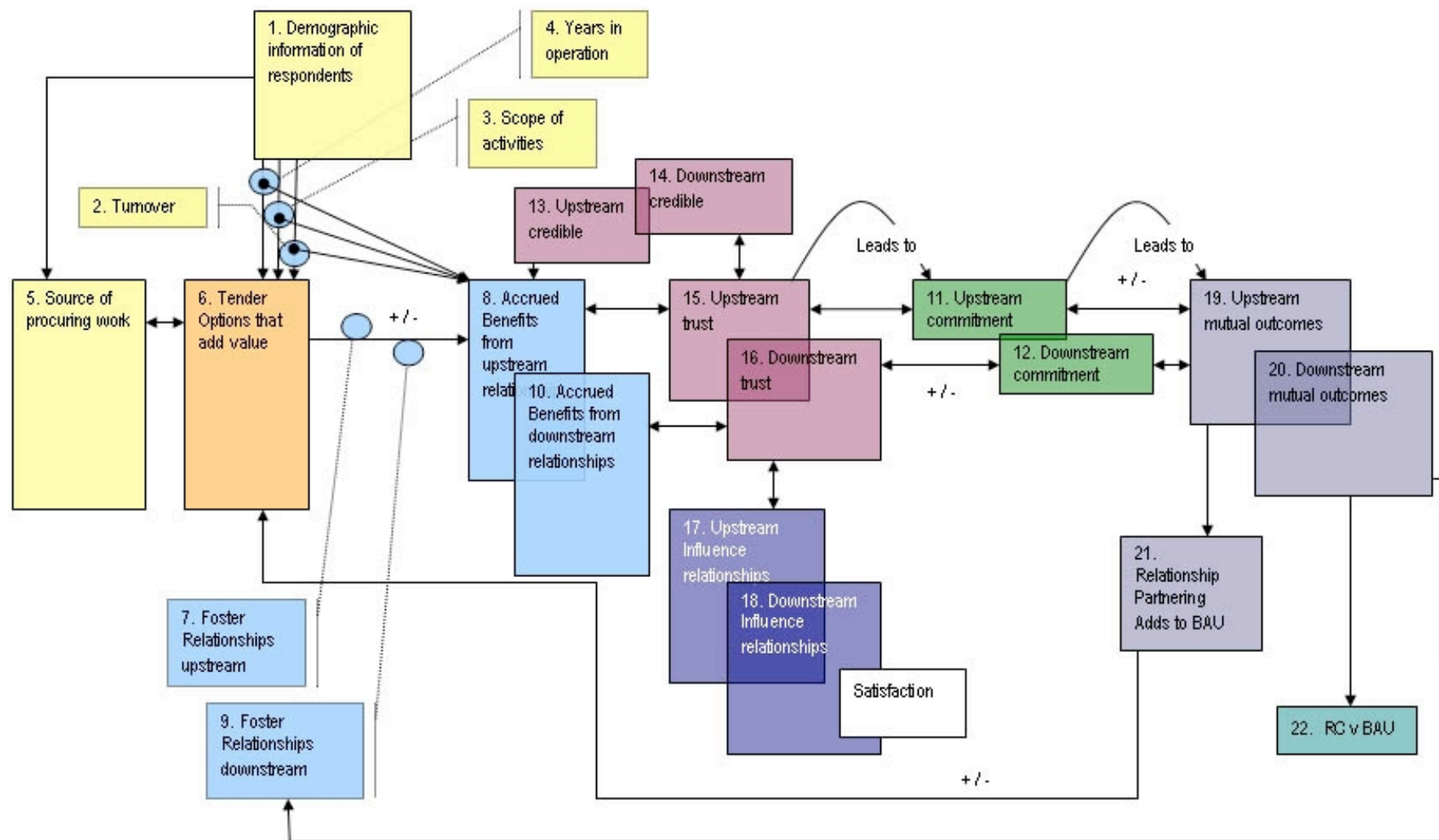
Figure 5-1 Graphic representation of questions used for Study Two follows on the next page. The figure identifies the questions proposed for the survey their grouping, and their relationship to one another.

For example, in designing the questionnaire, with the aims and objectives of the research in mind, it was hypothesised that the willingness to foster relationships would either add or detract from benefits that arise from relationships in the construction environment. The figure displays the proposed connections.

The following sections in this chapter, 5.4.1 to 5.4.8 provide an analysis of the development of the questions.

Figure 5-1 Graphic representation of questions used for Study Two

The figure referred to above is shown overleaf.



5.4 *Question Purpose*

Each group and question was developed so that it would relate to the research questions. The research questions were derived from the focus group meeting and initial literature review.

5.4.1 *Section One - Demographics*

The aim of section one of the survey, demographics of the respondents, was to allow the respondent to categorise themselves in the construction industry, for example - to refer to themselves as general contractors or consultants. The section also questioned the size of their organisation, through its annual turnover. Annual turnover was used as opposed to number of employees so as to match selection categories used by the peak construction employment body known at the time as Contract and Management Services (in 2005 the agency is known as Department of Housing and Works). A further question in this section asked the respondents whether their organisation operated in the public or private sector of the construction industry. Respondents were asked to note how long their organisation had been operating in the construction industry. A final question in this section asked the respondents to identify their main source of obtaining work. For example did they focus on open or pre-qualified tender submissions? Studies by Holt, Et Al (1996) investigated contractor opinion and usage of current tender methods. The investigation showed that clients were attempting to cut costs by increasing the use of open tendering. The demographics section was constructed to determine representativeness of the sample, using a closed question format.

5.4.2 *Section Two - Adding Value*

Section two, adding value, enquired how respondents consider that value is added to projects. The purpose was to see if the respondents felt that the various tender options available enabled them to have a value adding impact on the outcome of projects. Following the focus study in stage one it was considered that the different groups of respondents identified would have different perceptions of the strength or weakness of the alternative selection processes. An insight into the definition of value adding was provided from investigations by the following researchers who cite the numerous value adding benefits that are attained from a relationship marketing approach in process and product industries. See for example Gordon (1998) who notes

the advantages of creating value with clients, not just for them; a comparison from Christopher, Payne and Ballantyne (1991) and Nickels and Wood (1997) who indicate a different outcome from transaction marketing as compared to RM. The key issues gleaned from these writers are; value to the client arising from service, commitment and contact; the time scale and the team focus on quality; freeing up time for innovation, value-adding and overall mutual goal attainment (Dorsch, Swanson & Kelley 1998); others suggest relationships remain intact if the parties are continually satisfied, receiving added value (Patterson, Johnson & Spreng 1997).

5.4.3 Section Three - Attitudes to Relationships

The aim of section three was to determine the extent to which the respondents endeavoured to foster relationships between themselves and other industry stakeholders. The relationships were considered from both an upstream and downstream perspective to encompass the construction industry supply chain. Additional insight came from a set of questions that asked the respondents to rank certain variables on a Likert scale (1 small to 7 large) depending on their view of the perceived impact of several variables on relationships. The list of variables was based on underlying themes portrayed by Wilson and Mummalaneni (1986); Connor and Davidson (1990); Han, Wilson and Dant (1993); Zeithaml and Bitner (1996); Hennig-Thurau and Klee (1997) together with Gwinner, Gremler and Bitner(1998).

5.4.4 Section Four - Commitment

Section four of the questionnaire examined the influence that commitment had on relationships. For example Wilson (1995) provides a set of relationship variables established from earlier theoretical and empirical research. The earlier writers indicate that their list is not exhaustive - suggesting one might add or delete from the list to capture a relationship situation.

5.4.5 Section Five - Trust

Section five of the questionnaire examined trust in both upstream and downstream relationships. Trust and commitment had been discussed in depth during the focus group and was shown to be a significant factor in the respondents' minds when considering relationship development and maintenance. The relationship marketing literature was found to have great depth in the area of trust and other areas such as literature from business. For example Jones and George (1998) considered the

evolution of trust in an organisational sense and describe its implications on cooperation and teamwork. In a similar way McKnight, Cummings and Chervany (1998) researched the formation of trust in new organisational relationships. Discussions of this nature enable comparisons to be made between construction relationships and those more interested in relationship marketing.

Particular questioning asked the respondents to rank on a seven point Likert scale their expectation with regard to trust in both upstream and downstream relationships. Subsequent questions drawing on the work of Wilson and Mummalaneni (1986); Dwyer, Schurr and Oh (1987); Pascale and Sanders (1997) and Gremler Gwinner, Gremler and Bitner (1998) provided several variables that were determined as indicators of trust. The questions asked the respondents to rank (on a seven point Likert scale) how they perceived the actual relationships they have with both upstream and downstream relationships with associated stakeholders in the construction industry. In essence a comparison of the two sets of questions would enable the researcher to compare expectation with actuality when considering trust. In this specific set of questions, care was taken to avoid the actual word trust. It was considered that this would form a *halo effect* and simply achieve a high ranking result in all cases. From the focus group study the researcher was aware that the industry was conscious of the impact that trust had on their relationship building, management of relationships in the project process and its ongoing impact on the product. As noted above variables that were indicators of trust were sourced from the literature and used in the questions. For example the relationship marketing literature shows that confidential information sharing is an indicator of trust in a relationship (Dwyer, Schurr & Oh 1987). Accordingly these terms were used in the question to encourage the participants to focus on their industry and provide sincerity/ validity in their responses.

5.4.6 Section Six - Satisfaction

In section six, client satisfaction, respondents were asked to identify via a series of closed questions on a Likert scale (1 low to 7 high) how satisfaction impacts beneficially on both upstream and downstream relationships. This series of questions followed research by several writers that described aspects of client satisfaction (Day & Barksdale 1992; Doney & Cannon 1997; Patterson, Johnson & Spreng 1997). The respondents were provided with a list of variables that were indicators of satisfaction

and asked to rank them in alignment with how they influenced relationships with associated stakeholders in the construction industry.

5.4.7 Section Seven - Mutual Outcomes

Section seven of the questionnaire was similar to earlier questions in as much as it was a series of closed-ended questions that provided an opportunity for respondents to indicate their strength of agreement to a statement. The statements concerned the achievement of mutual outcomes and relational partnering. Much of the information for this question followed research by Leavy (1994) who investigated of just in time (JIT) buyer supplier relationships and called for a strategic perspective to enhance the relationship. The final question in this section asked the respondents to reflect on the benefits that relationship partnering may have within business as usual (BAU) contract strategies. The respondents were drawn to a definition of relationship partnering as essentially collaborative relationships. Examples of BAU contract strategies were; design and build, traditional, management contracting and others. The question followed the outcome of the focus group meeting, where it was indicated that respondents were anxious to pursue collaborative relationship strategies to deliver projects.

5.4.8 Section Eight - Transactional v RM

The final section of the questionnaire, section eight, investigated the respondent's propensity toward transactional or relationship marketing in the context of their procurement interactions. The question was focussed on their marketing strategy. A graphic-numerical or semantic-differential scale of 1 to 6 was created that asked the respondents to indicate their strength of agreement under several variables (Sarantakos 1993; Naoum 1998). For example if the respondents considered that they focussed more on **projects** than **clients** they would tick one of the boxes 1 (high) to 3 (low) in the left hand transactional column. However if their focus was more to **clients** than **projects**, they were advised to tick one of the boxes 4 (low) to 6 (high) in the right hand relational column. This had the effect of forcing them to choose between a relationship marketing approach and a transactional approach. It also enabled the strength of their commitment to be gauged. The variables were based on research by key writers in the discipline of RM (Christopher, Payne & Ballantyne 1991; Nickels & Wood 1997). In the questionnaire there was no indication as to which variable was an indicator of transactional or relational marketing. The purpose

of this was to ensure that the respondents provided an honest answer in accord with their personal perspective and values rather than referring to the earlier questions that they had answered to draw an inference. Cross referencing the answers to this question would enable the researcher to determine internal consistency in the overall questionnaire response.

At the end of the questionnaire there was space for open ended comment to supplement the information provided by the respondent in answering the questions. In particular, it gave respondents the chance to provide additional details about relationship marketing in the projects that they had been involved with. Comments provided in this section and earlier sections were used to support the statistical analysis that was carried out. Finally a section allowed the respondents to provide their names and contact details should they wish to be added to the mailing list of a summary of the research.

5.5 Design of the Questionnaire

The layout and physical attractiveness of the questionnaire were considered to be of vital importance to obtain a realistic response. A good questionnaire design is fundamental to obtaining reliable survey results and giving a high response rate. The researcher was conscious that there were several advantages associated with the use of a questionnaire. However, there are several shortcomings. Sarantakos (1993) indicated that questionnaires are widely used in social sciences and provide certain benefits. The benefits are set out in Table 5-3.

Table 5-3 Benefits of questionnaires (Sarantakos 1993)

Questionnaires are less expensive than other methods.
They produce quick results.
It is a convenient method: questionnaires can be completed at the respondent's convenience.
They offer greater assurance of anonymity.
They help to avoid bias or errors caused by the presence or attitudes of the interviewer.
Questionnaires are a stable, consistent, and uniform measure, without variation.
They offer a considered and objective view on the issue, since respondents can consult their files, and since many subjects prefer to write rather than talk about certain issues.
The use of questionnaires promises a wider coverage, since they can approach respondents more easily than other methods.
They are not affected by problems of 'no-contacts'.

There are also certain limitations, these are identified in Table 5-4 (Sarantakos 1993).

Table 5-4 Limitations of questionnaires (Sarantakos 1993)

They do not allow probing, prompting, and clarification of questions.
They do not offer opportunities for motivating the respondent to participate in the surveyor to answer the questions.
The identity of the respondent and the conditions under which the questionnaire was answered are not known. Researchers are not sure whether the right person has answered the questions.
It is not possible to check whether the question order was followed.
Questionnaires do not provide an opportunity to collect additional information while they are being completed. There is no researcher present, for instance, to make observations while the questions are being answered.
Due to lack of supervision, partial response is quite possible

As indicated above, the look and feel of the questionnaire was of primary importance. The structure and design was also investigated to obtain the best outcome. The questionnaire was positive in its nature and drew on the literature and the focus group meeting that preceded it. The development of the questionnaire was an iterative task that drew on several professional practitioners who acted as pilot respondents commenting on the process of its administration and perceived outcome based on the content of the questions. They may be described as exploratory interviews (Collis & Hussey 2003). General rules for designing questionnaires are provided by Sarantakos (1993), Naoum (1998), Leedy and Ormond (2001); Collis and Hussey (2003). They should generally comply with the following rules listed in Table 5-5 below.

Table 5-5 General rules for designing questionnaires adapted from (Sarantakos 1993; Naoum 1998; Leedy & Ormond 2001; Collis & Hussey 2003)

Explain the purpose of the interview or questionnaire to all participants
Keep your questions as simple as possible
Do not use jargon or specialist language
Phrase each question so that only one meaning is possible
Avoid vague, descriptive words such as large or small
Avoid asking negative questions as these are easy to misinterpret
Only ask one question at a time
Include relevant questions only
Include questions that serve as cross checks to the answers to other questions
Avoid questions which require the participant to perform calculations
Avoid leading or value-laden questions
Avoid offensive questions that may cause embarrassment
Avoid questions which are nothing more than a memory tests
Keep your interview schedule or questionnaire as short as possible but include all the questions required to cover your purpose

The initial questions in the survey were factual seeking to obtain demographics. The latter questions were exploratory questions that sought opinions in line with the output from the focus group meeting, the literature review and the objectives of stage two of the research.

Most of the questions were closed with limited space in certain sections for the respondents to offer additional comment. This space for additional comment had the effect of allowing the respondent to remove what can be perceived as artificial constraints in a closed questionnaire (Fellows & Liu 1997). Question twenty-two (appearing on the last page of the questionnaire) was open allowing respondents to include additional comments or general suggestions about relationship marketing. Essentially, questions were closed to reduce the time for respondents to answer the questionnaire. Closed questions generally take less time and are easier for the respondent to answer (Fife-Schaw 1995a). This fact can lead to a higher response rate. In addition, closed-type questions allow categorisation of possible answers into standardised groupings, which are predetermined by the researcher. Thus enabling data to be coded, tabulated, analysed, and interpreted in an efficient and effective manner (Fife-Schaw 1995a). The coding was clearly identified on the questionnaire.

The questionnaire was professionally bound in an A4 book format, stapled on the spine and printed on blue paper both sides. The importance of the look and feel of a questionnaire has been mentioned above. The researcher chose to ensure a professional appearance; the blue paper was designed to provide a subtle impact ensuring that it would be difficult to lose the questionnaire in a busy office environment. A cover letter was personally addressed to each individual respondent. The cover letter was printed on Curtin University letter headed paper identifying its origin as the School of Architecture, Construction and Planning. The intention of the brief cover letter was to introduce the researcher and the concept of the research, add credibility to the research via the support of the School, and provide motivation to the respondent. Confidentiality was assured using advice from RMIT ethics instructions to candidates in the final draft. Finally a reply paid envelope was incorporated.

5.5.1 Introduce the researcher and the concept of the research

Typically the return rate of questionnaires is less than 50% (Burns 2000; Leedy & Ormond 2001). To enhance the return rate first impressions are identified as important. Burns (2000) has indicated that the use of personally typed letters that include an official letter head have a tendency to increase return. In the letter that was covering the questionnaire the researcher outlined the concept of the research in a friendly and easily assimilated manner. Accordingly a brief paragraph that explained the concept of the research was placed in the centre of the page to catch the attention of the respondent. Simple language was used in the cover letter and brevity was deliberate in recognition of the sample frame.

5.5.2 Credibility to the research

Credibility was enhanced with the use of letter headed paper, the clear wording of the cover letter and the clarity and structure of the questionnaire.

5.5.3 Motivation

The purpose is to encourage the sample to want to respond (Leedy & Ormond 2001). The researcher offered the respondents tangible outcomes with an offer of a summary of the research. The questionnaire cover letter explained the benefits of the research to the construction community as well as the individual respondent. As noted earlier careful attention was paid to the construction of the questionnaire itself so that

it appeared user friendly with the judicious inclusion of blank space and particular formatting.

5.5.4 Confidentiality

Respondents are more likely to respond if they are assured that their answers will be kept confidential. The importance of the respondents' participation in the survey was stressed, though they were not asked to state their own names and the name of their organisations in the questionnaire. This made the questionnaire response anonymous and provided assurances of confidentiality. As noted earlier, respondents were given the option of supplying their details if they wanted to receive a summary of the research findings. The majority of the respondents took up this option.

5.5.5 Reply paid envelope

In each case a standard stamped addressed envelope was provided for the respondent to use. It is reported that using a personal envelop provided a better rate of return than a conventional business reply envelope (Burns 2000). Anything less is unreasonable when the time and effort of the respondent is considered (Leedy & Ormond 2001).

Finally, if respondents encountered any problems while undertaking the questionnaire, the contact details of the researcher were provided for extra assistance in completing the questionnaire.

5.6 *Sample Design and Population*

The issues raised in the focus study were used to form the basis of the questionnaire that was distributed to industry stakeholders in Western Australia. The industry stakeholders comprised; architects, consulting engineers, consulting project managers, contractors, quantity surveyors and client representatives. These industry practitioners were chosen because they were representative of the supply chain that is the focus of the construction RM research. A comprehensive analysis of the data obtained from the questionnaire was carried out highlighting some interesting associations between RM and a particular construction procurement method.

An overview of the purpose of sample design is provided in the Chapter 4, which discusses sample design for study one. Study two was designed to build on the outcome of study one in a positivistic manner. The design of study two followed a

quantitative paradigm. In the same manner as study one, conclusions encompassing the entire population were required for reasons of reliability. Accordingly the sample needed to represent the population, to produce a result of theoretical and most importantly, practical value.

In this study two, stratified random sampling was used to select the study sample. The selection followed Sarantakos' (1993) four-step process to draw the sample. In addition to increasing the representativeness of samples, stratified random sampling was found to be a useful technique for making general statements about individual portions of the population. In this research, it was necessary to ascertain if there were significant differences between respondent groups and the perceived relationships in the upstream and downstream supply chain. It also determined if overall there was a significant difference between relationships in the construction supply chain and process/ program industries that are the focus of relationship marketing. Sarantakos' four-step model follows (Sarantakos 1993);

5.6.1 Step 1 - Identify significant groups

The target population was divided into strata depending on the number of significant groups in the population. In this stage two of the research the strata were general contractors; suppliers, subcontractors, consultants, architects, mechanical, electrical and structural engineers; project managers and quantity surveyors.

5.6.2 Step 2 - Sampling frames

Using an example of grades in a public school Leedy and Ormond (2001) suggest that there are two general approaches to determine how many should be drawn from each strata. The first approach is to draw equal-sized samples from each. The second approach is to draw elements for the sample on a proportional basis. The latter approach was used to identify sampling frames for each of the chosen groups.

In the following Table 5-6 the source and approximate number of potential respondents available is shown. In general the sample frame in each case was a list made available from professional association, government bodies, employer organisations and the like. It should be noted that some of the information from the original table has been omitted for reasons of confidentiality.

Table 5-6 Sources of potential research sample

<i>Sample frame used</i>	<i>Type of respondent</i>	<i>Indicative number of respondents</i>	<i>Notes</i>
Royal Australian Institute of Architects (WA) chapter	Architect/ design	292	Perth WA. Main practice contacts of Architects
Main Roads WA	Consultant Project Managers	165	Original internet source supplemented with direct contact
Master Builders Association of WA	General contractors	50	Direct contact with Director
Water Corporation of WA	Consultant project managers	50	Sample frame from masters research program
Australian Institute of Building (WA) chapter	General contractors	128	Mail out list
Construction Contractors Association of WA	General Contractors	6	Names of key builders in WA
Australian Institute of Quantity Surveyors (WA) chapter	Quantity surveyors	167	Mail out list obtained from national body
Australian Institute of Project Managers	Project managers	292	Mail out list
Air-conditioning and Mechanical Contractors Association	Hydraulic and Mechanical contractors	14	Mail out list
Electrical Contractors Association of WA	Electrical contractors	30	Direct contact. Random sample provided
Association of Wall & Ceiling Contractors of WA Incorporated	Wall & ceiling contractors	20	Direct contact. Random sample provided

There were several problems associated with the development of the sample. For example not all firms were registered with professional bodies, such as The Royal Australian Institute of Architects, The Institute of Engineers, Australia, Australian Institute of Building or Australian Institute of Project Managers. In fact, when approached for addresses for the survey professional bodies generally were reluctant to provide details of the organisations that were registered with them. When pressed by the persistence of the researcher most of the professional associations offered a list. Many of the employer organisations offered part random samples from their database. Several within the sample appeared on more than one list. Care was taken that the individual was not sent duplicate correspondence.

After questionnaires were distributed each firm was telephoned to make sure that the respondent had received the questionnaire as well as to encourage them to

complete it. Respondents were given two weeks to return the questionnaire. Follow-up calls were once again made after a further two weeks to remind respondents to complete the questionnaire.

5.6.3 Step 3 - Draw proportionate samples

As indicated earlier following Sarantakos (1993) proportionate samples were drawn from each group as far as practical.

5.6.4 Step 4 - Merge the samples

Finally the individual samples were merged into one, creating the overall sample for the study. Of the 898 questionnaires distributed 238 were returned representing a response rate of 27 percent.

5.7 Method and Justification of Data Analysis

The method of data analysis adopted depends on the complexity of the research and the hypotheses that are to be tested. Data obtained from the questionnaire was subject to statistical analysis using the Statistical Package for the Social Sciences (SPSS) for Windows Version 11.5. On creation of the data set, which is described in Chapter 6, data was analysed using a variety of statistical techniques. The following Table 5-7 provides a summary of the techniques used throughout the questionnaire for analysis and the following sections introduce each particular technique.

Table 5-7 SPSS Analysis of questions

Group	Q Nº.	Question	Purpose	Analysis (1-4 varies)
One	1	How would you categorise yourself within the construction industry?	Demographics	Frequency distributions
One	2	Annual turnover	Demographics	Kruskal-Wallis test Mann-Whitney U test
One	3	What is the general scope of your activities within the construction industry?	Demographics	Frequency distributions Kruskal-Wallis test
One	4	How long has your organisation been operating in the construction industry?	Demographics	Frequency distributions Kruskal-Wallis test Mann-Whitney U test
One	5	What is the main source of obtaining work for your organisation?	Demographics	Frequency distributions Kruskal-Wallis test Mann-Whitney U test

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<i>Group</i>	<i>Q Nº.</i>	<i>Question</i>	<i>Purpose</i>	<i>Analysis (1-4 varies)</i>
				Principle Axis Factoring
Two	6	In utilising the tender options listed, do you have the opportunity to add value to the projects?	Do different tender options have potential to add value?	Frequency distributions Kruskal-Wallis test. Compare Q5 with Q6. Spearman's rho non-parametric test
Three	7	From your vantage point within the industry do you endeavour to foster relationships with those upstream of your organisation?	Does one group attempt to foster relations greater than another?	Frequency distributions Kruskal-Wallis test. Compare with Q19 and Q20 Principle Axis Factoring Mann-Whitney U test
Three	8	To what degree do you consider the following benefits are accrued from upstream relationships?	Are there underlying factors that explain each groups response Compare with Q19 and Q20 section seven	Frequency distributions Kruskal-Wallis test. Principle Axis Factoring Mann-Whitney U test
Three	9	From your vantage point within the industry do you endeavour to foster relationships with those downstream of your organisation	Does one group attempt to foster relations greater than another? Compare with Q19 and Q20 section seven	Frequency distributions Kruskal-Wallis test. Principle Axis Factoring Mann-Whitney U test
Three	10	From your vantage point within the industry do you endeavour to foster relationships with those downstream of your organisation	Are there underlying factors that explain each groups response	Frequency distributions Kruskal-Wallis test. Compare with Q19 and Q20 Principle Axis Factoring Mann-Whitney U test
Four	11	Think about up-stream organisations that you regularly work with. To what level do you have the conviction that remaining in the relationship will yield higher benefits than terminating it?	Levels of commitment	Frequencies Kruskal-Wallis test
Four	12	Think about down-stream organisations that you regularly work with. To what level do you have the conviction that remaining in the relationship will yield higher benefits than terminating it?	Levels of commitment	Frequencies Kruskal-Wallis test.
Five	13	Consider the up-stream organisations that you regularly work with. To what level do you expect them to be credible/ reliable and	Levels of Trust	Frequencies Kruskal-Wallis test. Spearman's rho non-parametric test

CHAPTER 5: STUDY TWO: QUANTITATIVE SURVEY

<i>Group</i>	<i>Q Nº.</i>	<i>Question</i>	<i>Purpose</i>	<i>Analysis (1-4 varies)</i>
		interested in your welfare?		
Five	14	Consider the down-stream organisations that you regularly work with. To what level do you expect them to be credible/ reliable and interested in your welfare?	Levels of Trust	Frequencies Kruskal-Wallis test. Spearman's rho non-parametric test
Five	15	To what degree do you find the following constructs in a relationship that you have with upstream organisations?	Levels of Trust	Frequencies Kruskal-Wallis test. Spearman's rho non-parametric test
Five	16	To what degree do you find the following constructs in a relationship that you have with downstream organisations?	Levels of Trust	Frequencies Kruskal-Wallis test. Spearman's rho non-parametric test
Six	17	To what degree do the following beneficially influence your relationship with upstream organisations? (Parts 1-5)	Levels of client satisfaction	Frequencies Kruskal-Wallis test.
Six	18	To what degree do the following beneficially influence your relationship with downstream organisations? (Parts 1-5)	Levels of client satisfaction	Frequencies Kruskal-Wallis test.
Seven	19	To what level do you endeavour to achieve the following mutual outcomes with upstream organisations?	Levels of RP or mutual goals Compare with section three	Frequencies Kruskal-Wallis test. Mann-Whitney U test. Principle Axis Factoring
Seven	20	To what level do you endeavour to achieve the following mutual outcomes with downstream organisations?	Levels of RP or mutual goals Compare with section three	Frequencies Kruskal-Wallis test. Mann-Whitney U test Principle Axis Factoring
Seven	21	To what level does Relationship Partnering add to contract strategies (design and build, traditional, management...etc)	Levels of RP or mutual goals Compare with section two	Frequencies Kruskal-Wallis test. Spearman's rho non-parametric test
Eight	22	Please indicate which of the following best describes your marketing focus in the construction industry		Frequencies Kruskal-Wallis test. Spearman's rho non-parametric test

5.7.1 *Descriptive statistics*

Descriptive statistics were used to provide exploratory data analysis (Collis & Hussey 2003). Exploratory data analysis determined the mean, mode, range and standard deviation in the data for each question. These measures were used to gain an overall understanding of the raw data and to enable the data to be presented in diagrammatic forms. This allowed preliminary analysis to determine where values in the distribution were concentrated. Other issues of interest included how widely the data were spread and if responses were normally distributed. The primary distinction of normal distribution to the researcher was its affect on the use of particular confirmatory data analysis such as Pearson's coefficient (r) or Chi squared (x^2). For example, Pearson's coefficient (r) is a parametric test and may only be used on data that is normally distributed; whilst Chi squared (x^2) is a non parametric test of confirmatory data analysis that may be used on skewed data. Skewed data is by its nature not normally distributed.

As mentioned above in section 5.3, the questionnaire was broken down into eight sections to provide a logical layout for its analysis. As noted earlier the dependent variable for the research was relationship development in both upstream and downstream interactions. As such every variable identified in the questionnaire was considered to be an independent variable. Appropriate statistical tests had to be used to test the research questions derived from the focus study.

In addition to the descriptive statistics described above exploratory and non-parametric confirmatory statistical techniques, such as Spearman's *rho* non-parametric correlation matrix, Kruskal-Wallis test, Mann-Whitney U test and Principal Axis Factor analysis were used. According to many writers in social sciences a significance level of 5% is regarded as appropriate for most statistical tests. This convention of significance level was applied to the various tests that were undertaken. These tests are described below.

5.7.2 *Kruskal-Wallis Test*

A further statistical test used to support the analysis was the Kruskal-Wallis test. The Kruskal-Wallis test is a non-parametric equivalent of the one-way ANOVA for independent groups using ordinal data (Burns 2000). It was used to test whether or not the variability (differences) between the means of the ranks for the groups was due to the randomisation of ranks between groups. The Kruskal-Wallis test was used

to determine differences between the general demographics of the respondents; their main source of obtaining work in the construction industry; their ability to add value in their tender options; their view on relationships, commitment, trust and mutual goals in both upstream and downstream interactions and their marketing focus. In effect this test was used to determine the level of agreement between respondents for certain questions.

5.7.3 *Mann-Whitney U Test*

The Mann-Whitney U Test was used where significant differences between the groups were found by the previous Kruskal-Wallis test. The Mann-Whitney U Test studies the differences between two independent groups when the assumptions for the parametric *t* test cannot be met - as was the case in the data set generated by this sample (Burns 2000).

It is based on the premise that a real difference in two treatments will cause the scores from one sample when placed in rank order to be located at one end of the distribution, while the ranked scores from the other condition will be at the other end of the distribution. If no effect exists the ranked scores from the two distributions will be randomised in the overall distribution (Burns 2000).

The null hypothesis states that there is no significant difference between sample means.

The Mann-Whitney U Test was used to determine differences between the general demographics of the respondents; their main source of obtaining work in the construction industry; their ability to add value in their tender options; their view on relationships and mutual goals in both upstream and downstream interactions. In effect this test was used to determine the level of agreement between respondents for the questions proposed where the Kruskal-Wallis test could not identify pair wise difference between groups.

5.7.4 *Principle Axis Factoring*

Factor analysis is one means of identifying latent traits or structures in dispersed information. It is widely used to explore the structure underpinning a set of variables. Reducing them to common factors or patterns facilitates the analysis and understanding of such variables. These factors concentrate and index the dispersed variables in the original data and can therefore replace many characteristics without

loss of information. Factor analysis can be used to group interdependent variables into descriptive categories or coherent subsets (Tabachnick & Fidell 2001; Rummel 2002). Fundamentally, factor analysis is used to summarise interrelationships between variables in a concise way that enhances their conceptualisation (Gorsuch 1983).

Answers obtained by factor analysis are more hypothetical and tentative than when independent variables are observed directly; this may be referred to as a descriptive method (Hammond 1995a). The inferred independent variables are called factors. A typical factor analysis suggests answers to four major questions (Darlington 2005):

1. How many different factors are needed to explain the pattern of relationships among these variables?
2. What is the nature of those factors?
3. How well do the hypothesized factors explain the observed data?
4. How much purely random or unique variance does each observed variable include?

a How factor analysis works

Factor Analysis (FA) begins with calculating an intervariable correlation matrix. The analysis then goes on to identify the set of underlying traits that are best implied by the intervariable relationships. The FA treats the correlation matrix as a composite of intervariable discrepancies, and extracts Eigen value *chunks*, or factors, of these discrepancies that represent each underlying relationship. It does this sequentially (Hammond 1995a). The first factor has a relatively large Eigen value and subsequent iterations develop a smaller factor or Eigen value than their predecessor.

Researchers are advised to make a decision as to how many factors are to be sought (Hammond 1995a). Several writers suggest the use of the ‘Kaiser's rule’, that simply indicates the researcher should extract factors that have Eigen values greater than one (Darlington 2005). In other words the researcher will drop all components with Eigen values under one (Garson 2005). It is suggested that this does not make sense, as all that is being achieved is to add a factor that explains less variance than is contained in the first (Darlington 2005). The solution to this somewhat antiquated reasoning is to undertake several factor analyses with different numbers of factors, and then determine which analysis makes sense or is interpretable (Hammond 1995a;

Darlington 2005). An alternative method to decide on the number of factors is called the Scree Test and was first suggested by Raymond Cattell. In this method the researcher plots successive Eigen values, and then looks for the point in the plot where the value abruptly levels out or forms an elbow towards a less steep decline (Darlington 2005; Garson 2005). Cattell's (1966) Scree Test says to drop all further components after the one starting the elbow (Grimm & Yarnold 1995; Garson 2005). It is noteworthy that Grimm and Yarnold (1995) describe the foregoing as typically less ambitious *stopping rules* that may be used with accuracy where there are fewer than 30 variables and the communalities are greater than 0.70 or in which there at least 250 observations and the communalities are at least 0.60. The Scree Test is applicable where there are at least 200 observations.

b Interpreting the Eigen values

Varimax rotation is an orthogonal rotation of the factor axes to maximize the variance of the squared loadings of a factor (column) on all the variables (rows) in a factor matrix, which has the effect of differentiating the original variables by extracted factor. That is, it minimizes the number of variables, which have high loadings on any one given factor. Each factor will tend to have either large or small loadings of particular variables on it (Grimm & Yarnold 1995). A varimax solution yields results, which make it as easy as possible to identify each variable with a single factor. This is the most common rotation option (Garson 2005).

It is suggested that to produce a reliable factor solution a minimum of 200 in the sample is recommended (Hammond 1995a).

When writing a summary of factor analysis the researcher should justify its use, the number of factors extracted and the rotational strategy employed (Hammond 1995a).

c Method

The researcher used Principal factor analysis (PFA) (Also known as principal axis factoring, PAF). PFA is a form of factor analysis, which seeks the least number of factors, which can account for the common variance (correlation) of a set of variables. Where a variable appears on more than one factor it is described as "Factorially complex"(Hammond 1995a).

d Analysis of questions

Several questions were considered for interpretation using factor analysis.

These may be seen in Table 5-7.

5.7.5 Spearman's Rank Order Correlation

As many variables were measured using an ordinal scale and descriptive tests found that the variables were not normally distributed, a Spearman's *rho* non-parametric correlation was used to analyse associations between several variables. Correlation is typically limited to testing the relationship between two variables (bivariate correlations). A review of Burns (2000) established that the sample size was appropriate, accordingly Spearman's *rho* was considered an appropriate and sufficient test to assist with assessing several aspects of the research questions.

In several instances significant correlation matrices were constructed using SPSS to verify the relationship between ordinal variables considered to be important in the questionnaire. The ordinal variables included; the main source of obtaining work and its ability to add value; the perception and actuality of trust in upstream and downstream relationships and comparing BAU relationships with relationship style procurement strategies. A detailed description of the assumptions of correlation and the results obtained can be seen in Appendix 2.

5.8 Reliability and Validity of the Research Instrument

The questionnaire was a research instrument essentially designed to measure the association of relationships in upstream and downstream interactions. A further function was to record areas of difference between construction industry stakeholders and those in non-project related industries identified in the RM literature. Instruments of this nature need to be accurate and attempt to minimise the difference between what the output from the instrument says is true and what is known to be true. Accordingly, the findings from the focus group study one and literature review were used to develop an accurate research instrument. Benchmarking or checking it against other instruments that measure similar effects determines the accuracy of an instrument. As this was the first study that has attempted to identify the determinants of relationships and relationship development in the Australian construction industry, benchmarking was difficult. It was possible however to check aspects of the accuracy of statements made within the questionnaire with surveys by others. Holt, Et Al

(1996) for example, considered tendering procedures, contractual arrangements and reliability of response was checked against the data available in the published paper.

In general terms there are four approaches to computing reliability coefficients in general use (Sarantakos 1993; Hammond 1995b; Burns 2000; Leedy & Ormond 2001; Collis & Hussey 2003);

1. Test-retest method
2. Alternative forms method
3. Split half method
4. Internal consistency method

Approaches one and two rely on re-testing; approach one allows some time to elapse between the initial test and subsequent tests and provides consistency across time. Approach two administers two equivalent forms on the same occasion. Both tests require more time and effort than the administration of just one instrument. In study two these approaches were discounted due to the way that the survey was mailed out to respondents and the perception that response rate would result in a *duplicate* survey having to be carried out by the respondents.

The split half approach divides the one questionnaire in some way (Hammond 1995b). The questionnaire may be divided into either two halves or divided by odd and even numbered questions. The type and degree of correlation indicates the degree of reliability of the measurement (Sarantakos 1993). (Burns 2000) notes some problems with this approach but indicate that the test can provide some useful information.

The internal consistency method measures reliability with the use of Cronbach's coefficient alpha (α). The justification and specifics of this test are detailed below.

5.8.1 Cronbach's alpha

Prior to undertaking a detailed analysis of the data, each variable contained within the research instrument was tested for reliability. In examining the instrument in this way the researcher was testing the measurement device (Hammond 1995b). If the reliability were found to be low the credibility of the outcome would need to be questioned. Accordingly the internal consistency of the measurement instrument was

evaluated with the use of Cronbach's coefficient alpha (α). As noted above Cronbach's coefficient α is an accurate estimate of the reliability of measurement instruments (Coakes & Steed 2001). Coefficient α is based on the average correlation of all items within a test and the inter-item correlation is taken as the index of reliability (Hammond 1995b; Collis & Hussey 2003). Satisfactory test results are a lower bound estimate providing a *worse-case scenario* of reliability. The actual reliability might be higher (Hammond 1995b).

An α value of 0.7 or more indicates a reliable measurement instrument for data that are used for fundamental research (Hammond 1995b). This means that a test with a reliability of 0.7 has 30 percent of its variance as irrelevant. SPSS was used to calculate the correlation matrix of responses to the ordinal scale questions, which was used for calculating the α level for each variable used in the questionnaire. The α levels for each variable can be seen in Table 5-8.

Table 5-8 Cronbach's coefficient α for research constructs

<i>Variable</i>	<i>Items in Scale</i>	<i>α Level</i>	<i>α Level If Item Deleted</i>
Adding value*	4	.7245	.7254 Open tender
Benefits upstream relationships*	5	.8275	.8295 Alignment of org objective
Benefits downstream	9	.8772	
Trust maintenance with upstream organisations	3	.7722	
Trust maintenance with downstream organisations	3	.8141	
Client satisfaction upstream	5	.8290	
Client satisfaction downstream	5	.9000	
Relational Partnering/ Mutual outcomes upstream	4	.8557	
Relational Partnering/ Mutual outcomes downstream	4	.8447	
Transactional Marketing*	7	.7510	.8055 low client contact
Relational marketing	7	.8286	

* Cronbach's α would increase if adjacent variables in column 4 deleted

Several parts of the questionnaire were not subjected to α calculations because many variables were measured using nominal scales. While the main source of obtaining work (Question 5) was measured on an ordinal scale it was not subjected to α testing because it was considered that the methods of selection identified in the

questionnaire were adequately recognised in construction and would be subject to no interpretation by the respondents.

It can be seen from Table 5-8 that the α level for three constructs; (adding value, benefits upstream and transactional marketing) would increase marginally if particular variables were deleted. As the α level for each of the aforementioned constructs was inclusively greater than 0.7 and no significant increases were observable, no variables were deleted from these constructs through analysis of the data. The α levels for the data indicate a high degree of internal consistency; in other words the measures relate to the same construct. In this instance the model for which data was gathered by the research instrument, encompass measures that determine relationship building and maintenance in construction projects.

Considering there has been limited research undertaken in Perth, WA that has addressed the issue of relationships in construction projects and the achievement of high α levels, it is clear that the questionnaire is justified as a reliable research instrument.

5.9 *Limitations of the Questionnaire*

While there were advantages in using a mail survey for the second phase of the research there were also limitations.

A principal advantage of mail surveys is that they can be done relatively quickly and at low cost, it avoids the problems of the interviewer bias and is representativeness of the sample. Other limitations are set out in Chapter 3.

5.10 *Summary of Quantitative Study Two*

This chapter has provided details of the questionnaire. It has discussed development of the questionnaire, creation of the data set and question purpose. In addition it has aligned questions with the aims and objectives of the research and literature reviewed. Methods and justification of the data analysis were set out together with its reliability and validity. The chapter concludes with limitations of the questionnaire process.

The next chapter provides an in-depth analysis of the data set and summarises conclusions of the quantitative study.

Chapter 6 Analysis of Study Two

The purpose of Chapter 6 is to describe the analysis of the data arising from a mail out questionnaire research instrument. The questionnaire development and sample frame is documented in Chapter 5. The aim of this chapter is to accomplish the research objectives determined and described in Chapter 1. This chapter documents the output of an analysis of the questionnaire with the use of the statistical measures described in Chapter 5 including non-parametric confirmatory statistical techniques such as; Spearman's *rho* non-parametric correlation matrix, Kruskal-Wallis test, Mann-Whitney U test and Principal Axis Factor analysis. The detailed output of the statistical analysis can be found in Appendix 2. Essentially the respondents considered relationships that they have with others in the construction supply chain and put them into the context of soliciting work. The respondents' provided their general opinions about procurement and then reflected on existing and proposed relationships with others in the supply chain, deliberating on independent variables of commitment, trust, satisfaction and mutual goal attainment. The answers from the respondents provided information for both upstream and downstream categories. The chapter comprises nine main sections;

1. Demographics
2. Value adding to projects
3. Attitudes to relationships in the construction supply chain
4. The influence of commitment on relationships
5. Trust's impact on relationship development and maintenance
6. Satisfaction
7. Mutual outcomes
8. Transactional or Relationship Marketing
9. Conclusions

The outcomes of the survey identified the ability or otherwise of a RM approach to add value to construction projects, define construction actors' attitudes towards relationships in the construction project environment and suggest the impact

that variables including; commitment, trust, satisfaction and mutual outcomes have on construction actors in their project environment.

As an overall outcome the quantitative study two provides the grounding for an analysis of relationship development that is described in subsequent chapters.

6.1 Section One - Demographics

The aim of section one of the survey, demographics of the respondents, was to obtain general details of the respondents; Figure 6-1 provides a breakdown of the useable responses by respondent type.

It was found that 53% of the respondents to the survey categorised themselves as consultants, 22% general contractors and 9% sub-contractors, a small proportion (2%) were identified as suppliers. 14% described themselves as others. This may be seen in Figure 6-1 below.

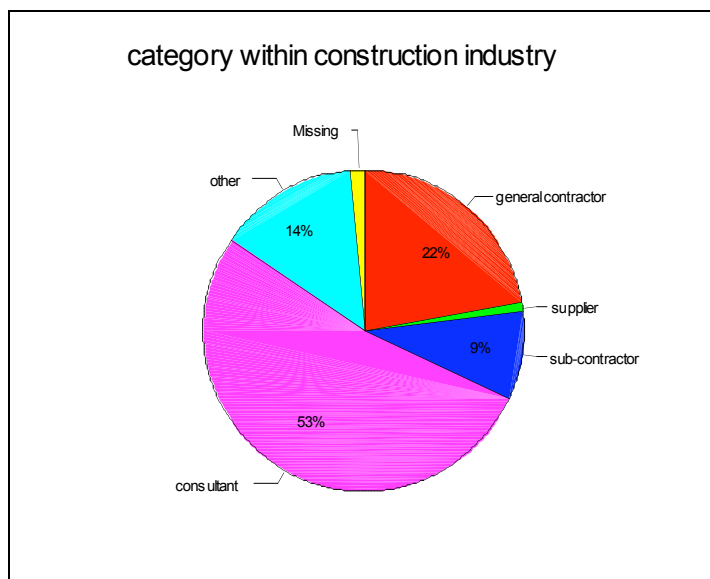


Figure 6-1 Percentage of respondents from each category within construction industry

Analysis of the raw data found that the high response rate of consultants was due to the fact that Engineers, Project Managers, Quantity Surveyors and Architects all referred to themselves as consultants. The number of suppliers included in the sample was noted to be too small to be representative. In addition a large number of respondents identified as *others* in the survey were found to have identified themselves in subsequent questions as project managers. Consequently an exercise of recoding was carried out. The reclassification of respondents is identified in Table 6-1

below. It may be observed that the largest numbers of respondents were consultants (26.2%), followed by general contractors (24.9%) and project managers (15.2%). The one respondent identified as missing was determined via manual checking of the raw data as a general contractor in commercial construction and consequently recoded accordingly.

Table 6-1 Category within construction industry

<i>Category</i>	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
General contractor	59	24.8	24.9	24.9
Sub-contractor	21	8.8	8.9	33.8
Consultant	62	26.1	26.2	59.9
Other	7	2.9	3.0	62.9
Engineer	29	12.2	12.2	75.1
Project manager	36	15.1	15.2	90.3
Quantity surveyor	16	6.7	6.8	97.0
Government authority	7	2.9	3.0	100.0
Missing	1	.4		
Total	238	100.0		

Following Love (2001) the eight categories of respondents were reduced to three. The purpose of this was to mirror the stratified sampling techniques used in the focus study number one. The three final categories of respondent were contractor, client and design. The final categories may be seen with reference to Figure 6-2. Contractors and design represent 34% of the sample respectively; client/ consultants represented 29%. The reasons for the recoding of the data follow.

Eight categories of respondents made the data difficult to analyse and assimilate, diluting the data to the point of making it unmanageable. The focus group had largely contained three categories of respondent. The subsequent qualitative survey sample matched the three categories and enabled clearer triangulation of the overall results.

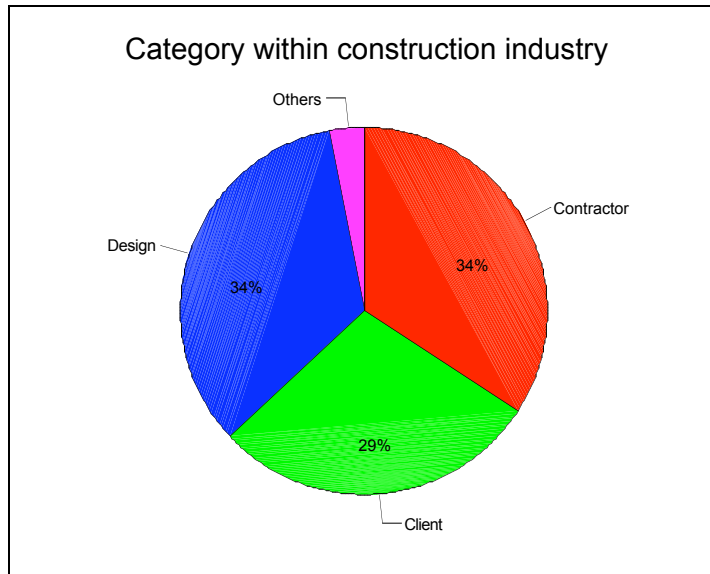


Figure 6-2 Revised categories of respondents

Question two asked the respondents to indicate the size of their organisation. The response was based on annual turnover. The response was in dollar values, these have been given descriptive terms. The annual turnover was used to determine the size of the organisation as opposed to number of employees. This was designed to match selection categories used by the peak construction employment body known at the time as Contract and Management Services (in 2005 the agency is known as Department of Housing and Works). Collectively the sample indicated their annual turnover to be significant, 68% of the respondents indicated an annual turnover in excess of \$6 million. 10% indicated their annual turnover was below \$1 million, 19% reported turnover of between \$1 and \$3 million and nearly 4% reported a turnover of over \$3 million but not exceeding \$6 million. This may be seen with reference to Figure 6-3.

To provide additional understanding Figure 6-4 indicates the annual turnover of respondents by category within industry. It was determined that 68% of the contractors, 54% of the design and 28% of the client (consultant) respondents were operating with annual turnover in excess of \$6 million. In the category of annual turnover not exceeding \$1 million 54% of the clients, 33% of the design and 10% of the contractors reported operating from this position.

To determine if there were any significant differences between the three groups a Kruskal-Wallis test was carried out. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*). The results of the test, which

were corrected for tied ranks, suggest there was a significant difference between the groups; chi-square = 30.551, p = .001.

As there was a significant difference, post hoc pair-wise comparison among the independent groups was conducted using the Mann-Whitney U test (Burns 2000). The Mann-Whitney U test data may be seen in Appendix Two (*MWU tests – SPSS viewer document*). The results of the test suggest there is a significant difference between all the groups. A review of Table 6-2 indicates that in all comparisons $p < .50$.

Table 6-2 Mann-Whitney U Test – Annual Turnover

<i>Comparison</i>	<i>Mann-Whitney U</i>	<i>Asymp. Sig (2-tailed)</i>
Contractors and Clients	1386.000	$p = .001$
Contractors and Design	2589.500	$p = .017$
Clients and Design	1974.000	$p = .002$

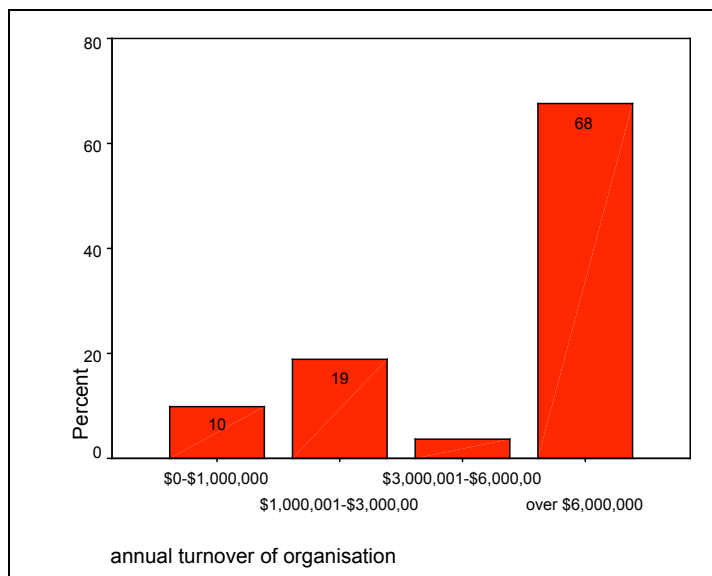


Figure 6-3 Annual turnover of respondent's organisations

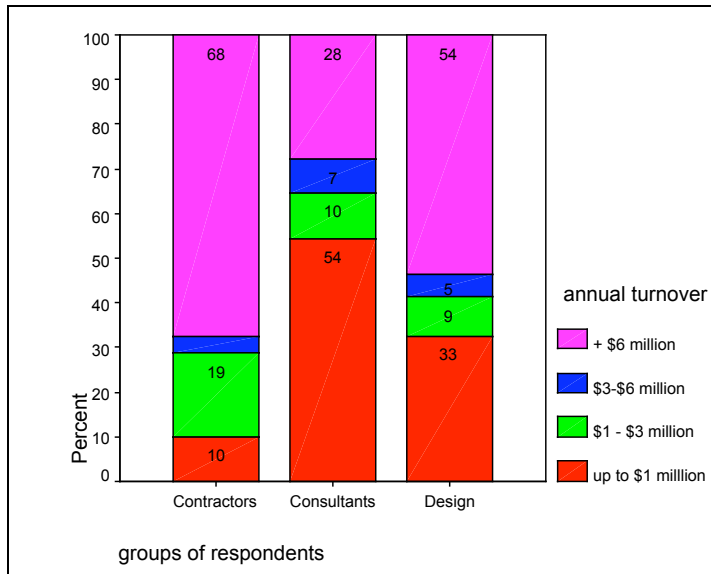


Figure 6-4 Annual turnover by respondent group

The survey questionnaire had asked the respondents to identify the scope of their activities under five headings; public sector, private sector, construction (housing), construction (commercial) and civil engineering. This may be seen with reference to Table 6-3. The respondents were given the opportunity to select the appropriate boxes. Analysis of the raw data indicated that three variables were predominant and accordingly the data set was reduced to three variables; public works, private sector construction and civil engineering.

Table 6-3 shows the original frequencies of the variables. It may be seen that 54.9% of the sample carried out work in the public sector, 18.9% in the private sector and 16.3% operated in commercial construction.

Table 6-3 General scope of activities within industry

<i>Sector</i>	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Public sector	128	53.8	54.9	54.9
Private sector	44	18.5	18.9	73.8
Construction (housing)	9	3.8	3.9	77.7
Construction (commercial)	38	16.0	16.3	94.0
Civil engineering	14	5.9	6.0	100.0
Missing	5	2.1		
Total	238	100.0		

To expand on this reference is made to Figure 6-5. From this, it may be seen that contractors carried out more work in the public sector (48%) than in the private sector (46%). Investigation of the raw survey data indicates that a large percentage of their work was housing (44%), followed by commercial construction (32%) and finally civil engineering work (29%).

The clients (consultants) undertook more work in the public sector (57%) than in the private sector (37%), following the pattern. A large percentage of their work was civil engineering (50%), followed by commercial construction (38%) and finally housing (33%).

Design carried out more work in the public sector (62%) than in the private sector (32%). Despite the above analysis, little work was solicited overall by any of the respondents in the field of engineering.

To determine if there were any significant differences between the three groups a Kruskal-Wallis test was carried out. The results of the test, which were corrected for tied ranks, suggest there is no significant difference between the sources of work solicited by the groups; chi-square = 2.909, $p = .234$. The Kruskal-Wallis data may be seen in Appendix Two (KWTests – SPSS viewer document).

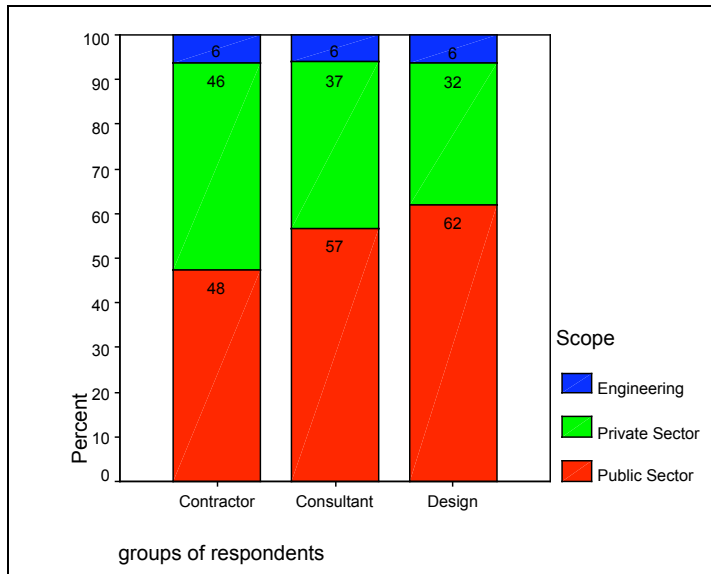


Figure 6-5 Detailed scope of activities within industry

A further question asked how long the respondent’s organisation had been operating in the construction industry. Interpretation of Table 6-4 indicates that the respondent’s organisations have been operating for an average of 33.33 years. The standard deviation of years operating in the construction industry is 33.56. This indicates a large variance from the mean of 33.33; the answers are quite spread out. This is attributed to the breadth of the survey that reached varied organisations with varied history. The percentiles are interesting. It is indicated that 25% of the respondent’s organisations have less than 10 years experience and 50% of the respondent’s organisations have less than 25 years experience. The WA construction industry is a young industry.

Table 6-4 Years of organisation operating in construction industry

Mean	33.33
Median	25.00
Mode	30
Std. Deviation	33.562
Percentiles 25	10.00
Percentiles 50	25.00
Percentiles 75	40.00

In order to gain a better understanding of the length of time organisations have been operating, the data was recoded into new variables that indicated a range of

years. The ranges selected were; not exceeding 20, 21-30, 31-40 and exceeding 40. Table 6-5 shows the frequency of respondents within each group. It may be seen that 44.5% of the respondents work in organisations that have been operating for up to 20 years and 27.7% have been operating in organisations in excess of 40 years. 18.1% have been working in operations that have been in operation between 21 and 30 years.

Table 6-5 Range of years in industry

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
00-20	106	44.5	44.5	44.5
21-30	43	18.1	18.1	62.6
31-40	23	9.7	9.7	72.3
41 +	66	27.7	27.7	100.0
Total	238	100.0	100.0	

To determine if there were any significant differences between the three groups a Kruskal-Wallis test was carried out. The results of the tests, which were corrected for tied ranks, suggest there was a significant difference between the groups; chi-square = 6.803, $p = .033$. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*). As there was a significant difference, post hoc pair-wise comparison among the independent groups was conducted using the Mann-Whitney U test. The Mann-Whitney U test data may be seen in Appendix Two (*MWUtests – SPSS viewer document*). The results of the test suggest there is a significant difference between Client and Design respondents ($p < .50$). However there is no significant difference between Contractors and Clients and Contractors and Design respondents ($p > .50$). A review of Table 6-6 indicates the relevant comparisons.

Table 6-6 Mann-Whitney U Test – Years of operation in industry

<i>Comparison</i>	<i>Mann-Whitney U</i>	<i>Asymp. Sig (2-tailed)</i>
Contractors and Clients	2333.000	$p = .061$
Contractors and Design	3137.500	$p = .612$
Clients and Design	2146.000	$p = .009$

In the analysis of questions that follows results are shown using a five point Likert scale as described in Chapter 5.

6.1.1 *Main sources of obtaining work*

A final question in this demographics section asked the respondents to identify their main source of obtaining work. For example did they focus on open or pre-qualified tender submissions? Studies by Holt and Et Al (1996) investigated contractor opinion and usage of current tender methods. Holt's investigation showed that clients were attempting to cut costs by increasing the use of open tendering. There were four sections to this question that addressed each of the most typical sources of obtaining work. They were; referral, open tender, pre-qualified tender and negotiation. The respondents were asked to answer in a closed question format on a 5 point Likert scale as described in Chapter 5. Space was left for open ended comment at the end of this section of questions. Each of the sources of obtaining work is discussed below.

a Referral as a means of obtaining work

Table 6-7 shows how the respondent groups perceive referral as a means of soliciting work. It may be observed that each group obtained work by referral frequently. In descending order the client group were most selected by referral (45.5%), followed by design (43.5%). Interestingly the contractor group indicated referral was widely used as a selection method frequently (40%). Overall 42.9% were frequently selected for work by referral.

To determine if there were any significant differences between the three groups a Kruskal-Wallis test was carried out. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*). The results of the tests, which were corrected for tied ranks, suggest there was no significant difference between the groups; chi-square = 1.635, p = .441.

Table 6-7 Referral as a means to obtaining work

Group		<i>Not at all</i>	<i>Seldom</i>	<i>Neutral</i>	<i>Frequently</i>	<i>All the time</i>	<i>Total</i>
Contractor	Count	4	19	17	30	5	75
	%	5.3%	25.3%	22.7%	40.0%	6.7%	100.0%
Client	Count	5	13	9	30	9	66
	%	7.6%	19.7%	13.6%	45.5%	13.6%	100.0%
Design	Count	3	20	8	30	8	69
	%	4.3%	29.0%	11.6%	43.5%	11.6%	100.0%
Total	Count	12	52	34	90	22	210
	%	5.7%	24.8%	16.2%	42.9%	10.5%	100.0%

b Open tender as a means of obtaining work

There did not appear to be any consensus of opinion provided by the groups with regard to open tender. However, to determine if there were any significant differences between the three groups a Kruskal-Wallis test was carried out. The results of the test, which were corrected for tied ranks, suggest there was no significant difference between the groups; chi-square = 5.559, $p = .062$. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*). Referring to Table 6-8 it may be observed that 38% of respondents found work through open tender frequently or all the time whilst 45.1% did not solicit work at all or seldom by open tender. 16.9% percent of all respondents were neutral. Neither client groups nor contractors were found to obtain work via open tender with a combined sum of 59.3% and 45.1% respectively reporting that they never or seldom used open tender as a method for soliciting work. The design group of respondents was fairly evenly split across their responses with 43.1% soliciting work via open tender either frequently or all the time, whilst 32.3% reported they never or seldom use open tender as a method for soliciting work. 24.6% of this group reported that they were neutral in this regard.

Table 6-8 Open tender as a means of obtaining work

Groups		Not at all	Seldom	Neutral	Frequently	All the time	Total
Contractor	Count	11	21	13	17	9	71
	%	15.5%	29.6%	18.3%	23.9%	12.7%	100.0%
		(Total 45.1%)			(Total 36.6%)		
Client	Count	14	21	4	18	2	59
	%	23.7%	35.6%	6.8%	30.5%	3.4%	100.0%
		(Total 59.3%)			(Total 33.9%)		
Design	Count	7	14	16	24	4	65
	%	10.8%	21.5%	24.6%	36.9%	6.2%	100.0%
		(Total 32.3%)			(Total 43.1%)		
Total	Count	32	56	33	59	15	195
	%	16.4%	28.7%	16.9%	30.3%	7.7%	100.0%
		(Total 45.1%)			(Total 38.0%)		

c Pre-qualified tender as a means of obtaining work

Overall pre qualified tender appeared to be a frequently used method of obtaining work by the respondents (34.2%). This appears due to contractor and design respondents reporting that they used it most frequently as may be seen with reference to Table 6-9. Overall the contractors used it most either frequently or all the time. Following this the clients used it seldom (36.7%) or not at all (23.3%). This appears to highlight the significant difference that is borne out by a Kruskal-Wallis test. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*). The results of the test, which were corrected for tied ranks, suggest there was a significant difference between the groups; chi-square = 14.759, p = .001.

Table 6-9 Pre-qualified tender as a means of obtaining work

Groups		Not at all	Seldom	Neutral	Frequently	All the time	Total
Contractor	Count	7	9	18	26	7	67
	%	10.4%	13.4%	26.9%	38.8%	10.4%	100.0%
Client	Count	14	22	8	14	2	60
	%	23.3%	36.7%	13.3%	23.3%	3.3%	100.0%
Design	Count	5	16	15	25	2	63
	%	7.9%	25.4%	23.8%	39.7%	3.2%	100.0%
Total	Count	26	47	41	65	11	190
	%	13.7%	24.7%	21.6%	34.2%	5.8%	100.0%

As there was a significant difference, post hoc pair-wise comparison among the independent groups was conducted using the Mann-Whitney U test. The Mann-Whitney U test data may be seen in Appendix Two (*MWU tests – SPSS viewer document*). The results of the test suggest there was no significant difference between Contractors and Design respondents ($p > .50$). However there was a significant difference between Contractors and Client and Clients and Design respondents ($p < .50$). A review of Table 6-10 indicates the relevant comparisons.

Table 6-10 Mann-Whitney U Test – Pre qualified tender as a means of obtaining work

Comparison	Mann-Whitney U	Asymp. Sig (2-tailed)
Contractors and Clients	1287.000	$p = .001$
Contractors and Design	1878.500	$p = .259$
Clients and Design	1352.000	$p = .005$

d Negotiation as a means of obtaining work

The contractor group indicated that they largely relied on negotiation to gain work. 32.4% reported that they used it frequently and a further 9.9% used it all of the time. However 31.0% of the contractors reported that they seldom use negotiation as a means of obtaining work. The client group responses provided a somewhat indecisive result with 31.7% indicating that it is used frequently to obtain work and the same proportion (31.7%) indicating that it is seldom used to gain work. A further 17.5% were neutral. The design respondents were skewed toward seldom use of negotiation as a means of obtaining work. This may be seen with reference to the table below.

Table 6-11 Negotiation as a means of obtaining work

Groups		<i>Not at all</i>	<i>Seldom</i>	<i>Neutral</i>	<i>Frequently</i>	<i>All the time</i>	<i>Total</i>
Contractor	Count	5	22	14	23	7	71
	%	7.0%	31.0%	19.7%	32.4%	9.9%	100.0%
Client	Count	7	20	11	20	5	63
	%	11.1%	31.7%	17.5%	31.7%	7.9%	100.0%
Design	Count	4	26	16	13	2	61
	%	6.6%	42.6%	26.2%	21.3%	3.3%	100.0%
Total	Count	16	68	41	56	14	195
	%	8.2%	34.9%	21.0%	28.7%	7.2%	100.0%

To determine if there were any significant differences between the three groups a Kruskal-Wallis test was carried out. The results of the test, which were corrected for tied ranks, suggest there was no significant difference between the groups; chi-square = 3.158, $p = .206$. The Kruskal-Wallis data may be seen in Appendix Two (*KW Tests – SPSS viewer document*).

To provide a better understanding of the results of this question, each group of respondents is now considered independently across the four selection groups that were identified as referral, open tender, pre-qualified tender and negotiation.

e Summary of contractor's response

Considering the contractor group in isolation and comparing the four options with respect to how they would most likely gain work it is observed from Table 6-12 that referral was frequently reported as being used (40%). The pre qualified procurement route was second with 38.8% reporting it frequently used. Negotiation as a response peaked around neutral with 32.4% reporting that it was used frequently, at the same time 31.0% reported that it was seldom used as a means of obtaining work. Responses concerning open tender spread across the range of possible replies, a larger percentage (45.1%) reported that they used it seldom or not at all as opposed to frequently and all the time (36.6%).

Table 6-12 Summary of contractor's response

<i>Option</i>		<i>Not at all</i>	<i>Seldom</i>	<i>Neutral</i>	<i>Frequently</i>	<i>All the time</i>	<i>Total</i>
Referral	Count	4	19	17	30	5	75
	%	5.3%	25.3%	22.7%	40.0%	6.7%	100.0%
Open	Count	11	21	13	17	9	71
	%	15.5%	29.6%	18.3%	23.9%	12.7%	100.0%
		(Total 45.1%)			(Total 36.6%)		
Pre qualified	Count	7	9	18	26	7	67
	%	10.4%	13.4%	26.9%	38.8%	10.4%	100.0%
Negotiation	Count	5	22	14	23	7	71
	%	7.0%	31.0%	19.7%	32.4%	9.9%	100.0%

f Summary of client's response

Considering the client group in isolation and comparing the four options as to how they were most likely to gain work it is observed from Table 6-13 that 45.5% were selected by referral frequently. They were found not to obtain work via open tender with a combined sum of 59.3% reporting that they never or seldom used open tender as a method for soliciting work. In terms of pre-qualified tender the client used it seldom (36.7%) or not at all (23.3%). The client group responses provided a somewhat indecisive result with 31.7% indicating that negotiation was used frequently to obtain work and the same proportion (31.7%) indicating that it was seldom used to gain work. A further 17.5% were neutral.

Table 6-13 Summary of client's response

Option		Not at all	Seldom	Neutral	Frequently	All the time	Total
Referral	Count	5	13	9	30	9	66
	%	7.6%	19.7%	13.6%	45.5%	13.6%	100.0%
Open	Count	14	21	4	18	2	59
	%	23.7%	35.6%	6.8%	30.5%	3.4%	100.0%
		(Total 59.3%)			(Total 33.9%)		
Pre qualified	Count	14	22	8	14	2	60
	%	23.3%	36.7%	13.3%	23.3%	3.3%	100.0%
Negotiation	Count	7	20	11	20	5	63
	%	11.1%	31.7%	17.5%	31.7%	7.9%	100.0%

g Summary of design response

Considering the design group in isolation and comparing the four options for methods of gaining work, it is observed from Table 6-14 that they obtained work frequently by referral (43.4%). The responses of the design group were fairly evenly split regarding open tender, 43.1% soliciting work via open tender either frequently or all the time, 32.3% reported they never or seldom use open tender as a method for soliciting work. 24.6% of this group reported that they were neutral in this regard. Design respondents reported that they frequently used pre-qualified (39.7%). Finally the design respondents were skewed toward seldom use of negotiation as a means of obtaining work.

Table 6-14 Summary of design response

		Not at all	Seldom	Neutral	Frequently	All the time	Total
Referral	Count	3	20	8	30	8	69
	%	4.3%	29.0%	11.6%	43.5%	11.6%	100.0%
Open	Count	7	14	16	24	4	65
	%	10.8%	21.5%	24.6%	36.9%	6.2%	100.0%
		(Total 32.3%)			(Total 43.1%)		
Pre qualified	Count	5	16	15	25	2	63
	%	7.9%	25.4%	23.8%	39.7%	3.2%	100.0%
Negotiation	Count	4	26	16	13	2	61
	%	6.6%	42.6%	26.2%	21.3%	3.3%	100.0%

In order to gain a better understanding of the responses in the data set, factor analysis was considered appropriate. Principal factor analysis was used to determine if, from the individual stratified sample's perspective, there were any underlying associations between the variables. The factor analysis data may be seen in Appendix Two (*factor analysis_Q5 – SPSS viewer*). The four variables; referral, open tender, pre-qualified tender, and negotiation were grouped by the sample as indicated in Table 6-15. Despite the complexity of the factor grouping under several of the stratified respondents, the contractors grouped referral, open tender and negotiation and differentiated them from pre-qualified tender. Client respondents grouped referral and negotiation whilst the design group of respondents grouped referral, open tender and pre-qualified tender differentiating them from negotiation.

Table 6-15 Grouping of source of obtaining work

	<i>Contractor Factor</i>		<i>Client Factor</i>		<i>Design Factor</i>	
	1	2	1	2	1	2
Referral obtains work	.682		.609	-.337	-.324	
Open tender obtains work	-.507		-.615	.614	.926	
Pre qualified tender obtains work		.344		.630	.644	
Negotiation obtains work	.547	.327	.550			.404

6.2 Section Two - Adding Value

The aim of section two, adding value, was to determine the way that the respondents consider that value may be added to projects. In essence the purpose was to see if the respondents felt that various tender options available to them enabled them to have a value adding impacted on the outcome of the projects that they were involved with. There were four sections to this question that addressed each of the most typical sources of obtaining work. These were the same as those used in earlier questioning, they were; referral, open tender, pre-qualified tender and negotiation. The respondents were asked to answer in a closed question format. The responses were adapted to a 5 point Likert scale as described above and set out in Chapter 5. Space was left for open ended comment at the end of this section of questions. Each of the sources of obtaining work is discussed below.

The first question in this section asked respondents if by utilising specific tender options had they the opportunity to add value to projects. The respondents were

informed that added value may be provided with any of the following; providing cost, time or quality improvements; knowledge, skill, process or resource based benefits; value engineered, buildability and/ or constructability solutions.

6.2.1 Referral as an opportunity to add value

All of the three stratified groups of respondents indicated that referral has the opportunity to add value frequently. Overall 47.5% of the respondents indicated this. Reviewing the stratified sample with reference to Table 6-16 below it may be observed that in descending order 53.0% of the design respondents, 45.1% of the contractor respondents and 44.3% of the client respondents indicated that obtaining work via referral had the opportunity to add value.

To determine if there were any significant differences between the three groups a Kruskal-Wallis test was carried out. The results of the test, which were corrected for tied ranks, suggest there was no significant difference between the groups; chi-square = .726, $p = .696$. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*).

Table 6-16 Referral add value

Group		Not at all	Seldom	Neutral	Frequently	All the time	Total
Contractor	Count	7	4	13	32	15	71
	%	9.9%	5.6%	18.3%	45.1%	21.1%	100.0%
Client	Count	5	6	6	27	17	61
	%	8.2%	9.8%	9.8%	44.3%	27.9%	100.0%
Design	Count	4	7	7	35	13	66
	%	6.1%	10.6%	10.6%	53.0%	19.7%	100.0%
Total	Count	16	17	26	94	45	198
	%	8.1%	8.6%	13.1%	47.5%	22.7%	100.0%

6.2.2 Open tender as an opportunity to add value

All of the three stratified groups of respondents indicated that open tender has little opportunity to add value. All three groups of respondents indicated that opportunities to add value occurred seldom or not at all. Overall 34.2% of respondents indicated seldom and 29.4% of respondents indicated not at all. Reviewing the stratified sample with reference to Table 6-18 below it may be observed that in

descending order 36.8% of the contractor respondents, 29.1% of the clients and 21.9% of the design respondents indicated that they perceived that obtaining work via open tender provided no opportunity to add value.

To determine if there were any significant differences between the three groups a Kruskal-Wallis test was carried out. The results of the test, which were corrected for tied ranks, suggest there was no significant difference between the groups; chi-square = 5.794, $p = .055$. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*).

Table 6-17 Open tender add value

Group		Not at all	Seldom	Neutral	Frequently	All the time	Total
Contractor	Count	25	22	10	6	5	68
	%	36.8%	32.4%	14.7%	8.8%	7.4%	100.0%
Client	Count	16	22	6	8	3	55
	%	29.1%	40.0%	10.9%	14.5%	5.5%	100.0%
Design	Count	14	20	9	14	7	64
	%	21.9%	31.3%	14.1%	21.9%	10.9%	100.0%
Total	Count	55	64	25	28	15	187
	%	29.4%	34.2%	13.4%	15.0%	8.0%	100.0%

6.2.3 Pre-qualified tender as an opportunity to add value

All of the three stratified groups of respondents indicated that pre-qualified tender infrequently provides an opportunity to add value. Overall 29.9% of respondents indicated seldom and 16.8% of respondents indicated that it would not add value at all. Reviewing the stratified sample with reference to Table 6-18 below it may be observed that in descending order 37.7% of clients respondents, 34.8% of contractor respondents and 18.5% of design respondents indicated that they perceived that obtaining work via pre-qualified tender provided infrequent opportunity to add value. It was noted that 38.5% of design respondents indicated that they felt there may be added value frequently however a Kruskal-Wallis test suggested this did not establish a significant difference between the three groups. A Kruskal-Wallis test was carried out. The results of the test, which were corrected for tied ranks, suggest there was no significant difference between the groups; chi-square = 5.966, $p = .051$. The

Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*).

Table 6-18 pre-qualified add value

Groups		<i>Not at all</i>	<i>Seldom</i>	<i>Neutral</i>	<i>Frequently</i>	<i>All the time</i>	<i>Total</i>
Contractor	Count	8	23	18	15	2	66
	%	12.1%	34.8%	27.3%	22.7%	3.0%	100.0%
Client	Count	12	20	7	9	5	53
	%	22.6%	37.7%	13.2%	17.0%	9.4%	100.0%
Design	Count	11	12	11	25	6	65
	%	16.9%	18.5%	16.9%	38.5%	9.2%	100.0%
Total	Count	31	55	36	49	13	184
	%	16.8%	29.9%	19.6%	26.6%	7.1%	100.0%

6.2.4 *Negotiation as an opportunity to add value*

All of the three stratified groups of respondents indicated that referral has the opportunity to add value frequently. Overall 45.5% of the respondents indicated this. Reviewing the stratified sample with reference to Table 6-19 below it may be observed that in descending order 55.4% of the design respondents, 43.1% of the client respondents and 38.2% of the contractor respondents indicated that they perceived that obtaining work through negotiation had the opportunity to add value frequently.

To determine if there were any significant differences between the three groups a Kruskal-Wallis test was carried out. The results of the test, which were corrected for tied ranks, suggest there was no significant difference between the groups; chi-square = 3.821, $p = .148$. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*).

Table 6-19 Negotiation add value

Group		<i>Not at all</i>	<i>Seldom</i>	<i>Neutral</i>	<i>Frequently</i>	<i>All the time</i>	<i>Total</i>
Contractor	Count	5	3	10	26	24	68
	%	7.4%	4.4%	14.7%	38.2%	35.3%	100.0%
Client	Count	7	6	8	25	12	58
	%	12.1%	10.3%	13.8%	43.1%	20.7%	100.0%
Design	Count	6	3	7	36	13	65
	%	9.2%	4.6%	10.8%	55.4%	20.0%	100.0%
Total	Count	18	12	25	87	49	191
	%	9.4%	6.3%	13.1%	45.5%	25.7%	100.0%

It was hypothesised that the sample would have a desire to add value to the projects that they carried out to various degrees, following the relationship marketing literature. A Spearman's rho non-parametric correlation matrix was established to determine if there was any significant association between the main sources that the respondent's obtain work for their organisation and the tender options that afford them to add value. The Spearman's *rho* non-parametric data may be seen in Appendix Two (*CorrelationsQ5andQ6 – SPSS viewer document*). According to (Burns 2000) conventions for correlation coefficient are .10 small, .30 medium and .50 for a large effect size. The number of respondents in each data set matches the advice given by Burns for an 80% power at a .05 significance level.

A review of Table 6-20 identifies the significant association of variables from a contractor's perspective. These variables are highlighted. It may be observed that there was a medium positive relationship between the several ways that the contractor's obtain work and their perception of those procurement methods' ability to add value. The strongest association was with negotiation in that it was significant at the 0.01 level (2 tailed).

Table 6-20 Spearman’s rho correlations Contractor obtain work and value adding

	Referral adds value			Open tender adds value			Pre-qualified adds value			Negotiation adds value		
Referral obtains work	.280*	.018	71									
Open tender obtains work				.284*	.019	68						
Pre qualified tender obtains work							.300*	.016	64			
Negotiation obtains work										.371**	.002	68

**correlation is significant at the 0.01 level (2-tailed)

*correlation is significant at the 0.05 level (2-tailed)

A review of Table 6-21 identifies the significant association between particular variables from a client’s perspective. These variables are highlighted. It may be observed that there was a medium positive relationship between referral as a means of obtaining work and that of adding value. There was a large positive relationship between pre-qualification as a means of obtaining work and that of adding value. This large positive relationship identified also occurred in negotiation. There was no relationship identified between open tender as a means of obtaining work and that of adding value. This suggests that the client is aware of the variable enhancing value to the stakeholders.

Table 6-21 Spearman’s rho correlations Client obtain work and value adding

	Referral adds value			Open tender adds value			Pre-qualified adds value			Negotiation adds value		
Referral obtains work	.387**	61	.002									
Open tender obtains work				.261	.056	54						
Pre qualified tender obtains work							.592**	.000	53			
Negotiation obtains work										.435**	.001	58

**correlation is significant at the 0.01 level (2-tailed)

A review of Table 6-22 identifies significant association between two particular variables from a design perspective. These variables are highlighted. It may be observed that there was a large positive relationship between open tender as a means of obtaining work and that of adding value. In addition there was a medium positive relationship between pre-qualification as a means of obtaining work and that of adding value. There was no relationship identified between two variables; referral as a means of obtaining work and that of adding value or negotiation.

Table 6-22 Spearman’s rho correlations Design obtain work and value adding

	Referral adds value			Open tender adds value			Pre-qualified adds value			Negotiation adds value		
Referral obtains work	.031	65	.805									
Open tender obtains work				.501**	.000	61						
Pre qualified tender obtains work							.294*	.022	61			
Negotiation obtains work										.219	.095	59

**correlation is significant at the 0.01 level (2-tailed)

*correlation is significant at the 0.05 level (2-tailed)

6.3 Section Three - Attitude to Relationships Generally

The aim of section three, relationships generally, was to determine the respondent’s attitude toward relationships in the supply chain. The researcher had identified upstream and downstream relationships in the relationship marketing literature as impacting upon different stakeholders in different ways. Initially the respondents were simply asked to indicate their propensity to foster relationships upstream and downstream in the supply chain.

Reviewing Table 6-23 and Table 6-24 it may be seen that there was very little difference between those respondents who indicated 88.1% likelihood to foster relationships upstream and those 85.5% who indicated their likelihood to foster relationships downstream. Collectively the responses indicate that the industry

endeavours to foster up-stream relationships to a (marginally) greater extent than down-stream relationships.

Table 6-23 Foster relationships upstream

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Yes	200	84.0	88.1	88.1
No	27	11.3	11.9	100.0
Total	227	95.4	100.0	
Missing	11	4.6		
Total	238	100.0		

Table 6-24 Foster relations with those downstream

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Yes	194	81.5	85.5	85.5
No	33	13.9	14.5	100.0
Total	227	95.4	100.0	
Missing	11	4.6		
Total	238	100.0		

To determine if there were any significant differences between the three groups a Kruskal-Wallis test was carried out for both the upstream and downstream categories. In the upstream the results of the test, which were corrected for tied ranks, suggest there was no significant difference between the groups; chi-square = 3.522, $p = .172$. In the downstream categories the results of the test, which were corrected for tied ranks, suggest there is no significant difference between the groups; chi-square = 2.236, $p = .327$. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*).

The RM literature had identified several variables that were indicators of benefits to be gained from upstream and downstream relationships. The researcher was interested to determine if the grouped respondents had identified any underlying traits or common factors/ patterns in answering the questions. It was proposed that Principal Axis Factoring (PAF) following Coakes and Steed (2001) would explain the data. The Factor Analysis (FA) data may be seen in Appendix Two (*GCFactorQ8v2 – SPSS viewer document*).

6.3.1 Contractor group of stakeholders – upstream

Significantly 89% of the contractors indicated that they endeavoured to foster upstream relationships. The respondents were asked to consider six variables that the literature on RM identified as benefits arising from upstream relationships. The six variables were; alignment of organisational objectives, cost reductions, schedule reductions, value engineered solutions, buildability/ constructability and others. The contractor respondents were asked to indicate on a Likert scale if they perceived small to large benefits coming from the six variables. In line with Coakes and Steed (2001) an examination of the correlation matrix showed a considerable number of correlations exceeding 0.3 and therefore the matrix was suitable for factoring. The Bartlett test of sphericity was determined as significant and the Kaiser-Meyer-Olkin measure of sampling was greater than 0.6. Measures of sampling adequacy (MSA) were printed out and inspection of the Anti-image correlation matrix revealed that all the MSA's are above the acceptable level of 0.5.

Using FA the contractors identified two factors by combination in Factor 1; value engineering solutions upstream, buildability upstream, alignment of organisational objectives upstream. Whilst in factor 2 the contractors combined cost reductions upstream and schedule reductions upstream.

6.3.2 Client group of stakeholders – upstream

Considering group two, almost all (94%) of the clients indicated that they endeavoured to foster upstream relationships. In contrast to the contractors however, the clients established one underlying attribute associated with the variables and combined them together.

6.3.3 Design group of stakeholders – upstream

The third group, design reported that 84% endeavoured to foster upstream relationships. Using FA it may be seen from that the design respondents identified two factors by combining in Factor 2; value engineering solutions upstream, buildability upstream, alignment of organisational objectives upstream. Whilst in factor 1 the design respondents combined cost reductions upstream and schedule reductions upstream.

6.3.4 *Contractor group of stakeholders – downstream*

As noted earlier the RM literature had identified several variables that were indicators of benefits gained from both upstream and downstream relationships. The researcher was interested to determine if the grouped respondents had identified any underlying traits or common factors/ patterns in answering the questions. As before it was proposed that Principal Axis Factoring would explain the data (Coakes & Steed 1999).

Significantly 88% of the contractors indicated that they endeavoured to foster downstream relationships. The questionnaire asked the respondents to consider ten variables that the literature on RM identified as benefits arising from downstream relationships. The ten variables were; knowledge based, skills based, process based, resource based, quality, cost, time, value-adding, project risk allocation and others described at the discretion of the respondents. The contractor respondents were asked to indicate on a Likert scale if they perceived small to large benefits described by the six variables. Using FA it was discovered that the contractors identified two factors by combining in Factor 1; process based benefits downstream, skill based benefits downstream, resource based benefits downstream and knowledge based benefits downstream. In this instance it was observed that the variable resource based benefits downstream was not simplified in the rotated factor matrix. Whilst in factor 2 the contractors combined time benefits downstream, cost benefits down stream, value-adding benefits downstream, project risk allocation benefits downstream and quality benefits downstream. In this instance it may be observed that the variables value-adding benefits downstream and quality benefits downstream were not simplified in the rotated factor matrix.

6.3.5 *Client group of stakeholders – downstream*

80.6% of the clients indicated that they endeavoured to foster downstream relationships. However, in contrast to the contractors, the results for the clients have established complex variables, which made interpretation difficult. To determine a simpler structure variables with high loading have been accepted over those with lower loadings and variables appearing in more than one factor have been ignored (Coakes & Steed 1999). For example process based benefits downstream had a high loading under factor one, accordingly the lower loading in factor two was discarded.

6.3.6 Design group of stakeholders – downstream

Similarity of response as that obtained from the contractor and client groups was achieved in as much as 88.3% endeavoured to foster downstream relationships. The design group recognised two identifying factors that explained their response. As discussed earlier these may be categorised as technical and transactional attributes. In the conclusions to this chapter there is a review that highlights the variables that were placed in each category by the design respondents.

It was noted that there were no significant differences between the three groups. A Kruskal -Wallis test was carried out for both the upstream and downstream categories. In upstream relationships the results of the test, which were corrected for tied ranks, are shown in Table 6-25. The results suggest there was no significant difference between the groups for any of the variables tested. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*).

Table 6-25 Kruskal Wallis Test Upstream relationships

	<i>Alignment of organisational objectives</i>	<i>Cost reductions</i>	<i>Schedule reductions</i>	<i>Value Engineering solutions</i>	<i>Buildability up stream</i>
Chi-Square	2.031	4.951	3.959	2.712	5.862
df	2	2	2	2	2
Asymp. Sig.	.362	.084	.138	.258	.053

In downstream relationships the results of the test, which were corrected for tied ranks, are shown in Table 6-26. The results suggest there was no significant difference between the groups for any of the variables tested. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*).

Table 6-26 Kruskal Wallis Test Downstream relationships

<i>Variable</i>	<i>Knowledge benefits</i>	<i>Skill based benefits</i>	<i>Process based benefits</i>	<i>Resource based benefits</i>	<i>Quality benefits</i>	<i>Cost benefits</i>
Chi-Square	1.089	2.690	3.170	4.682	2.564	1.496
df	2	2	2	2	2	2
Asymp. Sig.	.580	.261	.205	.096	.277	.473
<i>Variable</i>	<i>Time benefits</i>	<i>Value adding benefits</i>	<i>Risk allocation benefits</i>			
Chi-Square	.123	1.014	1.835			
df	2	2	2			
Asymp. Sig.	.941	.602	.399			

Subsequent questions in section seven asked the respondents to identify what effort they put into the variables that have been discussed above. The purpose of the questioning was to establish if their own effort matches their perceived expectation. The variables that the respondents were asked to rank on a Likert scale (1=little, 5=highly) were process based variables.

The questions followed research by Leavy (1994) and others. Leavy's research reported buyer – supply relationships and a strategy that enabled enhanced relationships. The respondents were provided with a list of variables that were indicators of mutual outcomes and asked to rank them to indicate how they influenced their own ability to achieve relationship partnering with associated stakeholders in the construction industry. Descriptive statistics of the stratified groups, in particular frequency distributions, indicated high levels of consensus.

The variables that were sourced from the literature review found to achieve mutual outcomes were; close coordination of schedules, process improvements, risk reduction with cost improvements and risk reduction with quality improvements. The statistics Table 6-27 shows the mean responses received from the entire survey considering upstream relationships. Reviewing the frequency tables associated with this data indicates that in all cases the highest frequency occurred at point 4 on the 5 point Likert scale; close coordination of schedules 55.5%, process improvements 51.1%; risk reduction with improvements 50.5%; risk reduction with quality

improvements 52.3%. The descriptive statistics data may be seen in Appendix Two (*Descriptive stats – SPSS viewer document*).

Table 6-27 Mean results – Mutual outcomes upstream

	<i>Close coordination of schedule</i>	<i>Cooperation on process improvements</i>	<i>Reduction in risk associated with cost control</i>	<i>Reduction in risk associated with quality control</i>
Valid	220	219	220	220
Missing	18	19	18	18
Mean	4.1136	3.9452	4.0182	4.0091

The statistics Table 6-28 shows the mean responses received from the entire survey considering downstream relationships. Reviewing the frequency tables associated with this data indicates that in all cases the highest frequency occurred at point 4 on the 5 point Likert scale; close coordination of schedules 52.7%, process improvements 49.8%; risk reduction with improvements 46.8%; risk reduction with quality improvements 42.3%. The descriptive statistics data may be seen in Appendix Two (*Descriptive stats – SPSS viewer document*).

Table 6-28 Mean results – Mutual outcomes downstream

	<i>Close coordination of schedule</i>	<i>Cooperation on process improvements</i>	<i>Reduction in risk associated with cost control</i>	<i>Reduction in risk associated with quality control</i>
Valid	222	221	222	220
Missing	16	17	16	18
Mean	4.0045	3.8009	3.8198	3.8364

A Kruskal -Wallis test was carried out for both the upstream and downstream categories. In both upstream and downstream the results of the test, which were corrected for tied ranks, suggest there was no significant difference between the most of the variables in the groups. Table 6-29 indicates the data for upstream variables. It may be observed that there is a significant difference in the column five (highlighted).

Table 6-29 Kruskal-Wallis Test – Mutual outcomes upstream

	<i>Close coordination of schedule</i>	<i>Cooperation on process improvements</i>	<i>Reduction in risk associated with cost control</i>	<i>Reduction in risk associated with quality control</i>
Chi-Square	1.165	5.773	5.950	6.374
df	2	2	2	2
Asymp. Sig.	.558	.056	.051	.041

Table 6-30 indicates the data for downstream variables where no significant differences are displayed in the data.

Table 6-30 Kruskal-Wallis Test – Mutual outcomes downstream

	<i>Close coordination of schedule</i>	<i>Cooperation on process improvements</i>	<i>Reduction in risk associated with cost control</i>	<i>Reduction in risk associated with quality control</i>
Chi-Square	.679	3.668	5.546	5.607
df	2	2	2	2
Asymp. Sig.	.712	.160	.062	.061

As there was a significant difference identified in Table 6-29, post hoc pairwise comparison among the independent groups was conducted using the Mann-Whitney U test. The Mann-Whitney U test data may be seen in Appendix Two (*MWUtests – SPSS viewer document*). The results of the test suggest there is a significant difference between Client and Design respondents ($p < .50$). However there is no significant difference between Contractors and Clients and Contractors and Design respondents ($p > .50$). A review of Table 6-32 indicates the relevant comparisons.

Table 6-31 Mann-Whitney U Test – Mutual outcomes

Comparison	Mann-Whitney U	Asymp. Sig (2-tailed)
Contractors and Clients	2041.500	$p = .082$
Contractors and Design	2640.500	$p = .479$
Clients and Design	1777.500	$p = .012$

The RM literature had identified several variables that were indicators of mutual outcomes. The researcher was interested to determine if the stratified group of respondents had identified any underlying traits or common factors/ patterns in addressing the variables. It was proposed that Principal Axis Factoring (PAF) following (Coakes & Steed 1999) would explain the data.

Analysis indicated that the respondents identified only one factor. In other words there were no underlying themes. Scrutiny of the variables indicated that they were transactional attributes that are short term, typically developed for the duration of the project.

6.4 *Section Four - Commitment*

Section four of the questionnaire examined the influence that commitment had on relationships. The respondents were asked to think about; in the first instance, upstream relationships that they have with organisations that they regularly work with and then, secondly downstream relationships that they have with organisations that they regularly work with. They were asked to specifically consider in both individual circumstances their conviction that remaining in the relationship would yield higher benefits than terminating it. The frequency of the responses for the collective sample is shown in Table 6-32 (upstream) and Table 6-33 (downstream) below.

The mean response for upstream commitment was found to be 4.00 with 54.1% of respondents reporting they show frequent commitment to upstream relationships.

Table 6-32 Commitment to upstream relationships

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Not at all (low)	2	.8	.9	.9
Seldom	21	8.8	9.2	10.0
Neutral	17	7.1	7.4	17.5
Frequently	124	52.1	54.1	71.6
All the time (high)	65	27.3	28.4	100.0
Missing	9	3.8		
Total	238	100.0		

Downstream commitment was found to be 3.55 with 50.2% of respondents reporting they show frequent commitment to downstream relationships.

Table 6-33 Commitment to downstream relationships

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Not at all (low)	5	2.1	2.1	2.1
Seldom	40	16.8	17.2	19.3
Neutral	40	16.8	17.2	36.5
Frequently	117	49.2	50.2	86.7
All the time (high)	31	13.0	13.3	100.0
Missing	5	2.1		
Total	238	100.0		

A Kruskal -Wallis test was carried out for both the upstream and downstream categories. In upstream the results of the test, which were corrected for tied ranks, suggest there is no significant difference between the groups; chi-square = .958, $p = .619$. In the downstream categories the results of the test, which were corrected for tied ranks, suggest there is no significant difference between the groups; chi-square = .591, $p = .744$. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*).

6.5 Section Five - Trust

Section five of the questionnaire examined trust in both upstream and downstream relationships. Trust and commitment had been discussed in depth during the focus group and shown to be a significant factor in the respondent's minds when considering relationship development and maintenance. The relationship marketing literature was found to have great depth in the area of trust.

Table 6-34 indicates that 41.2% of the respondents indicated 4 a 5 point Likert scale (1 = low to 5 = high). The mean for all respondents was found to be 3.28.

Table 6-34 Expectation of organisational trust upstream

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Not at all (low)	14	5.9	6.1	6.1
Seldom	52	21.8	22.8	28.9
Neutral	43	18.1	18.9	47.8
Frequently	94	39.5	41.2	89.0
All the time (high)	25	10.5	11.0	100.0
Missing	10	4.2		
Total	238	100.0		

In consideration of trust in downstream organisational relationships Table 6-35 indicates that 36.9% of the respondents indicated 4 on a 5 point Likert scale (1 = low to 5 = high). The mean for all respondents was found to be 3.26.

Table 6-35 Expectation of organisational trust downstream

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Not at all (low)	13	5.5	5.6	5.6
Seldom	58	24.4	24.9	30.5
Neutral	47	19.7	20.2	50.6
Frequently	86	36.1	36.9	87.6
All the time (high)	29	12.2	12.4	100.0
Missing	5	2.1		
Total	238	100.0		

A Kruskal -Wallis test was carried out for both upstream and downstream categories. In upstream the results of the test, which were corrected for tied ranks, suggest there was no significant difference between the groups; chi-square = .437, $p = .804$. In downstream categories the results of the test, which were corrected for tied ranks, suggest there was no significant difference between the groups; chi-square = 2.848, $p = .241$. The Kruskal-Wallis data may be seen in Appendix Two (*KWTests – SPSS viewer document*).

The respondents were asked to rank several variables that were found in the literature to be indicators of trust maintenance. As discussed earlier, the researcher was careful in wording the questionnaire to avoid a halo effect. For example had the researcher simply used the expression ‘increased trust’ in the question as opposed to indicators gleaned from the literature review of trust maintenance, the respondents

would have been more likely to rank particular variables more highly and less objectively. The factors that were sourced from the literature review found to maintain trust in relationships were; confidential information sharing, a willingness to customise and predicability in the process. The statistics Table 6-36 shows the mean responses received from the entire survey considering upstream relationships. Reviewing the frequency tables associated with this data indicates that in all cases the highest frequency occurred at point 4 in the 5 point Likert scale; confidential information sharing 53%, willingness to customise 48.4% and predicability in the process 46.9%. The descriptive statistics data may be seen in Appendix Two (*Descriptive stats – SPSS viewer document*).

Table 6-36 Actuality of maintaining trust upstream

	<i>Confidential information sharing</i>	<i>Willingness to customise</i>	<i>Predictability to the process</i>
Valid	219	217	211
Missing	19	21	27
Mean	3.5023	3.4147	3.4265

The statistics Table 6-37 shows the mean responses received from the entire survey considering downstream relationships. Reviewing the frequency tables associated with this data indicates that in all cases the highest frequency occurred at point 4 in the 5 point Likert scale; confidential information sharing 42.2%, willingness to customise 48% and predicability in the process 46.1%. The descriptive statistics data may be seen in Appendix Two (*Descriptive stats – SPSS viewer document*).

Table 6-37 Actuality of maintaining trust downstream

	<i>Confidential information sharing</i>	<i>Willingness to customise</i>	<i>Predictability to the process</i>
Valid	225	223	217
Missing	13	15	21
Mean	3.1600	3.3767	3.2811

A Kruskal -Wallis test was carried out for both the upstream and downstream categories. In upstream the results of the test, which were corrected for tied ranks, suggest there was no significant difference between the groups. Table 6-38 indicates

the data arising from a Kruskal-Wallis test for upstream variables and Table 6-39 indicates the data arising from a Kruskal-Wallis for downstream variables.

Table 6-38 Kruskal -Wallis test - Trust upstream

	<i>Confidential information sharing</i>	<i>Willingness to customise</i>	<i>Predictability to the process</i>
Chi-Square	1.762	5.074	.419
df	2	2	2
Asymp. Sig.	.414	.079	.811

Table 6-39 Kruskal -Wallis test – Trust downstream

	<i>Confidential information sharing</i>	<i>Willingness to customise</i>	<i>Predictability to the process</i>
Chi-Square	1.488	5.751	.911
df	2	2	2
Asymp. Sig.	.475	.056	.634

It was hypothesised that there would be some association between the respondent's expectation and actuality concerning organisational trust following the relationship marketing literature. A Spearman's *rho* non-parametric correlation matrix was established to determine if there was any significant association between the expectation of trust arising from organisations that the respondents regularly work with, and what they find in the relationships that they have. The Spearman's *rho* non-parametric data may be seen in Appendix Two (*CorrelationsQ13andQ15 – SPSS viewer document*). Burns' (2000) conventions for correlation coefficient described earlier were adopted.

A review of Table 6-40 identifies the significant association of all variables from respondent's perspective upstream. It may be observed that there was a medium to large positive association between the expectation and actuality with regard to upstream relationships. The strongest association was with confidential information sharing.

Table 6-40 Spearman's *rho* correlations Expectation and actuality with regard to upstream relationships

<i>Actuality</i>		<i>Confidential information sharing</i>	<i>Willingness to customise</i>	<i>Predictability to the process</i>
Expectation	Correlation coefficient Sig. (2 tailed) N	.470** .001 218	.355** .001 216	.393** .001 210

**correlation is significant at the 0.01 level (2-tailed)

A review of Table 6-41 identifies the significant association of all variables from respondent's perspective downstream. It may be observed that there was a medium to large positive association between the expectation and actuality with regard to upstream relationships. The strongest association was with confidential information sharing.

Table 6-41 Spearman's *rho* correlations Expectation and actuality with regard to downstream relationships

<i>Actuality</i>		<i>Confidential information sharing</i>	<i>Willingness to customise</i>	<i>Predictability to the process</i>
Expectation	Correlation coefficient Sig. (2 tailed) N	.424** .001 225	.416** .001 223	.413** .001 217

**correlation is significant at the 0.01 level (2-tailed)

6.6 Section Six - Satisfaction

The questions in this section followed research by (Day & Barksdale 1992; Doney & Cannon 1997; Patterson, Johnson & Spreng 1997). The research reported significant aspects of satisfaction. The respondents were provided with a list of variables that were indicators of satisfaction and asked to rank them to indicate how they influenced relationships with associated stakeholders in the construction industry. Descriptive statistics of the stratified groups, in particular frequency distributions, indicated high levels of consensus.

The variables sourced from the literature review that were found to indicate satisfaction were; understanding problems, needs and interests; interactive in the relationship and communicative; on time and on budget with additional costs providing added value; meeting your client's expectations; and matching previous favourable experience and process predicability.

Table 6-42 Mean results – Indicators of satisfaction upstream

	<i>Understanding problems, needs and interests</i>	<i>Interactive in the relationship & communicative</i>	<i>On time & budget, addition costs provide value</i>	<i>Meeting client's expectations</i>	<i>Matching previous favourable experience</i>
Valid	228	228	226	225	225
Missing	10	10	12	13	13
Mean	4.2368	4.0833	4.1195	4.3733	4.0756

The statistics Table 6-42 show the mean responses received from the entire survey considering upstream relationships. Reviewing the frequency tables associated with this data indicates that in all cases the highest frequency occurred at point 4 on the 5 point Likert scale. The frequencies at this point were; understanding problems, needs and interests 54.4%; interactive in the relationship and communicative 61.4%; on time and on budget with additional costs providing added value 48.2%; meeting your client's expectations 48.4%; and matching previous favourable experience and process predicability 61.3%. The descriptive statistics data may be seen in Appendix Two (*Descriptive stats – SPSS viewer document*).

Table 6-43 Mean results – Indicators of satisfaction downstream

	<i>Understanding problems, needs and interests</i>	<i>Interactive in the relationship & communicative</i>	<i>On time & budget, addition costs provide value</i>	<i>Meeting client's expectations</i>	<i>Matching previous favourable experience</i>
Valid	226	226	225	227	226
Missing	12	12	13	11	12
Mean	3.7035	3.8319	3.7156	3.9559	3.8628

When considering downstream relationships the statistics Table 6-43 shows the mean responses received from the entire survey where the highest frequency occurred at point 4 on the 5 point Likert scale. The frequencies at this point were; understanding problems, needs and interests 54.9%; interactive in the relationship and communicative 52.2%; on time and on budget with additional costs providing added value 48%; meeting your client's expectations 52.9%; and matching previous favourable experience and process predicability 54%. The descriptive statistics data may be seen in Appendix Two (*Descriptive stats – SPSS viewer document*).

A Kruskal -Wallis test was carried out for both the upstream and downstream categories. In both upstream and downstream the results of the test, which were corrected for tied ranks, suggest there was no significant difference between the

groups. Table 6-44 indicates the data for upstream variables and Table 6-45 indicates the data for downstream variables.

Table 6-44 Kruskal-Wallis Test –satisfaction upstream

	<i>Understanding problems, needs and interests</i>	<i>Interactive in the relationship & communicative</i>	<i>On time & budget, addition costs provide value</i>	<i>Meeting client's expectations</i>	<i>Matching previous favourable experience</i>
Chi-Square	2.067	1.044	1.833	1.647	.034
df	2	2	2	2	2
Asymp. Sig.	.356	.593	.400	.439	.983

Table 6-45 Kruskal-Wallis Test –satisfaction downstream

	<i>Understanding problems, needs and interests</i>	<i>Interactive in the relationship & communicative</i>	<i>On time & budget, addition costs provide value</i>	<i>Meeting client's expectations</i>	<i>Matching previous favourable experience</i>
Chi-Square	2.352	3.333	1.879	.718	.363
df	2	2	2	2	2
Asymp. Sig.	.308	.189	.391	.698	.834

6.7 Section Seven - Mutual Outcomes

Several of the questions in this section were related to earlier sections and have therefore been discussed. The final question in this section asked the respondents to reflect on the benefits that relationship partnering may add to business as usual (BAU) contract strategies. The respondents were drawn to a definition of relationship partnering as essentially collaborative relationships. Examples of BAU contract strategies were indicated in the questionnaire as design and build, traditional, management contracting and others. The question followed the outcome of the focus group survey. The respondents indicated at the focus meeting that they were anxious to pursue collaborative relationship strategies to deliver projects.

The mean responses received from the entire survey considering relationship partnering was 3.85. Reviewing the frequency tables associated with this data indicates that in highest frequency occurred at point 4 on the 5 point Likert scale. 52.7% responded at point 4. The descriptive statistics data may be seen in Appendix Two (*Descriptive stats – SPSS viewer document*).

A Kruskal -Wallis test was carried out. The results of the test, which was corrected for tied ranks, suggested there was no significant difference between the groups.

It was considered that there would be a relationship between questions in this section and earlier sections that asked the respondents to consider tender options and their ability to add value. A Spearman's *rho* non-parametric correlation matrix was established to determine if there was any significant association. The Spearman's *rho* non-parametric data may be seen in Appendix Two (*CorrelationsQ21andQ6 – SPSS viewer document*). Burns' (2000) conventions for correlation coefficient described earlier were adopted.

A review of Table 6-46 identifies a small association between the ability of relationship partnering to add to BAU contract strategies and negotiation as a procurement strategy that has the ability to add value to the project.

Table 6-46 Association between BAU and tender options adding value

		<i>Relationship partnering</i>	<i>Referral obtains work</i>	<i>Open tender obtains work</i>	<i>Pre qualified tender obtains work</i>	<i>Negotiation obtains work</i>
relationship partnering	Pearson Correlation	1	.047	.036	.065	.164(*)
	Sig. (2-tailed)	.	.505	.617	.377	.023
	N	226	207	193	188	192

* Correlation is significant at the 0.05 level (2-tailed).

6.8 Section Eight - Transactional v RM

The final section of the questionnaire, section eight, investigated the respondent's propensity toward transactional or relationship marketing in the context of their procurement interactions. The question was focussed on their marketing strategy. A graphic-numerical or semantic differential scale of 1 to 6 was created that asked the respondents to indicate their strength of agreement under several variables (Sarantakos 1993; Naoum 1998). Inspection of Table 6-47 provides an example; if the respondents considered that they focussed more on **projects** than **clients** they would tick one of the boxes 1 (high) – 3 (low) in the left hand transactional column. However if their focus was on **clients**, they were advised to tick one of the boxes 4 (low) – 6 (high) in the right hand relational column. This had the effect of forcing

respondents to choose between a relationship marketing approach and a transactional approach. It also enabled the strength of their commitment to be gauged by the researcher.

Table 6-47 Example of semantic differential scale used in section eight questions

1=high, 3=low for this list of descriptives	1	2	3	4	5	6	6=high, 4=low for this list of descriptives
Focus on projects							Focus on clients

The variables were based on research by Christopher, Payne and Ballantyne (1991) and Nickels and Wood (1997), both key writers in the discipline of RM. In the questionnaire there was no indication as to which variable was an indicator of transactional or relational marketing. The purpose of this was to ensure that the respondents provided an answer in accord with their personal perspective and values rather than referring to the earlier questions that they had answered to draw an inference. Cross referencing the answers to this question would enable the researcher to determine internal consistency in the overall questionnaire response.

As indicated below in Table 6-48 it may be observed that there was a strong tendency toward relational interaction in all cases. In only two instances it can be seen that there was any meaningful response to the transactional arm of the scale. These points are highlighted on the table below. Ranking of the relational interaction indicates that priority was given to; high client emphasis (rank 1-a total of 89.8% of respondents) as opposed to low client emphasis (9.4%), high client commitment (rank 2-a total of 87.5% of respondents) as opposed to low client commitment (8.6%), quality is the concern of all (rank 3-a total of 87.5% of respondents) as opposed to quality is a concern of production (10.2%). Long time scale was ranked last (rank 7-a total of 67.2% of respondents) as opposed to short time scale (30.5%).

In section three questions, the respondents identified project process and product issues as important and the stratified respondents differentiated between them. Table 6-48 shows strength of tendency toward relationship marketing and its propensity toward product issues. However the focus on projects and short time scale variables are process (project) issues and may be related to typical definitions of projects that the respondents are familiar with. For example projects are renowned for

their finite nature and short time scale; it is clear that construction stakeholders work on projects in a very literal sense.

Table 6-48 Transactional v Relational marketing issues – summary of tendency

1=high, 3=low		1	2	3	4	5	6		6=high, 4=low Ranked order = ①
Focus on projects	32.0	19.5	6.3	6.3	10.9	21.1	37.5	69.5	Focus on clients ⑥
Orientation on features	18.8	5.5	8.6	4.7	20.3	29.7	27.7	77.3	Orientation on benefits ⑤
Short time scale	30.5	7.0	10.9	12.5	16.4	24.2	26.6	67.2	Long time scale ⑦
Low emphasis on client service	9.4	1.6	4.7	3.1	3.9	21.9	64.1	89.8	High client service emphasis ①
Low client commitment	8.6	1.6	3.9	3.1	11.7	23.4	52.3	87.5	High client commitment ②
Low client contact	10.2	1.6	3.9	4.7	11.7	35.2	40.6	87.5	High client contact ④
Quality is a concern of production	10.2	3.9	3.1	3.1	10.2	25.8	51.6	87.5	Quality is the concern of all ③

A Kruskal -Wallis test was carried out. The results of the test, which was corrected for tied ranks, suggested there was no significant difference between the groups in either the transactional pole or relational pole. Reference to Table 6-49 and Table 6-50 provide the information.

Table 6-49 Transactional pole

	<i>Focus on projects</i>	<i>Orientation on features</i>	<i>Short time scale</i>	<i>Low emphasis on client service</i>	<i>Low client commitment</i>	<i>Low client contact</i>	<i>Quality is concern of production</i>
Chi-Square	5.534	.113	3.777	1.245	1.907	1.195	.330
df	2	2	2	2	2	2	2
Asymp. Sig.	.063	.945	.151	.537	.385	.550	.848

Table 6-50 Relational pole

	<i>Focus on clients</i>	<i>Orientation on benefits</i>	<i>Long time scale</i>	<i>High emphasis on client service</i>	<i>High client commitment</i>	<i>High client contact</i>	<i>Quality is concern of all</i>
Chi-Square	1.171	1.178	2.167	1.160	.390	2.355	.330
df	2	2	2	2	2	2	2
Asymp. Sig.	.557	.555	.338	.560	.823	.308	.848

It was hypothesised that there would be a relationship between the two poles that were represented in this section. A Spearman's *rho* non-parametric correlation matrix was established to determine if there was any significant association. The Spearman's *rho* non-parametric data may be seen in Appendix Two (*CorrelationsQ22 – SPSS viewer document*). Burns' (2000) conventions for correlation coefficient described earlier were adopted.

A review of Table 6-51 identifies a large association between the variables short time scale and long time scale, a medium association between low client commitment and high client commitment and a medium association between low client contact and high client contact.

Table 6-51 Association between relationship and transactional variables

		<i>Focus on clients</i>	<i>Orientation on benefits</i>	<i>Long time scale</i>	<i>High emphasis on client service</i>	<i>High client commitment</i>	<i>High client contact</i>	<i>Quality is concern of all</i>
Focus on projects	Pearson Correlation	-.019						
	Sig. (2-tailed)	.847						
	N	103						
Orientation on features	Pearson Correlation		.105					
	Sig. (2-tailed)		.303					
	N		98					
Short time scale	Pearson Correlation			.471(**)				
	Sig. (2-tailed)			.000				
	N			95				
Low emphasis on client service	Pearson Correlation				.192			
	Sig. (2-tailed)				.065			
	N				93			
Low client commitment	Pearson Correlation					.300(**)		
	Sig. (2-tailed)					.004		
	N					90		
Low client contact	Pearson Correlation						.243(*)	
	Sig. (2-tailed)						.023	
	N						88	
Quality is concern of production	Pearson Correlation							-.012
	Sig. (2-tailed)							.912
	N							93

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

6.9 Summary of Analysis of Questionnaire Study Two

The questionnaire used in the second study of the research sought to test several research questions that were derived from the focus group study and the

literature study. Various statistical techniques were used to analyse the data obtained for sample demographics and relationship building and maintenance.

The respondents indicated that the industry endeavours to foster up-stream relationships to a marginally greater extent than down-stream relationships. It was found that the propensity to foster relationships was generally high, with all categories of respondents responding positively. To match RM criteria to relationships in the construction industry the respondents were asked to identify how they benefited from recognised relationship variables from the literature that included; alignment of organisational objectives, cost and schedule reductions, value-engineered solutions, buildability and other issues that they chose to name. Collectively the responses indicated that the industry perceives benefit from variables to both up and down-stream relationships. In assessing the areas where respondents felt there are specific advantages from the relationships the sample did not generate easily identifiable strengths and weaknesses. It was found difficult to determine a primary focus as no individual variables stood out significantly. It was considered that a qualitative survey that probes deeper will provide answers (Yin 1994). These issues are addressed in Chapters 7 and 8.

Additional in-depth questions covered variables of trust, commitment and satisfaction in the relationship. The results indicated that respondents displayed a greater commitment to up-stream relationships than down-stream relationships. It appeared that respondents expected a marginally greater level of trust in up-stream relationships than down-stream relationships. Interestingly general contractors had the least tendency toward increasing up-stream client satisfaction whilst clients had the least inclination to increasing down-stream client satisfaction. A summary overview of the foregoing indicated that benefits arising from up-stream relationships with clients were generally more valued than that from down-stream relationship. Perhaps the perception is that down-stream relationships are not worth committing to, or there is little to gain from any effort? The power base between stakeholders influences the relationship benefits perceived.

Finally a comparison between two questions provided an interesting comparison. One question asked what respondents expected from up-stream organisations that they regularly work with while another asked what they actual received from the relationship. The questions were designed using variables of trust in

their wording to avoid a halo effect. It was found that there was comparability in the stakeholder's reply. The actual expectation seems to match the circumstances more closely in down-stream relationships than in up-stream relationship. It would appear overall that expectations and actuality are slightly higher in up-stream relationships. From an analysis of the data respondents in up-stream relationships will be pleasantly surprised as the actuality response is higher in all cases than the expectation. With regard to down-stream relationships there may be some disappointment as the overall expectation is marginally higher than the actuality.

An in-depth summary follows.

6.9.1 Demographics and means of obtaining work – Section 1

It was found that there was a significant difference between the stratified samples in terms of turnover. This may be attributed to the way in which they operate. It would be usual for the contractors to report their turnover based upon the sum of contract values that they had on their books at any time. While the clients and design respondents would report the sum of their current fees.

Few in the sample undertook engineering work. There was found to be no significant difference between the samples concerning the work that they did carry out. This serves to be a useful point as subsequent responses to later questions may be taken from a unified benchmark that is consistent. There was a significant difference between client respondents and design when considering the years that they had been operating in the industry; however there was no significant difference within or between the other sectors of the stratified sample. So it may be established that the greater majority of the sample had considerable years experience that enabled them to answer the questionnaire with authority, balance and credibility.

In terms a soliciting work it was found that each group obtained work by referral frequently. There was no significant difference between the stratified groups. When reviewing the respondent's answers concerning open tender as a means of soliciting work there was found to be no general consensus and an appropriate outcome may not be posited. However it should be noted that Kruskal -Wallis testing determined there were no significant differences between the stratified samples in this regard. Significant differences between the stratified groups was found to be apparent when considering prequalified tender as a means of obtaining work. The contractors

used it frequently or all the time as did the design respondents. Clients, as may be expected, used prequalified tender seldom. It was determined that there was no significant difference between the stratified groups when considering negotiation as a means of obtaining work

To summarise the ways in which the sample solicit work principal factor analysis (PFA) was used. PFA determined that despite the complexity of the factor grouping under several of the stratified respondents it was observed that the contractors grouped referral, open tender and negotiation together and differentiated them from pre-qualified tender. Client respondents grouped referral and negotiation whilst the design group of respondents grouped referral, open tender and pre-qualified tender differentiating them from negotiation.

6.9.2 Adding Value – Section 2

Referral offered the opportunity to add value from the samples perspective. The sample was unanimous on this and there were no significant differences between the stratified groups. Conversely open tender provided little opportunities when considering value adding. Following this prequalified tender was found to provide value adding opportunities infrequently by the overall sample. The results showed no significant difference between the stratified samples. Finally negotiation was found to afford value adding to the projects process and product. Once again the entire stratified sample was unanimous and there were no significant differences.

It was hypothesised that the sample would have a desire to add value to the projects that they carried out to various degrees. This follows the relationship marketing literature. A Spearman's rho non-parametric correlation matrix was established to determine if there was any significant association between the main sources that the respondent's obtain work for their organisation and the tender options that afford them to add value.

Contractors displayed a medium positive relationship between the several ways that they obtain work and their perception of those procurement methods' ability to add value. The strongest association was with negotiation.

From the client's perspective there was a large positive relationship between prequalification as a means of obtaining work and that of adding value. This large positive relationship identified also occurred in negotiation. There was no relationship

identified between open tender as a means of obtaining work and that of adding value. This suggested that clients were aware of the negotiation and prequalification as a means of enhancing value.

With regard to design there was a large positive relationship between open tender as a means of obtaining work and that of adding value. In addition there was a medium positive relationship between pre-qualification as a means of obtaining work and that of adding value. There was no relationship identified between two variables; referral as a means of obtaining work or negotiation as a means of obtaining work and that of adding value.

6.9.3 Attitudes to (and benefits from) relationships – Section 3

This section of the survey examined the respondents attitude to relationships that affected them in the supply chain. As noted earlier the relationships were described to the respondents as upstream and downstream relationships. It was determined that there was a marginally greater propensity to foster relationships upstream as opposed to downstream. This was anticipated to some degree and follows the literature that discusses the strengths of relationships between mismatched groups.

More significant however was the grouping of factors that the stratified samples identified in specific questioning. The respondent's were asked to consider six variables that the literature on RM identified as benefits arising from upstream relationships. The six variables were; alignment of organisational objectives, cost reductions, schedule reductions, value engineered solutions, buildability/constructability and others. Following this the respondents were asked to consider ten variables that the literature on RM identified as benefits arising from downstream relationships. The ten variables were; knowledge based, skills based, process based, resource based, quality, cost, time, value-adding, project risk allocation and others described at the discretion of the respondents. Analysis of the results is included in Chapter 6. A summary of the analysis is set out in Table 6-52 and Table 6-53. Their context within the research is described below.

All of the three groups of respondents identified underlying factors of product and process. They have separated the transactional marketing issues from the relationship marketing issues as important factors in their downstream relationships.

Table 6-52 Comparative data from the stratified sample groups upstream

	<i>Contractor</i>		<i>Client</i>		<i>Design</i>	
Variable	RM (f1)	TM (f2)	RM (f1)	TM (f2)	RM (f2)	TM (f1)
Alignment of organisational objectives upstream						
Cost reductions upstream						
Schedule reductions upstream						
Value engineered solutions upstream						
Buildability/ constructability upstream						

a Upstream

Reviewing Table 6-52 contractors identified two factors by combining in Factor 1; value engineering solutions upstream, buildability upstream, alignment of organisational objectives upstream. Whilst in factor 2 the contractors combined cost reductions upstream and schedule reductions upstream.

Interpretation of the two factors follows the discussion in the literature review on RM (Chapter 2) in that Factor 1 variables of value engineering solutions upstream, buildability upstream and alignment of organisational objectives upstream are product issues. They are long term considerations that exist for a period of time normally far in excess of an actual project. In the context of this research they are relationship marketing issues. In the alternative Factor 2 variables; cost reductions upstream and schedule reductions upstream are both process issues, rather short term in nature and generally confined to the project duration. In the context of this research they are transactional marketing issues.

In contrast to the contractors, the clients established one underlying attribute associated with the variables and combined them together. The clients did not differentiate between product and process attributes underlying the questions as the contractors did.

The third group, design, reported interpretation of the two factors follows the discussion earlier in that Factor 2 variables of value engineering solutions upstream, buildability upstream and alignment of organisational objectives upstream are product issues. They are long term considerations that exist for a period of time normally far in excess of an actual project. In the context of this research they are relationship marketing issues. In the alternative Factor 1 variables; cost reductions upstream and

schedule reductions upstream are both process issues, rather short term in nature and generally confined to the project duration. In the context of this research they are transactional marketing issues.

Table 6-53 Comparative data from the stratified sample groups downstream

	<i>Contractor</i>		<i>Client</i>		<i>Design</i>	
Variable	RM (f1)	TM (f2)	RM (f1)	TM (f2)	RM (f2)	TM (f1)
Cost downstream						
Knowledge downstream						
Process based downstream						
Quality downstream						
Resource based downstream						
Risk allocation downstream						
Skill based downstream						
Time downstream						
Value adding downstream						

b Downstream

Reviewing Table 6-53 it was discovered that the contractors identified two factors by combining in Factor 1; process based benefits downstream, skill based benefits downstream, resource based benefits downstream and knowledge based benefits downstream. In this instance it was observed that the variable resource based benefits downstream was not simplified in the rotated factor matrix. Whilst in factor 2 the contractors combined time benefits downstream, cost benefits down stream, value-adding benefits downstream, project risk allocation benefits downstream and quality benefits downstream. In this instance it may be observed that the variables value-adding benefits downstream and quality benefits downstream were not simplified in the rotated factor matrix.

Interpretation of the two factors follows the discussion earlier from the literature review on RM in that Factor 1 variables of process based benefits downstream, skill based benefits downstream, resource based benefits downstream and knowledge based benefits downstream are technical attributes. They are technical considerations that enable the contractor to add value to the client through developing relationships via partnering or forming strategic relationships with associated organisations downstream of its organisation. In the context of this research they are relationship marketing issues. In the alternative Factor 2 variables; time benefits

downstream, cost benefits down stream, value-adding benefits downstream, project risk allocation benefits downstream and quality benefits downstream are process issues, rather short term in nature and generally confined to the project duration. In the context of this research they are transactional marketing issues.

Clients identified two factors by combining in Factor 1; skill based benefits downstream, resource based benefits downstream, process based benefits downstream, quality benefits downstream and knowledge based benefits downstream. In this instance it was observed that the variable process based benefits downstream and quality benefits downstream were not simplified in the rotated factor matrix. Whilst in factor 2 the clients combined time benefits downstream and cost benefits down stream.

In contrast with the contractors quality benefits downstream was perceived to be a part of factor 1, a relationship attribute. This may be ascribed to a lack of distinction between functional qualities in the final product and quality activities incorporated in the process. In this instance it may be observed that the variable cost benefits downstream was not simplified in the rotated factor matrix. Two other variables; value-adding benefits downstream and project risk allocation benefits downstream were found to be complex variables and difficult to interpret as belonging to either factor 1 or 2.

Analysis indicates that the clients combined several of the variables into two categories in a similar way to the contractors. These two factors were described in the first instance as technical attributes including; skill based benefits downstream, resource based benefits downstream, process based benefits downstream, quality benefits downstream and knowledge based benefits downstream. These technical attributes lead to value adding and relationship building. The second factor included; time benefits downstream and cost benefits down stream are transactional attributes that are short term typically developed for the duration of the project.

Design respondents combined several variables into two categories in a similar way to the contractors and clients. These two factors may be described in the first instance as technical attributes including; skill based benefits downstream, resource based benefits downstream, process based benefits downstream and knowledge based benefits downstream. These attributes lead to value adding and relationship building.

The second factor included; time benefits downstream, cost benefits down stream, project risk allocation attributes downstream and value-adding benefits downstream. These variables are transactional attributes that are short term typically developed for the duration of the project. Quality benefits downstream were acknowledged by the researcher as a complex variable and as a result excluded from both factors. The explanation for lack of clarity is ascribed to a lack of distinction between functional qualities in the final product and quality activities incorporated in the process.

To summarise the above, in upstream relationships the primary factors (f1) were found to be product or relationship issues with contractor and client respondents. The design respondents ascribed process issues to be the primary factor.

Excluding quality benefits downstream for the reasons set out in an earlier it may be seen that there is parity in the groupings across all three groups of respondents. For example cost benefits were identified as a process based or transactional marketing attribute by all groups of respondents.

It should be noted that whilst both contractor and client have identified RM as the primary factor (f1), the design group of respondents had identified transactional factors as the primary factor both upstream and downstream.

All of the three groups of respondents have identified underlying factors of product and process. They have separated the transactional marketing issues from the relationship marketing issues as important factors in their downstream relationships.

In this context it was noted that there were no significant differences between the three groups, this follows a Kruskal -Wallis test for both the upstream and downstream categories.

c Fostering relationships

The above section identifies that the stratified sample of respondents perceive benefits arising from relationships in two ways; during the process of carrying out the project and in the product or outcome of the project. RM writers have indicated that these may be referred to as transactional and relational outcome respectively. Subsequent questions asked the respondents to identify what effort (*endeavour to achieve*) they put into the achievement of similar variables that have been discussed above. The purpose of the questioning was to establish if their individual efforts match their perceived expectation. Descriptive statistics of the stratified groups, in

particular frequency distributions, indicated high levels of consensus in as much as the groups of respondents put considerable effort into assuring mutual outcomes. There appeared to be marginally a little more effort into the development associated with upstream relationships when compared with downstream relationships.

6.9.4 *Commitment – Section 4*

The samples were asked to specifically consider their conviction that remaining in a relationship would yield higher benefits than terminating it. The mean response for upstream commitment was found to be 4.00 and for downstream commitment was found to be 3.55. It appears from the above that the respondents display a marginally greater commitment to up-stream relationships than down-stream relationships. A Kruskal -Wallis test was carried out for both the upstream and downstream categories and there was found to be no significant difference between any of the stratified sample.

6.9.5 *Trust – Section 5*

Particular questions asked the respondents to rank a Likert scale their expectation with regard to trusting relationships in both upstream and downstream relationships. Subsequent questions in this section drawing on the work of numerous writers (Wilson & Mummalaneni 1986; Dwyer, Schurr & Oh 1987; Pascale & Sanders 1997; Gwinner, Gremler & Bitner 1998) provided several variables that were determined as indicators of trust maintenance. The respondents were asked to rank a Likert scale how they perceived the actual trust maintenance that they have both upstream and downstream with associated stakeholders in the construction industry. In essence a comparison of the two sets of questions enabled the researcher to compare *expectation* with *actuality* when considering trust.

Descriptive statistics of the groups, in particular frequency distributions, indicated a propensity toward an expectation of trust in upstream organisational relationships.

A review of the data identified the significant association of all variables from respondent's perspective upstream and down stream. It may be observed that there was a medium to large positive association between the expectation and actuality with regard to upstream relationships. The strongest association was with confidential information sharing.

In summary it was found that all the stratified groups of respondents had high expectations that their dealings with other stakeholders would be underpinned with trust. There were no significant differences between the groups of stakeholders in this regard. The anticipation of the stratified group of respondents was similar in as much as the response indicated collectively high levels of trust maintenance. Similarly to the expectation there were no significant differences between the groups of stakeholders. It was found that confidential information sharing that represented one of the three identified variables indicating trust maintenance was the strongest indicator of the association between actuality and expectation.

6.9.6 Satisfaction– Section 6

Attributes that satisfy a client were identified in the RM literature. The respondents identified high levels of consensus in their response. A Kruskal -Wallis test was carried out for both the upstream and downstream categories. In both upstream and downstream the results suggest there was no significant difference between the groups.

Table 6-54 Frequency of response at point 4 on a 5 point Likert scale

	<i>Understanding problems, needs and interests</i>	<i>Interactive in the relationship & communicative</i>	<i>On time & budget, addition costs provide value</i>	<i>Meeting client's expectations</i>	<i>Matching previous favourable experience</i>
Upstream	54.4%	61.4%	48.2%	48.4%	61.3%
Rank	3	1	5	4	2
Downstream	54.9%	52.2%	48%	52.9%	54%
Rank	1	4	5	3	2

Reviewing Table 6-54 it may be seen that in upstream relationships the variable; interactive in the relationship and communicative ranked most highly, but was ranked in fourth position when the respondents considered downstream relationships. The highest ranked variable in downstream relationships was; understanding problems needs and interests. In both upstream and downstream relationships matching previous favourable experience was ranked in second position. In upstream relationships, understanding problems needs and interests was ranked in third position: whilst meeting expectations was ranked third in downstream relationships. In upstream relationships it may be seen that there is parity in fourth

position held by; meeting client's expectations; and on time and budget, additional costs providing value. The latter was last in downstream relationships.

The literature was mirrored by the research in this finding as clients in a RM environment were found to be less likely to be focussed on price considerations. For example Day and Barksdale (1992) reported that architects, engineers and client firms rarely spoke about price as part of the selection process. However they did recognise its importance. In separate research Patterson (1995) identified cost and value of fees as secondary to reputation in a specific area.

6.9.7 Relationship Partnering – Section 7

Several questions in this section were related to initial questions in the instrument. The final question in this section asked the respondents to reflect on the benefits that relationship partnering may add to business as usual (BAU) contract strategies. The respondents were drawn to a definition of relationship partnering as essentially collaborative relationships. Examples of BAU contract strategies were indicated in the questionnaire. Reviewing the frequency tables associated with this data indicates that the respondent's collectively found that relationship partnering added to BAU contracting strategies. As it was established there were no significant differences between the stratified respondents individual analysis was not undertaken.

It was hypothesised that there would be a relationship between questions in this section and earlier sections that asked the respondents to consider tender options and their ability to add value. A small association was observed between the ability of relationship partnering to add to BAU contract strategies and negotiation as a procurement strategy that has the ability to add value to the project. So it would seem that the respondents recognised the usefulness of negotiation as a strategy to enhance relationships in the same way as they felt the relationship partnering would add value to BAU procurement arrangements.

6.9.8 Transactional v Relationship Marketing – Section 8

The final section of the questionnaire, section eight, investigated the respondent's propensity toward transactional or relationship marketing in the context of their procurement interactions. The question was focussed on their marketing strategy.

In analysis of the questions posed in section three the respondent's identified project process and product issues of importance and the stratified respondents differentiated between them. As it was established there were no significant differences between the stratified respondents individual analysis was not undertaken. However a summary in Chapter 6 showed strength of tendency toward relationship marketing and its propensity toward product or long term issues. However the focus on projects and short time scale variables are process (project) issues and may be related to typical definitions of projects that the respondents are familiar with. For example projects are renowned for their finite nature and short time scale; it is clear that construction stakeholders work on projects in a very literal sense.

6.9.9 Concluding points

The aim of study two was to build upon the outcome of the focus study. The objectives were to;

1. Identify key relationship and RM criteria from construction actors' perspectives
2. Identify barriers to relationship building
3. Catalogue different perceptions of relationships drivers between the stratified groups of construction actors in a purposive sample
4. Determine a suitable research strategy for the continuation of the thesis.

The first three of the four objectives are addressed below.

Objective one identified several notable aspects of RM as important to construction/ engineering. These included; the concepts of trustworthy behaviors leading to trust maintenance and commitment; the development of mutual goals together with early collaboration and the concept of adding value through intangible means. As can be seen in the foregoing summary the three variables of trust commitment and mutual goal development were intrinsically linked in the minds of the respondents in study two. The effort that the respondents put into developing mutual goals was greater than the benefit they perceived to obtain from the relationship. In other words they were prepared to put more in than they received from the arrangement. This action of preparedness to commit to a relationship more than

you expect to receive is a trust building/ maintaining behavior. The respondent's looked upon trust building more favorably upstream than downstream. It appeared that they were marginally more cautious with downstream relationships. One factor that may account for this was the strong association displayed between actuality and expectation of trust with the variable confidential information sharing. Thompson and Sanders (1998) provide several examples that relate to future conditions that are contrary to expectations of the relationship. Similarly it would be a significant *risk move* to share confidential information with a partner downstream in the relationship. Certainly it would involve more risk than the same circumstance with a partner upstream in the relationship. This follows Dwyer, Schurr and Oh (1987). In summary it was found that all the stratified groups of respondents had high expectations that their dealings with other stakeholders would be underpinned with trust.

Objective two was concerned with barriers to RM. Barriers to RM in construction were power struggles that invariably revolved around price and becoming locked into relationships that were not as expected. It is well documented in construction that there is a propensity toward price alone selection. However in study two the sample all understood that the various tender options available to them afforded varying degrees of value adding. Noteworthy were the design respondents who appeared to have a more traditional position with regard to this point recording a strong relationship between open tender as a method of tender selection and value adding.

Objective three was concerned with the different perceptions that construction actors have regarding others in the supply chain when considering RM. It would appear from the limited response in the focus study that there was some divergence in opinion from the three corners of the stratified group. To clarify this, investigation in study two established that respondents ascribe benefits to be either relationship based or transaction based. The preceding summary shows that the primary factor for contractors and clients are relationship based (product based); whilst in the alternative, design displayed their primary consideration to be transactional. In other words they are seemingly more concerned with process issues.

Analysis of the last two objectives shows that both contractors and clients have a propensity toward relationship based outcomes associated with a project whilst design were more focused upon transactional outcomes. The design group was

engineers, quantity surveyors and project managers (arguably several of whom are engineers by background). These respondents are more focused on the short term process objectives as opposed to the longer term project objectives in line with the other respondents.

Chapter 7 Study Three: Qualitative study

The previous chapters 4, 5 and 6 addressed the first two sets of research questions identified in Chapter 1. The focus study had established that relationships were important to construction and that traditional design bid build type procurement did not assist in relationship building or relationship maintenance. A quantitative study had been carried out, however to determine particular meaning in some areas in-depth qualitative data was required to validate particulars from the findings (King 1994). The purpose of this Chapter 7 is to present the development of a strategy to allow analysis of information arising from interviewing forty nine project managers using QSR N6 software applied to a semi structured survey instrument. This chapter provides details of the survey and how it was developed. Comment is provided as to sample validity, the method that was developed to construct the sample frame and finally discussion sets out the establishment of an appropriate sample and survey instrument.

As an overall outcome this chapter provides a discussion and evaluation of the methods used to undertake a qualitative survey to address the questions that were developed for the research. It provides the direction, theoretical framework and instruction for suitable analysis that is described in the subsequent chapter.

7.1 Introduction to Qualitative Study Three

The focus study in parallel with a continuation of the literature review developed grounded theory upon which a questionnaire survey was founded. This stage of the study together with the analysis of the data obtained from the questionnaire led to the third and final stage of the study. The final stage of the study was determined to be an in-depth analysis of the construction procurement method known as alliance contracting or alliancing.

Earlier research by Whiteley (2004a) identified several experts in the field of alliance projects that were suitable for the research. A process of snowball sampling was used to establish a comprehensive list of practitioners from Australia able to take part in a qualitative survey (Sarantakos 1993). The qualitative survey instrument was designed to evaluate relationship building and key variables that impact upon the relationship between the various stakeholders participating in an alliance project. The

industry stakeholders comprised; consulting engineers, consulting project managers, contractors, and client representatives. These industry practitioners were chosen because they were specifically representative of typical consortia associated with alliance projects. Demographically the stakeholders in this stage of the research matched those that participated in the earlier stages of the research. Particular care was taken in the selection of participants in this final stage of the research. Key infrastructure and *nation building* projects were selected as projects worthy of consideration. The projects included North Side Storage Tunnel, Sydney; Woodman Point (WA21), Perth; Wahroonga Dam, Queensland and National Museum of Australia, Canberra. Brief particulars of these projects may be found in Chapter 9 where analysis of the involved a mix of desk-top investigation and document analysis in line with Forster (1994). Fieldwork utilising interviews with the stakeholders identified above commenced with personnel selected from these projects. The scope of projects under investigation devolved to include other projects that are identified in Chapter 8. It should be noted that the unit of analysis associated with the case study projects is the participants themselves and not the projects (Yin 2003). In other words the focus on the data collection is on the individuals and how they are affected by the alliance setting (Patton 1990).

7.2 *Method Overview*

The steps in the design of the qualitative research interviews were found to be similar to the approach that was required in study one focus group meeting. Study one method followed Stewart and Shamdasani (1990). Adaptation to study one's methodology were made to meet the circumstances of this later study and additional advice was gleaned from King (1994). The revised steps in the design of study three are show in Figure 7-1 and Table 7-1. In Figure 7-1 each activity shown within an oblong shape in the figure is a primary activity. Each primary activity includes several varied secondary activities. The secondary activities are circled.

As an example define the research question/ problem definition is a primary activity and includes secondary activities such as a literature review for the purpose of becoming familiar with the area of research and identifying the proposed topic's relevance to construction. The literature review would also determine the importance

of the topic area and to check to see that the problem had not been addressed before in the same context.

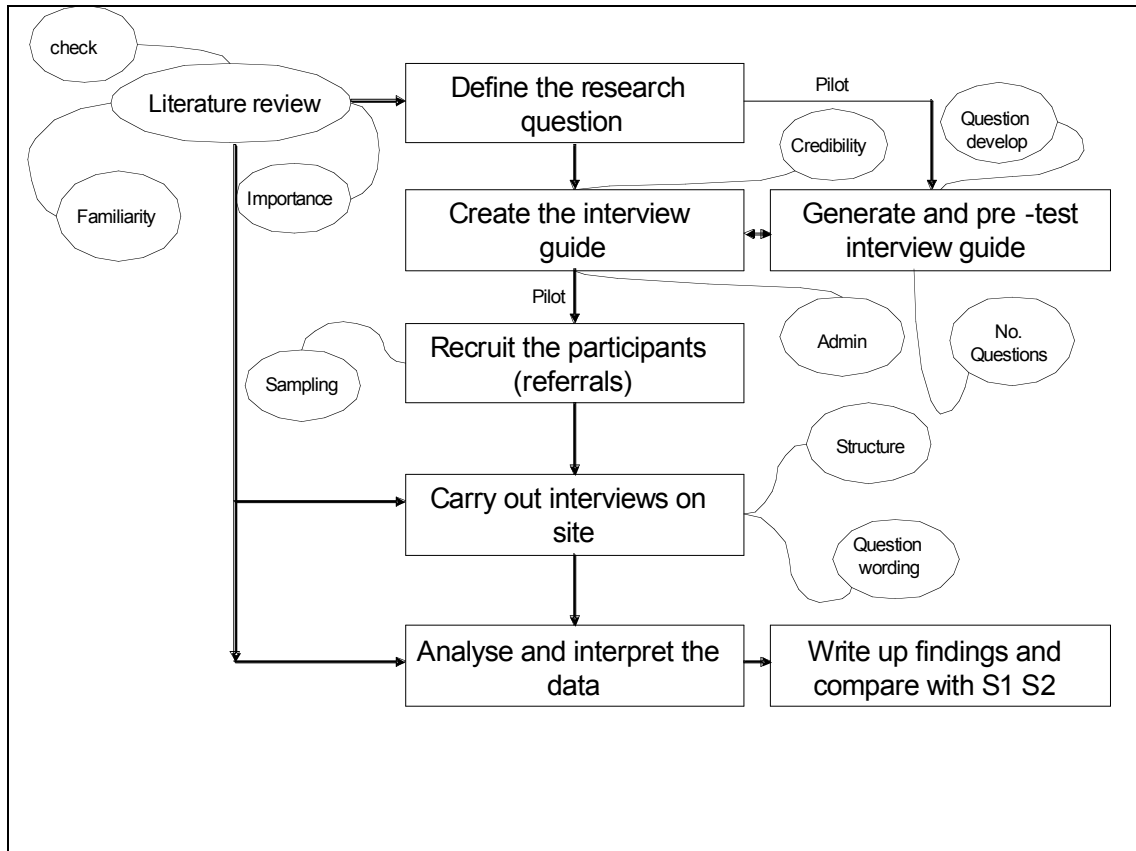


Figure 7-1 Steps in the construction of qualitative research interviews adapted from (Stewart & Shamdasani 1990; King 1994)

The following sections describe the process that concluded with a write up of the qualitative research interview findings and its relationship with studies one and two. The following sections follow King (1994) and are set out in Table 7-1.

Table 7-1 Steps carried out to write up the findings of Study Three, from (King 1994)

Problem definition or definition of the research question (7.3)	In this section there is a discussion concerning the earlier studies one and two and their use to develop the in depth/ applied focus of the research program appropriate to this stage.
Create the interview guide (7.4)	The interview guide is discussed together with justification of the process of the interview.
Recruit the participants (7.6)	Sample selection is identified in this section and the credibility of the participants is justified. Several preliminary administrative components of the sample design are discussed.
Interview process (7.7)	In this section the actual method of carrying out the interviews is discussed together with a discussion concerning the participant's involvement, how recording and observation were undertaken.
Analyse the data (7.8)	This section considers the approach that was taken by the researcher to analyse the raw data that was an outcome of the interviews.
Write up findings/ discussion (Chapter 8)	The discussion section focuses key aspects that were found using the data reduction techniques chosen for this stage of the research. The issues are described in Chapter 8.
Conclusion (Chapter 8)	Finalises study three and leads into overall outcome described in Chapter 10. This section includes some insight into general deficiencies in analysis.

7.3 Problem Definition

Barriers to RM in construction were noted in study one to revolve around power struggles associated with price alone selection. The price focus forced construction actors to become locked into relationships that were not as expected. A key to RM was identified as Relationship Development (RD). Overall relationships are described as evolving, incrementally redefined strategies that change the context in which people in organisations act. RD is an iterative and evolutionary learning process. Significant variables in relationship development are experience; uncertainty, adaptations, commitment and distance (Ford 1982). These variables appear to some degree in all relationship development phases.

Whilst the above studies identified perceptions of relationship drivers from the perspectives of a stratified sample drawn from the construction industry they failed to identify how the particular phenomenon developed. A quantitative study two had been carried out, and qualitative data was required to validate particular meaning of the findings (King 1994). The particular meaning was to follow research on Alliance projects. Issues of concern included the principle factors that influenced selection of

particular partners to an alliance. The focus study one had established that relationships were important to construction and that traditional design bid build type procurement did not assist in relationship building or relationship maintenance. A study of several definitions of alliance arrangements identified several key concepts that differentiate it from traditional procurement thinking; alliance arrangements were described as frequently legally informal; transcending typical contracts, and transforming relationships in a contractual and behavioural sense (Baker 1996; Construction Industry Institute Australia 1996; Schultzel & Unruh 1996; Larson & Drexler 1997). These points lead to the following questions;

1. What principle factors influenced selection of particular partners to an alliance?
2. What processes and/ or interactions allow relationships to become forged in alliance projects?

The third survey comprised semi-structured interviews as suggested by Kumar (1996), Oppenheim (1992) and Patton (1990). This was in line with the research methodology and was proposed to gain deep knowledge and spontaneity from the respondents. A qualitative research interview was deemed to be appropriate following the work of King (1994) and Oppenheim (1992). King provides a list that suggests a qualitative research interview is appropriate in the following circumstances;

1. Where the study focuses on the meaning of a particular phenomena to the participants
2. Where individual perceptions of processes within a social unit are to be studied prospectively
3. Where accounts of how a particular phenomenon developed
4. Where a quantitative study has been carried out, and qualitative data are required to validate particular meaning of the findings

(King 1994)

It was anticipated that in a number of the interviews it would be necessary for the researcher to probe the respondent to gain more in-depth data, or clarification of an answer. This approach is supported by Sarantakos (1993). The interview schedule possessed only open-ended questions following the qualitative or phenomenological

approach set out in Chapter 3 and discussed in Chapter 4 following Collis and Hussey (2003), Cassell and Symon (1994) and Sarantakos (1993). This allowed greater depths of information to be obtained from the respondents.

7.4 Question Development

Interviews were to be held with project managers who were/ are involved in the establishment of specific project alliances. The specific alliances were drawn from a judgemental/ purposive sample. The interviews would be of an informal nature, semi-structured and would focus on a series of questions that were derived from several papers that have been published to date as part of the researchers approach to this thesis. The specific papers are noted in the preambles to this thesis document. The interview questions were also derived with cognisance of the preceding focus group survey, together with the more recent quantitative survey undertaken by the researcher.

The questionnaire was designed to extract information about relationships that respondents' have with their associates in the forming of an alliance. As noted below, only open-ended format questions were used in the interview. The questionnaire instrument had five sections. The list of sections below identifies the main grouping questions. Subsequently an outline of the question's scope and rational is provided;

1. Background
2. Establishment of the Alliance
3. Relationship Building
4. Alliance Performance Measures
5. Ongoing Management of the Alliance

7.4.1 Background

General information was to be sought about the respondent its organisation, its industry operations, past alliances worked on and approaches to Relationship style/ alliance contracting.

The purpose of this section was to put the respondents in the context of the research. The literature had identified that alliance projects develop relationships and *game breaking* (a term coined by Hutchinson and Gallagher (2003)) results by using

best for project attributes arising from committed teams working toward common and mutually aligned goals. The researcher was aware that there were three stratified groups typically involved with alliance projects comprising; contractors, client, and design (for example quantity surveyor, engineer). These represented the client and non client participants in a typical alliance project. In both studies one and two the groups of respondents had been similar. This design was to ensure consistency throughout the entire research project. In study one a specific sample had been sought with the use of a judgemental/ purposive sample, this had been expanded upon in study two where the random sample was finally established as including proportionally equal numbers of client, contractor and design representatives. It was anticipated that the final sample in study three would be consistent with study two using a proportionally equal sample. This would produce reliability and enable triangulation in the complete study.

The sample selected for stage three was designed to be representative of Australia including New Zealand. As discussed in 7.6 the sample was determined using referral/ snowball techniques. This approach presented some difficulties following the predetermined design structure of the sample. This and other difficulties are outlined in 7.10.

The credibility of the respondents and their suitability for inclusion in the research was important. Purposive sampling was used to obtain the initial sample in liaison with a research colleague. Discussion in this section was to provide an insight into past alliance projects that interviewees had been a party to. As an introduction/ icebreaker to the semi-structured interview an opportunity was afforded to the respondents to give a brief overview of their approaches to relationship style/ alliance contracting. Following the overview the interviewer would introduce the research question and outline the work undertaken thus far. It was decided in the development phase of the survey instrument that clarification would be sought from both parties regarding the ongoing questioning at this juncture. The interviewer and interviewee would decide the suitability of continuing at this point. If it was mutually agreed that the interviewee was not suitable then further referral would be sought and the interview terminated. If the appropriate person had been found through earlier referral then the interview would continue as planned. This was designed into the questionnaire to avoid wasting time of the interviewee and maximise the scope of the

interviews. In the event all the interviews proceeded with only one being limited to some degree in recognition of the foregoing comments.

7.4.2 *Establishment of the Alliance*

In this section of questioning five issues were focussed upon. The first asked what type of alliance the respondent would be referring to. The purpose was to add additional context to the discussion and give the interviewee the opportunity to provide actual examples. The examples were predicted to include actions or circumstances that had occurred on an actual project. It was anticipated that many of the interviewees would have worked on several alliance projects; in this instance it would be appropriate for them to provide some priority and clarification.

The second part of this section asked the interviewee to indicate, from their individual perspective, what main steps or stages were undertaken to establish an alliance. It had been observed in the literature that a comprehensive but relatively standard model of alliance establishment had evolved over recent time (KPMG Legal 1998; Ross 2003; Walker & Hampson 2003d; Hutchinson 2004). There were some departures from this model in several key areas that revolved around value for money determination and issues of when to establishing the target outturn cost. For example writers suggest relationships remain intact if parties are continually satisfied, receiving added value (Patterson, Johnson & Spreng 1997). The purpose was to discover the impact that these and other key issues had on the development of relationships and relationship maintenance throughout the alliance participants. Following this point two questions were proposed;

1. What stages or aspects of the alliance establishment were easy to manage and what stages/ aspects were hard to manage?
2. What was your perception of the potential benefits and shortcomings associated with the alliance establishment process?

These questions were proposed with the knowledge from the literature - that throughout the relationship-building phase of an alliance project there are considerable tensions. These tensions may be due to the arrangement that alliances hope to create and the diametrically opposed pressures of competition and relationship building. For example Das and Teng (1998a) and Allen (1995) propose that an alliance has a specific aim to reduce costs whilst at the same time increase profits. The

final question in this section asked if the interviewee and their organisation have any previous experience with other organisations involved in the alliance. Extant relationship models propose that development of relationships is time dependant and relies on mutual history and power bases. Alternative models indicate that relationships can evolve more quickly and occur through third party referral rather than first hand interaction. For example Jones and George (1998) considers the evolution of trust in an organisational sense and describes its implications on cooperation and teamwork. In a similar way McKnight, Cummings and Chervany (1998) researched the formation of trust in new organisational relationships. Discussions of this nature enable comparisons to be made between construction relationships and those from non-project industry quarters more interested in relationship marketing. The line of questions would endeavour to evaluate this in a construction context.

7.4.3 Relationship building

This was perceived to be the most important section of the semi-structured interview. In this section of questioning three issues were focussed upon.

The first asked what principle factors influenced selection of particular partners to an alliance. The focus study one had established that relationships were important to construction and that traditional design bid build type procurement did not assist in relationship building or relationship maintenance. A study of several definitions of alliance arrangements identified several key concepts that differentiate it from traditional procurement thinking; alliance arrangements were described as frequently legally informal; transcending typical contracts, and transforming relationships in a contractual and behavioural sense (Baker 1996; Construction Industry Institute Australia 1996; Schultzel & Unruh 1996; Larson & Drexler 1997). They are said to provide synergy through a collaborative, cooperative management effort (American Arbitration Association, quoted in (Stephenson 1996). Following this, study two survey endeavoured to establish the propensity of the respondents to foster relationships upstream and downstream in the construction/ engineering supply chain. It was found that collectively the respondents in study two were more inclined to foster upstream relationship than downstream. Importantly the respondents in study two differentiated between process outcomes and product outcomes as they relate to success for the project stakeholders. The list of variables that generated the factors

from the respondents perspective were based on documented underlying themes (Wilson & Mummalaneni 1986; Connor & Davidson 1990; Han, Wilson & Dant 1993; Kubal 1994; Zeithaml & Bitner 1996; Hennig-Thurau & Klee 1997; Gwinner, Gremler & Bitner 1998). For example Wilson (1995) provides a set of relationship variables established from earlier theoretical research, the writers indicate that the list is not exhaustive suggesting one might add or delete from the list to capture a relationship situation.

Relationship building was found in the literature to be dependent on intangible variables, for example trust, commitment and mutual goals. The anticipated focus of responses to this section of questioning was expected to follow the thrust of many writers that discuss these variables. See for example; Gordon (1998) who noted the advantages of creating value with clients, not just for them; together with a comparison from several authors who indicated a different focus outcome from transaction marketing as compared to RM (Christopher, Payne & Ballantyne 1991; Nickels & Wood 1997). The key issues gleaned from these writers pertinent to RM were, inter alia additional, value to the client arising from service, commitment and contact; the time scale and the team focus on quality; freeing up time for innovation, value-adding and overall mutual goal attainment are identified by Dorsch, Swanson and Kelley (1998); others suggest relationships remain intact if the parties are continually satisfied, receiving added value (Patterson, Johnson & Spreng 1997).

The second issue followed similar lines of thought to the above in this section. It asked the interviewees how they established credibility of their alliance partners. The purpose of the questioning was to establish a link, or otherwise, between the stakeholder's developing intangible selection criteria that would enable them to satisfy their own perception of value for money. Following this were they able to evaluate/ rank the selection criteria that they had created. The end result would enable an accountable and auditable decision document trail.

The third section recognised industry practice in the development of alliance relationships with the extensive use of inter-organisational workshops. These workshops are widely discussed in the literature and seeming follow a tested model (KPMG Legal 1998; Ross 2003; Walker & Hampson 2003d; Hutchinson 2004). The researcher was interested to know how the relationship with the partners developed in the interview, 2-day workshop and commercial workshop that are typically part of the

selection process. As in the earlier questions of this section variables of trust, commitment and goal attainment were anticipated to come to the fore. These would be balanced against models generated in the literature review phase following work of the likes of (Wilson & Mummalaneni 1986; Wilson 1995; Ford 1998; Donaldson & O'Toole 2001).

Overall the literature had shown that partners in an alliance have a *win-win* outlook and work toward common goals (Kubal 1994; Tomer 1998). This attitude is resolved through mutual commitment, equity, trust, common goals and objectives and supportive communication behaviours (Hampson & Kwok 1997). Another primary incentive for participants is the possibility of gaining enhanced rewards. Fair allocation of risk and rewards within the alliance provides motivation (KPMG Legal 1998). Risks are jointly identified and prime responsibility for their management assigned, no partner is expected to expose themselves to outcomes that could jeopardise their commercial existence (Scott 1993; Fellows 1998). Performance indicators are agreed and there is an open book approach to costs (KPMG Legal 1998). Other attributes of alliance success hinge on several variables that include; trust, cooperative rather than adversarial relations, collaboration rather than competition, problem solving and innovation rather than sanctions/ contractual penalties (Boyd & Browning 1998).

7.4.4 *Alliance performance measures*

In this section of questioning three issues were focussed upon that concerned relationship maintenance. The first asked the interviewees to consider that once the alliance was established, what processes and procedures were put in place to evaluate the ongoing relationship between the parties.

This was followed with a scenario that assumed some Business as Usual (BAU) behaviours contrary to the alliance objectives creeping into the relationship. The interviewees were questioned about the procedures put in place to mitigate conflicting behaviours between the alliance partners.

Finally a question was asked that required the interviewees to ponder on success in their alliance ventures. It asked them how they measured ongoing success of the alliance. The question asked if they measured final success of the project

against the original alliance objectives and if there was any comparison made with BAU expectations or outcomes.

Thus participating organisations are not permitted to *sink* or *swim* as their profit contributions are placed at risk to be realised upon meeting agreed key performance measures (Walker, Hampson & Peters 2000). Change is managed and disruption accounted for in the earliest stages of the project life cycle (PLC) (Kubal 1994; Allen 1995; Pascale & Sanders 1997).

7.4.5 *Ongoing management of the alliance*

The final section of questions asked the respondents to consider interaction within the alliance partnership. Interaction within the alliance stakeholder group was found to be a key point in relationship development and maintenance. A question was asked that sought to determine if in the interviewee's experience interaction had been present to an extensive degree, in other words - how did interaction take place between the alliance partners. Asking interviewees to reflect on BAU projects and make a direct comparison with their recent alliance experience followed this question.

A close out question to this section asked interviewees to suggest in comparison with BAU projects which aspects of the alliance were difficult to manage and control. This question was designed to ensure that all aspects of the research were covered and give the interviewee the opportunity to raise additional issues as they saw fit.

7.4.6 *Business as Usual (BAU) definition*

Finally, as a closing question the respondents were asked to provide a definition of the term, Business as Usual. It was presumed that the interviewees would use the expression extensively in their conversations with the interviewer. Throughout the literature phase of the thesis the researcher had come across the expression on numerous occasions in differing contexts. To date the researcher has been unable to find an appropriate definition that differentiated relationship contracting from traditional contracting; definitions provided by the interviewees would enable this aspect of the research into the context of alliance projects and relationship marketing.

From the above discussion it may be seen that successful alliances are not based on low-bid tendering (KPMG Legal 1998). They are based on *soft-dollar* factors that include; the ability to work cooperatively within an agreed framework, a

preparedness to do business, implicit trust, a willingness to be *open book* on costs and readiness to risk profit. An understanding of project culture is imperative (KPMG Legal 1998; Thompson & Sanders 1998).

7.5 *Study Three Interview Guide*

Interviews were used as both a primary and a secondary source of data. In the first instance they were used to determine those variables that influenced the relationship building and maintenance that occurred in alliance projects. In the second instance interviews were used to confirm the data gathered in the literature review and the subsequent desk research on the case study projects that were initially targeted for this stage of the investigation. Several writers explain the similarity between semi-structured interviews and focus groups that were used in the first study carried out as part of this thesis (Sarantakos 1993; Collis & Hussey 2003).

Interviews are characterised by verbal questioning as their main means of gathering data (Sarantakos 1993). Participants are asked questions about what they do think or feel (Collis & Hussey 2003). Kumar (1996) indicated that interviews are a part of everyday life but when used in social research the way that the instrument is prepared, constructed and delivered has an impact on the outcome of the research in several ways (Sarantakos 1993). The underlying methodological design has a bearing on the type of interview, although it is suggested that interviews are used with both positivist and phenomenological methodologies (Sarantakos 1993; Collis & Hussey 2003). Quantitative (positivist) surveys are predominantly structured in design and delivery, whilst qualitative (phenomenological) surveys have a tendency toward non-structured forms of interviewing. Generally speaking the use of interviews affords the researcher the opportunity to probe deeply into a concept discovering clues and elaborate on problems that may be simply based initially on personal experiences. Sarantakos (1993) provides a comprehensive list of interviews that are employed in both qualitative or quantitative research. These interviews vary in terms of composition and structural design, in administrator, in the type of media that is employed to deliver them and in their epistemological purpose. Qualitative interviews are said to be similar, however there are variations in length intensity, order and type of questions and the level of interviewee participation (Sarantakos 1993).

7.5.1 *The survey instrument*

The survey instrument was developed from the literature review. Its design was based on the literature sourced. The intention was to carry out semi-structured interviews and survey the alliance participants in a manner that determined their general understanding of relationship marketing as applied to their profession and continues to delve more deeply into specific issues that had been determined from the earlier stages of the research and the ongoing literature review research. This technique is described by Sarantakos (1993) as a “Funnel sequence”. The questionnaire was designed to follow the industry-recognised flow of the project life cycle. The initial questions that sought straight-forward demographics were discussed as a means of introduction; these questions were then followed with focussed sections that were set out in Section 7.4. Despite the fact that the interviews followed a semi-structured format, a strict protocol was determined for the creation of the questionnaire.

The questionnaire was formulated in accordance with the aims and objectives of the thesis. The aims and objectives were originally determined in study one in liaison with a focus group panel of thirteen industry respondents selected as part of a purposive sample frame. Several research questions were determined from the earlier study and indicated that an investigation of alliance projects would likely provide the answers. Many of the questions were designed in accordance with study two findings and a continuing literature review on relationship marketing as it is understood in non-project industries. The questionnaire as administered asked respondents to think about alliance delivery and the relationship building and maintenance that happened in the earliest stages of the alliance procurement approach.

7.6 *Participant (Sample) Selection*

The industry stakeholders comprised; consulting engineers, consulting project managers, contractors, and client representatives. These industry practitioners were chosen because they were specifically representative of typical consortia associated with alliance projects. In the same way as study one, the sample for this study may be described as purposive or judgemental in as much as the respondents were selected particularly for the study due to their suitability; intrinsic knowledge and expertise in the field of examination (Sarantakos 1993; Creswell 1994; Kumar 1996).

Purposive sampling does not fall under the auspices of probability sampling, it is described as non-probability sampling (Robson 1993). Probability sampling employs strict rules regarding selection and affords high degrees of “Representativeness” in the outcome (Sarantakos 1993). The probability of selecting each respondent is known making it possible to generalise the result back to the population (Robson 1993; Burns 2000). Whereas non-probability sampling makes “No claim for representativeness” and it is possible to specify that any person will be included in the sample (Robson 1993; Sarantakos 1993). Robson (1993) does however assert that it is feasible to say something sensible about the population from non-probability samples, although no statistical inference may be possible.

The focus of the procurement method under investigation in this study together with the fact that the topic was relatively new indicated that the judgement of the investigator was paramount. In other words it was decided that the target sample was more important to satisfy the needs of the study than that of obtaining a random sample (Robson 1993). The random sample, to the detriment of the research, may have lacked understanding and experience with regard to alliance projects (Sarantakos 1993). Particular care was taken in the selection of participants in this final stage of the research.

In addition to the purposive nature of the initial sample a further sampling technique was used known as snowball or network sampling (Robson 1993; Sarantakos 1993; Burns 2000). Fundamentally snowball sampling was used as a sampling frame was difficult to establish (Robson 1993). Difficulty in establishing the sampling frame was due to the nature of the research question that revolved around a specific aspect of construction procurement.

Snowball sampling is a process where initial individuals of interest are identified and subsequently interviewed. After the interview they are used as informants to identify other members of the population (Robson 1993). In other words they are used as a network from which to gain access to other experts known to them (Burns 2000).

In study three several potential respondents were identified from Masters research work undertaken with Whiteley (2004a) and a database of suitable respondents was established in association with Whiteley at subsequent meetings. The

validity of the Whiteley sample had previously been established through the veracity and the technical competence of responses to previous surveys undertaken in the presence of this researcher (Whiteley 2004a).

In addition the researcher contacted a statutory authority that was currently undertaking a capital investment program of about 4 to 5 million dollars a year and an operation and maintenance budget of around 200 to 250 million. The authority operates alliance projects ranging from routine maintenance through to very large innovative and complex projects. The authority, through a rigorous pre-qualification process had categorised project managers that they considered demonstrate depth of knowledge and experience in core project management knowledge areas including;

- Project management processes
- Project management practice
- Project management knowledge and skills
- Competence in managing projects
- Inter-personal and communication skills

Through cross-referencing the names that came from the two preceding activities, a notional list of suitable respondents was identified. A pilot interview was undertaken with Whiteley and was followed by interviews with the primary listed respondents. Individual interviews were undertaken with the sample and snowball referral was carried out until saturation was achieved (Sarantakos 1993). Saturation was achieved when no substantially new information was forthcoming from respondents, despite the fact that several of the identified sample had not been interviewed (Sarantakos 1993).

Demographically the stakeholders in stage three of the research were designed to match those that participated in the earlier stage one and stage two of the research. In an alliance the participants may be distinguished initially in three groupings; client, contractor and design. The three groups fall into two categories; client and non-client stakeholders. The non-client stakeholders encompass the contractor and design stakeholders. The respondents were to be sourced equally from the groupings and each category was to be balanced as far a practical.

The interviews varied in length, the shortest was fifteen minutes with the longest just over one hour. In general they lasted for approximately forty minutes. Interviews were conducted on a one-to-one basis, and were cordial affairs designed to stimulate conversation and breakdown any barriers that may have existed between the interviewer and interviewee. The interviewee was allowed to talk freely without interruption or intervention, to deliver a clear picture of their perspective. Despite the structure of the survey instrument that the researcher had created for the interviews, it was found that to some degree the interviews followed their own course.

Interviews were conducted mainly in a respondent's head office and occasionally site offices were used. Many of the interviewees were interstate of the researchers home base Perth. The interstate interviews were all carried out over the phone at predetermined times to suit interviewees.

In attempting to clarify the respondent's answers the researcher was careful not to introduce ideas that would form part of the respondent's subsequent answer. Furthermore, the researcher was mindful of the feedback respondents gained from their verbal and non-verbal responses. Thus, the researcher avoided giving overt signals such as smiling and nodding approvingly when a respondent answered a question.

The questionnaire was designed as a document with a professional look and feel as it was anticipated that on occasions the interviewee might require to view it. The document was complete with an introductory statement that was read out aloud to the interviewees to ensure consistency in the samples' understanding. Each question was read aloud as the interviewer progressed through the interview session. A particular point was made as the interviewee reached the end of each section and moved on to the following section. In the event that the interviewee had covered the points that would arise from a subsequent question, the question was still read out verbatim to ensure that no issues were overlooked. This was also useful to the transcribers and helped them to determine the point that had been reached in the interview. For each interview an expanded form of the survey document was tabled. The expanded document had each separate question as a header to one page with ample room for note taking in the event that digital recording was not permitted.

A letter of introduction to the research was created and forwarded to the original sample. The snowball samples were generally contacted via email or phone upon receipt of their contact details and were sent the letter upon confirmation of their interest and availability to help in the research.

Another aspect of interviewing is concerned with the requirement of digitally recording the interview. Audio recording interviews can encourage fluency. They allow the interviewer to pay close attention to what is being said, whilst retaining direct quotation for reporting, and preserving the flavour of tone and hesitancy for analysis. Following Collis and Hussey (2003) the interviewer was careful to offer to turn off the recorder if it was perceived that confidential or sensitive information was seemingly discussed at which time the interviewer proceeded with note-taking. It was found that only on one occasion the respondent refused the interviewer request that the interview be recorded. In this instance comprehensive note taking was used as to record the interview and the period of the interview was considerably extended. When recording was permitted the researcher took limited notes of specific points of interest or as a prompt to gently redirect the interviewee if they lost their train of thought.

7.7 Interview Process

Sarantakos (1993) indicated that qualitative interviews should generally use open ended questions addressed to one person at a time with a loose and flexible structure. The questions should offer freedom to the interviewer in their presentation of the various questions, order and inclusion. Finally it is suggested that the interview may be adjusted so that it meets the goals of the study. Concentrating on aspects of methodology Lamnek (1988) highlights several elements of qualitative interviewing that include concentration on a research object that is principally a study on everyday life; using respondents that are experts in a particular field rather than simply a source of data. Other elements are their association with the grounded theory and the fact that the respondents, who are active and stimulated, determine the course and structure of the interview.

In light of the previous discussion it is apparent that there is a multitude of options for research questioning. The choice comes down to scope, depth and the nature of the investigation (Kumar 1996; Fellows & Liu 1997).

Leedy and Ormond (2001) highlight several purposes for qualitative research studies. They indicate that they enable the researcher “To gain an insight about the nature of a particular phenomenon and develop new concepts and theoretical perspectives of it”. (Leedy & Ormond 2001).

Accordingly it was deemed appropriate that semi-structured interviews would be an effective way to clarify questions that had arisen from the earlier stages of the thesis. Interviews gather information relating to feelings and opinions in a non-threatening environment (Hussey & Hussey 1997; Krueger & Casey 2000). In interviews an interviewer provides a stimulus through carefully worded questions. The interviewees, who are selected for their familiarity with the situation, are provided with relative freedom to discuss the issues (Sarantakos 1993; Hall & Hall 1996).

7.7.1 Digital recording

As indicated above, all of the interviews apart from one were digitally recorded using an ipod™ digital recording instrument with the express consent of the interviewee. The digital device had ample memory capacity to store several interviews that occasionally happened on a single day. The data files were transferred to a desktop computer and burnt to a CD for archive and backup. Several persons were employed to transcribe the interviews. It was found that each average forty-minute interview took the transcribers approximately three hours to convert to a verbatim word document suitable for review and manipulation for importation into QSR N6, a software program designed to enable reduction of data arising from qualitative interviews. Once returned to the researcher the transcripts were checked for accuracy by listening to the recorded interview and at the same time reading the transcript. At this point any errors were corrected and the transcripts were then converted to a format suitable for importation into QSR N6. Once the files have been imported into QSR N6 as raw files they were coded initially in the sequence that the question framework dictated. The interview instrument sections and purpose of the questions are set out in Section 7.4.

7.8 *Analysis of Study Three Data*

Primarily the researcher’s task in analysing the interview data is to reduce subjectivity and provide assurance of accuracy in interpretation of the data. The

interviews were used to corroborate outcomes of the earlier quantitative survey (King 1994). A four step process was devised that may be viewed with reference to Figure 7-2. Each of the four steps included a number of interrelated stages that enabled the researcher to understand the complexity of the relatively unstructured raw data that had been gleaned from the interviews.

Several writers have attempted to catalogue the types of qualitative data analysis available (Robson 1993; Sarantakos 1993; Creswell 1994). In doing so they have noted that there are few clear conventions for the analysis of such data (Collis & Hussey 2003). Robson (1993) and others, for example, Sarantakos (1993), draw on the work of Tesch (1990) indicating that forty six categories of qualitative research may be condensed to four basic groupings that progressively enhance the analysts understanding. The four stage analytical typology considers; the characteristics of language used in the conversations; the discovery of irregularities in the grouped transcripts; the comprehension of the meaning of the text, and some reflection upon its holistic content. This methodology is similar to Collis and Hussey (2003) who capture the elements of various writers and conceptualise them within several headings of understanding; where preliminary tentative analysis is carried out with the researcher looking for new discoveries in the data and finding initial thoughts; synthesising/ data reduction where coding and drawing together different themes provides a general explanation of what is happening. The third stage encapsulates theorising and explanation. Here the researcher finds explanations for the actions of the interviewees, finally reconceptualising where the researcher applies generalisable theory to other settings and populations. Theories are then revisited to investigate new linkages or models.

The above works may be summarised with reference to Figure 7-2 using a simple four step process described by Lamnek (1988). The four steps may be categorised as transcription, individual analysis, generalisation, and lastly control. Each of the four steps is described below.

7.8.1 Transcription

The first step in the analysis process was to transcribe each interview. Research assistants were employed to transcribe the interviews from the saved audio data files. Care was taken in the transcription of the audiotape and several checks were carried out to ensure accuracy. It was found on occasions that voices were

inaudible and it was difficult to discern the comment being made. The researcher foresaw this eventuality and throughout each interview points of clarification were made that subsequently allowed reasonable judgement of the content to be made. The moderator was also careful to identify particular points in time throughout each interview for the *benefit of the tape* to make the transcription a more straight forward task. Hand written notes made by the interviewer also assisted in the transcription process. Stewart and Shamdasani (1990) note that occasionally there is the tendency by a researcher to attempt to complete unfinished sentences in the final transcript. These unfinished sentences naturally occur in the process of interviews where participants collect their thoughts. In the interviews that are the subject of study three this happened on several occasions, however there was always sufficient clarification and probing to overcome non-particular problems.

The first stage of the analysis commenced with a review of the transcripts. Once returned to the researcher the transcripts were checked for accuracy by listening to the recorded interview and at the same time reading the transcript. At this point any errors were corrected and the transcripts were then converted to a format suitable for importation into QSR N6.

Once the files had been imported into QSR N6 as raw files they were coded initially in the sequence that the question framework dictated.

7.8.2 *Individual analysis*

A summary of the different approaches considered for individual analysis may be reviewed in Chapter 4. A different typology more closely linked to the methods of analysis used in this study are referred to as a template approach and editing approach (Robson 1993). Robson lists some common features of qualitative data analysis noting that while the possible approaches to analysis are very diverse, there are recurring features. They are described as classic analytical moves;

- Giving codes to the initial set of materials obtained from observation, interviews, documentary analysis, etc;
- Adding comments, reflections, etc (commonly referred to as 'memos')
- Going through the materials trying to identify similar phrases, patterns, themes, relationships, sequences, differences between sub-groups, etc;

taking these patterns, themes, etc out to the field to help focus the next wave of data collection

- Gradually elaborating a small set of generalizations that cover the consistencies you discern in the data
- Linking these generalizations to a formalised body of knowledge in the form of constructs or theories. Robson (1993)

A further method that is referred to as a “Quasi-statistical” approach relying on converting qualitative data into a quantitative format is known as *content analysis* (Stewart & Shamdasani 1990; Robson 1993). Content analysis has a long history in social sciences. Essentially content analysis is a process of reducing text to numeric variables by various means to match predetermined coding units constructed by the researcher (Collis & Hussey 2003). Content analysis may be readily adapted to qualitative interviews (Robson 1993). Many of the attributes of content analysis are presented in the analysis used for the third stage of the research. For example using QSR N6 the researcher decided on a sampling strategy, defined a recording unit, constructed categories for analysis, tested the coding on samples and finally carried out the analysis (Robson 1993). Whilst this study is similar in its methodology to study one described in Chapter 4 a more comprehensive approach was devised for this later study.

Kolb uses the term “Learning cycle” to describe an unstructured method for analysing qualitative data (Maylor & Blackmon 2005). The iterative process advises that the researcher follow guidelines that initially suggest one should reflect on the content of transcripts in the light of personal experience. Following this *concrete* experience the researcher is asked to consider the second stage - reflective observation. Reflective observation involves three separate activities; familiarisation or after a long period of time, re-familiarisation; *reflection* on what is happening in the data and finally; reordering or summarising the data to reflect observed patterns. The next stage is referred to as *abstract conceptualisation*, a task that involves extracting concepts from the data and using them as a descriptor to summarise patterns of words that ordinarily may be difficult to describe. As an example in study three many of the respondents found it difficult to explain in their terms the fundamental reason for accepting a certain alliance consortium at the end of the two-day workshop. The researcher identified the concept as *game breaking selection* following Hutchinson

and Gallagher (2003) who use the term to describe some of the innovation that is often inherent in the alliance implementation. The final stage of Kolb's learning cycle involves *active experimentation* with the emerging concepts to determine if it fits with models and issues from the literature. The loop of the learning cycle is closed when it is determined if the outcome fits with the original *concrete* experience established in the first instance.

From the above it may be seen that two approaches to individual analysis were used, the first following study one was relatively unstructured. Using grounded theory as a method of analysing qualitative data three forms of coding were used (Sarantakos 1993; Creswell 1994; Collis & Hussey 2003). The three forms incrementally increase the ground material and elements of theory building. Initially open coding was used to identify simple topic themes that appeared from the interviews. This enabled the transcript to be condensed and preliminary concepts determined (Sarantakos 1993). Further coding was undertaken in the generalisation phase.

The second approach that was used in the individual analysis was more structured and used the process of content analysis that has been outlined above in parallel with the rigour of the predetermined semi-structured questionnaire (Robson 1993; Collis & Hussey 2003).

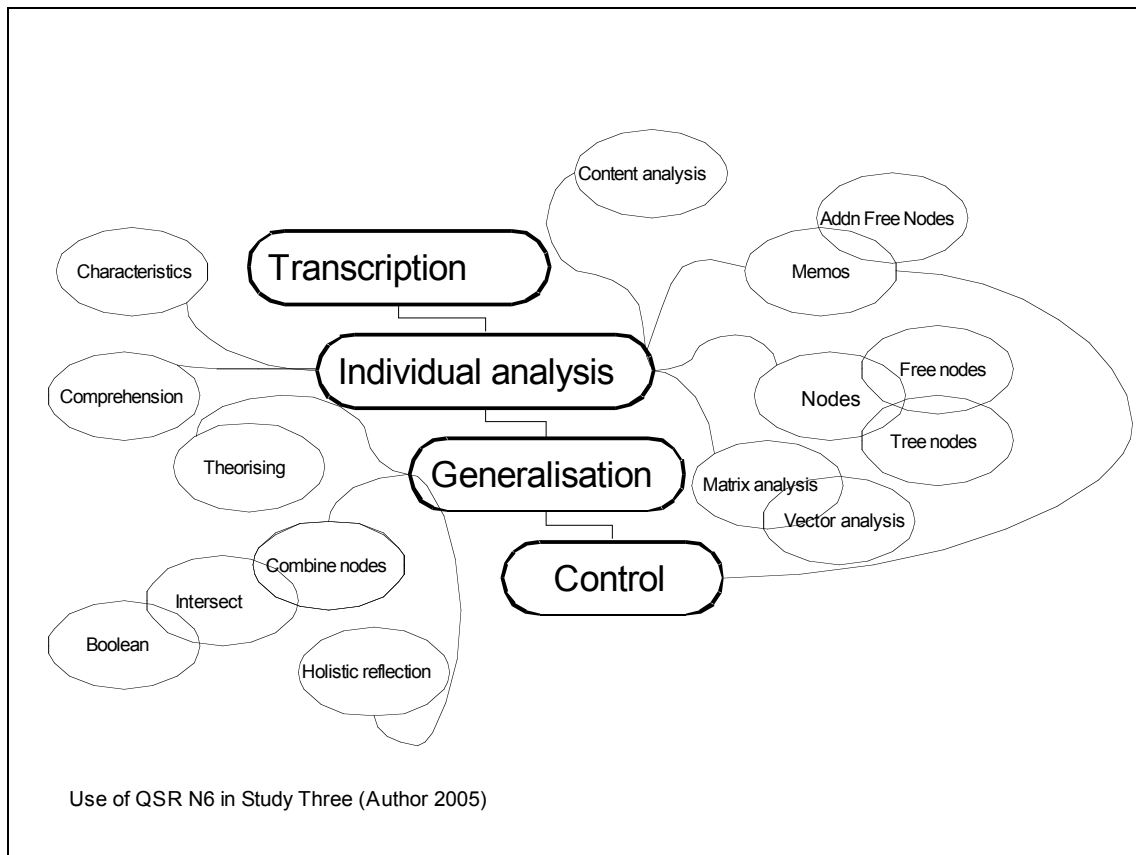


Figure 7-2 Four step process analysis of qualitative data adapted from (Lamnek 1988)

According to Maylor and Blackmon (2005) this process allows scrutiny of pre-existing concepts and at the same time identifies evidence that differs from what other researchers have previously found.

7.8.3 Generalisation

The final structure of the analysis was determined by using more complex coding that is described as axial and selective coding (Sarantakos 1993; Collis & Hussey 2003). These two types of high level coding are more abstract than open coding and arise from the researcher attempting to find interrelationships, causes and consequences coming from the raw data of the transcript. Using QSR N6 this was achieved by searching and comparing *nodes* (nodes are ideas or initial thoughts about the data). Boolean searches enabled intersection and overlap comparisons. The comparisons brought together the raw data combined within several nodes. A diagrammatic representation of this may be seen in Figure 7-3. In general terms this activity may be referred to as reduction and interpretation (Sarantakos 1993); or de-

contextualising and re-contextualising (Tesch 1990). The outcome is a higher level analysis of the raw data and an understanding of a larger more consolidated picture.

The particular relevance of the two processes described above in Sections 7.8.2 and 7.8.3 is that it would enable the researcher to identify any differences between the general findings of study two and study three and formulate propositions with regard to a more specific model of relationship development and maintenance. The final step is control.

7.8.4 Control

The general structure of individual analysis may be seen in Figure 7-3. The matrix that best describes the analytic structure can be seen to include a hierarchy created with the Index system or node explorer of QSR N6. Memos that can be subsequently re-categorised as additional nodes were used as control points as part of the review process. They were initiated to ensure that trends in the data once established were constantly amended/ verified or scrutinised. Points of conjecture were also noted for analysis using the memo and report functions in QSR N6.

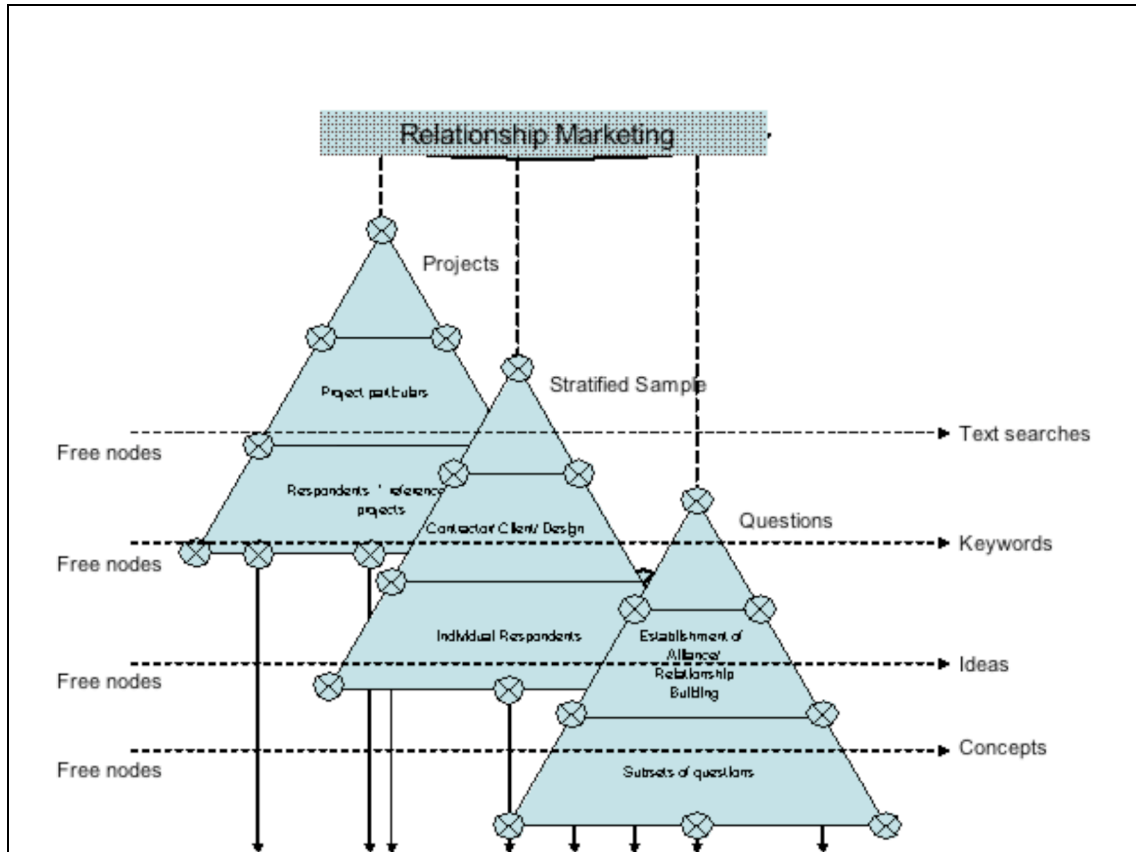


Figure 7-3 General structure of Qualitative analysis structure using QSR N6 (Author 2005)

Using QSR N6 the interview transcripts were initially coded under several headings that came from interpretation of the raw data derived from interview transcripts. Figure 7-3 shows a diagrammatic representation of the node tree created using QSR N6. Codes (nodes on the tree) are described as *tools of analysis* or *keywords* used to categorise or classify text (Sarantakos 1993). Once again with reference to Figure 7-3 representative codes are identified by a symbol thus ⊗. Codes initially were derived from various responses to questions posed to interview participants. These open or *free* codes were established early in the analysis of the transcripts. To identify emergent themes Sarantakos (1993) suggests many types of coding that may include; descriptive, interpretive and explanatory. Pattern coding seems to be the most significant. Pattern coding helped the researcher to reduce the data and direct them to trends, themes and patterns. Further analysis with the use of Boolean searches described earlier and identified in Figure 7-2 created free nodes that allowed the development of concepts and ideas to reduce the data more fully and allow a better understanding of the relationships between the codes highlighted. The

free node searches are diagrammatically represented by horizontal lines on Figure 7-3 and created the matrix of analysis used to investigate the qualitative data that emerged from the interviews.

7.9 *Qualitative Analysis Software*

QSR N6 (QSR International Pty Ltd) TM referred to above was originally known as NUD*IST, an acronym of Non-numerical Unstructured Data Indexing Searching and Theorizing. It was designed and built by Tom Richards, a computer scientist, for a very large qualitative research project being undertaken by sociologist Lyn Richards. NUD*IST was designed as a toolkit to code text documents; interview transcripts, field notes and the like. Its main purpose in the context of this research project was analysing and exploring coding created from the transcripts of the interviews.

7.9.1 *Example of using QSR N6*

Initially a keyword search through all the transcripts for particular words developed a QSR N6 report that established significant discussion had been forthcoming from the respondents with regard to concepts of trust for example in alliance project establishment and maintenance.

The word search for trust was manually checked to determine the validity of the statements that it contained. Any inconsistencies were deleted and the text in the trust node was checked back to the original transcript to ensure that the context was relevant. For example in the discussion that took place concerning trust the interviewee would prompt a respondent “To reflect on trust in the relationship development”. Including statements by the interviewer in a particular interview would bias the statistics that would be arrived upon from a vector search.

To provide a deeper and more comprehensive understanding a *vector* search of each stratified group of respondents was carried out. As in the earlier stages of the thesis contractor, clients and design represented the stratified groups. A vector search performs repeatedly a two-node operation; in this case intersect, on one node with each *child* (or second tier node) of a second (tree) node. Figure 7-4 indicates the vector search parameters used in the example. This search allowed the researcher to identify the body of discussion that each stratified group had imparted.

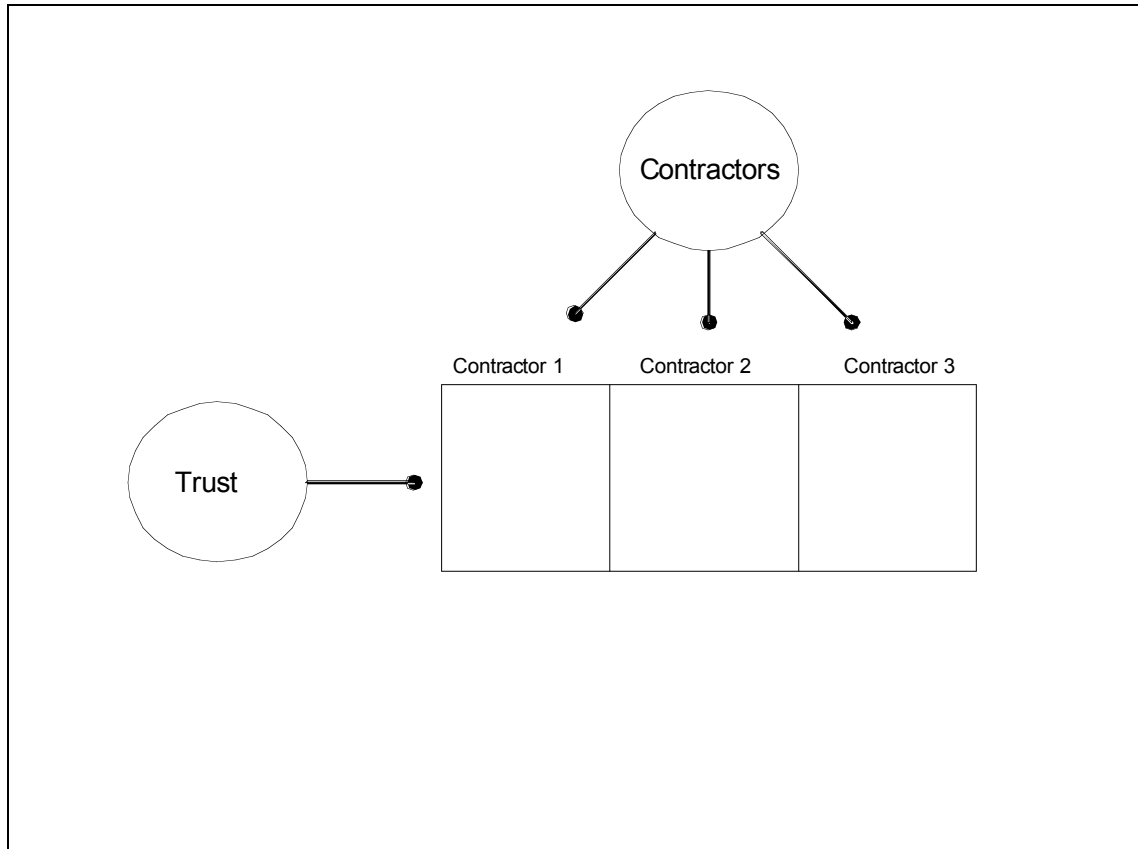


Figure 7-4 Vector search on contractors and trust

7.10 Advantages and Disadvantages of Using Qualitative Analysis software

There are distinct advantages and disadvantages in using qualitative analysis software (Maylor & Blackmon 2005). The key advantages and disadvantages are set out in Table 7-2.

Table 7-2 Advantages and disadvantages of using qualitative analysis software

Advantages	Disadvantages
Ease of document management	Provides nothing new
Creation of an identifiable and repeatable audit trail of the research	Loses contextual information
Transparency in methodology	Requires understanding of particular software
High quality output	Time consuming input

In the current study a combination of the rigorous research into alternative methodologies together with the use of QSR N6 provided a meaningful outcome that mirrored the advantages listed in Table 7-2. The audit trail was a distinct advantage

enabling the researcher to clarify points with ease as new ideas were forthcoming and rework of write up in progress became required. Transparency was evident as cross referencing of respondents comments enabled clarification. In the alternative there were some disadvantages that are similarly highlighted above. For example particular intricacies in the software did require a certain amount of learning and became time consuming. The writer understood that there was the opportunity for some loss of contextual information but took measures to counter it. For example copies of the transcripts were read verbatim whilst listening to the original recordings to develop early contextual knowledge. In sum it was considered that the advantages outweighed the disadvantages.

7.11 Deficiencies of the Analysis used for Study Three

There are many deficiencies that a researcher may come across in research of this nature. Table 7-3 lists commonly occurring deficiencies of qualitative analysis (Robson 1993).

Table 7-3 Commonly occurring deficiencies of the analysis (Robson 1993)

Deficiency	Key points
Data overload	Limitations on the amount of data that can be dealt with. There is too much to information received processed and remembered.
First impressions	Early input makes a large impression so that subsequent revision is resisted.
Information availability	Information, which is difficult to get hold of, gets less attention than that which is easier to obtain.
Positive instances	There is a tendency to ignore information conflicting with views already held, and to emphasize information that confirms them.
Internal consistency	There is a tendency to discount the novel and unusual information.
Uneven reliability	The fact that some sources are more reliable than others tends to be ignored.
Missing information	Something for which information is incomplete tends to be devalued
Revision of hypotheses	There is a tendency either to over, or to under react to new information.
Fictional base	The tendency to compare with a base or average when no base data is available.
Confidence in judgement	Excessive confidence is rested in one's judgement once it is made.
Co-occurrence	Co-occurrence tends to be interpreted as strong evidence for correlation.
Inconsistency	Repeated evaluations of the same data tend to differ

Many of the key points noted in the table above came to the fore throughout the duration of study three. The two points that had the most impact are highlighted in the above table;

1. Positive instances

Due to the fact that there was a long period of time between the initial study one and the more recent study three the researcher had carried out a great deal of reading and study. This aspect reinforced by an extensive history of employment in construction made it difficult for the researcher to ignore collective views that conflicted with personal views already held. As indicated in the table above it was often an effort to avoid emphasising information that confirmed personal opinion.

2. Inconsistency

The qualitative research process is an iterative process and various methods of

analysis were used to make sense of the lengthy transcripts that required an understanding to meet the objects set out at the commencement of the research. It was noted on several occasions that alternate evaluations of the same data tended to offer different outcomes – this eventuality would cause frustration due to the consequent rework required to establish a “correct” outcome.

7.12 *Summary of Qualitative Study Three*

This chapter has provided details of the interview instrument. It has discussed development of the instrument and question purpose in each case. In addition it has aligned questions with the aims and objectives of the research and literature reviewed. Methods and justification of the sample were set out. The chapter concludes with limitations of the qualitative process.

The next chapter provides an in-depth analysis of the interviews and summarises conclusions of the qualitative study.

Chapter 8 Analysis of Study Three

The previous Chapters 4, 5 and 6 addressed the first two sets of research questions identified in Chapter 1. The focus study had established that relationships were important to construction and that traditional design bid build type procurement did not assist in relationship building or relationship maintenance. A quantitative study had been carried out, and qualitative data was required to validate particular meaning from the findings (King 1994: 16). The aim of this chapter is to identify processes and/ or interactions that nurture and allow relationships to become forged in alliance projects. The chapter purpose is to expand on perceptions of relationship drivers, identified by the stratified sample in an earlier study and aims to identify how the particular phenomenon of relationships development manifests in an alliance situation. For example, what are the principle factors that influenced selection of particular partners to an alliance and how do these factors vary between the stratified samples of respondents.

Stratified samples of forty-nine respondents were interviewed using a semi-structured qualitative instrument. The transcripts of the interviews were analysed using QSR N6 software. A model of relationship development is established that contributes to emerging theory on RM in a project environment and its application to construction. Further, relationship development theory is enhanced and may be applied to project driven and temporary organisations that are particular to the construction industry.

As an overall outcome this chapter provides an introduction to relationship development models that are subsequently discussed in Chapter 10.

8.1 Introduction to Analysis of Study Three Data

This chapter describes the combined output of the forty-nine interviews that took place toward the end of the research period. As detailed earlier in Chapter 7 QSR N6 was used to code and assist in synthesising the many pages of field notes that were full transcripts of the interviews. The aim was to go further in the exploration than simply establishing categories. In the first instance the goal was to determine and explore interrelationships between the respondents participating in study three then

subsequently triangulate those interrelationships in and between studies two and three (Robson 1993: 471).

8.2 Demographics/ Background of Respondents Included in Study Three

The following Table 8-1 sets out details of the forty-nine final respondents that participated, indicating demographics of the individuals drawn from the purposive snowball sample of 71.

Table 8-1 Respondent's particulars

Respondent	Particulars
01	Client type stakeholder, Western Australia based. Operating turnover of organisation AUD2 billion. Respondent has 29 years experience in a role that encompassed the development and management of the first major alliance for the WA Government. Currently an alliance Project Manager with a government agency. Involved with 10 alliance type projects with a combined value to date of approximately AUD900 million. Currently alliancing manager responsible for the establishment and development of an AUD450 million pure alliance project.
02	Professional engineer and MBA. Project manager with client organisation, 15 years experience with project delivery. Western Australia based. Operating turnover of organisation approximately \$A700 million. Respondent has 30 years experience in engineering project management. His role is currently the alliance manager of a pure alliance with a project sum of XX. Involved with one pure alliance type project.
03	Commissioning Manager for a Client type stakeholder, Western Australia based. Organisation has an annual capital works expenditure of AUD450 million. Respondent has 44 years experience in a role that has been significantly involved with project alliances since 1999. The respondent has worked on two alliance projects in recent times. Project One: 1999 – 2003 Manager commissioning operations and maintenance – member of alliance leadership team. Project Two: 2004 – ongoing, member of alliance leadership team. Involved with two alliance type projects – they are described as infrastructure projects of considerable magnitude; one pure alliance and one competitive alliance project.
04	Currently an Alliance facilitator with a background as an instructor with a defence organisation: Western Australia based. Recently employed with a large national mining and engineering resource based organisation. The organisation carried out several strategic alliances in the recent past. Recent involvement with the development of several project alliances. Western Australia based.
05	Chief Executive of area water board. Client type stakeholder, Queensland based. Operating annual program of Public Works organisation AUD200 million. Respondent has 40 years experience. The respondent set up Project One infrastructure project with a contract sum of approximately AUD110 million. Selected the alliance partners and chaired the Alliance leadership team for the duration of the project. Involved with two pure alliance type projects and many relationship alliance projects.
06	Manager, Waste and Waste Water with Consultant/ engineering type stakeholder, Western Australia based. Operating turnover of parent organisation that employs the respondent is approximately USD12 billion. Respondent has 23 years experience in engineering project management. Recent experience with alliance projects includes the design team leader for Project One, extending from early 1999 to March 2002. Project value - \$150m. Currently the respondent is the commissioning manager for

Respondent	Particulars
	Project Two, extending from 2003 to July 2005. Project value AUD70 million. In summary involved with two alliance type projects – typically pure alliance projects.
07	Client type stakeholder, Western Australia based. Operating turnover of organisation AUD400 million to AUD550 million annual capital program. Respondent has 19 years experience in a project engineering role. Recent alliance experience includes roles as relationship manager for Project One and for Project Two. Involved with 2 alliance type projects – typically competitive and relationship alliance projects.
08	Contractor type stakeholder, Western Australia/ New Zealand based. Operating turnover of organisation AUD200 to AUD300 million. Respondent has 28 years experience in a role that currently encompasses the overall leadership and management of a significant infrastructure alliance project. The respondent is the project director and as such is responsible for championing alliance and project principles, coordinating with the participant organisations and building a high-performance team culture. Involved with 3 alliance type projects and has headed the tender team of several alliances. The respondent has been involved with significant infrastructure pure alliance projects.
09	Contractor type stakeholder, Queensland based. Operating turnover of division AUD180 - AUD200 million within an organisation operating with an annual turnover of AUD2 billion. Respondent has 32 years experience in a role that started as a civil engineer and moved to construction engineer. Involved with 5 alliance type projects – typically relationship alliance projects.
10	Senior Project Director with Contractor type stakeholder, Western Australia based. Operating turnover of organisation USD10-12 billion. Respondent has many years experience in a role of Deputy Project Director and Engineering Manager Project One (1998-2001). Alliance Sponsor of Project Two (1997-'98). Bid Manager for a consortium on the Wandoo and East Spar Alliances. Currently sub-business unit director for respondent organisation's services to Rio Tinto Iron Ore. Involved with four alliance type projects – typically pure alliance projects.
11	Client type stakeholder, Western Australia based. Operating turnover of organisation AUD2 billion. Respondent has 30 years experience in a role that encompasses recent development of 3 separate alliance contracts, 2 O&M contracts for the Perth region (1 north and 1 south of the river) and a mechanical and electrical alliance. Involved with 3 alliance type projects – typically pure alliance projects.
12	Client type stakeholder, Western Australia based. Operating turnover of organisation AUD2 billion. Respondent has over 20 years experience in a role that encompasses; General Manager statutory authority recently retired. Involved with one pure alliance type project.
13	Senior Project Engineer with a Construction/ Engineering organisation. Western Australia and Queensland based. Approximate annual turnover of organisation that employs the respondent is AUD850 million. Respondent has over 30 years experience. Alliance Project One: assisted Project Director through expression of interest and alliance partner selection phase. Joined the alliance team as a Project Engineer and continued in that role through design, construction, commissioning and project close out. Alliance Project Two: part of the contractor consortium bid team in a competitive target cost alliance. Alliance Project Three: part of the contractor consortium bid team in a competitive target cost alliance. Alliance Project Four: part of the contractor consortium bid team in a pure alliance. Alliance Project Five: part of the contractor consortium bid team in a pure alliance (project is currently in final selection phase). In summary respondent has been Involved with five alliance type projects – typically pure and competitive alliance projects.

Respondent	Particulars
14	Project Manager with Contractor type stakeholder, Western Australia based. Operating turnover of organisation AUD830 million. Respondent has 30 years experience as a Project Engineer, Construction Manager, and Project Manager on Project One (Project Engineer – particular section of works followed by Construction Manager for entire project and subsequently Project Manager – commissioning, handover to client). Project Two; Project Manager during design competition and competitive bid phase. Project Three; 2003, Project Systems Manager followed by engineer preparing specifications (part time) and acting Project Director. In summary involved with two pure alliance type projects and one competitive alliance project.
15	Project Director of Alliance, working for Contractor stakeholder, Western Australia based. Operating turnover of organisation AUD800 million. Respondent has 27 years experience recently working on partnering projects. Project One; Alliance Project constructing major arterial highway. Project Two; Partnering Project constructing Freeway bus transit way. Project Three; Major arterial Freeway Phase 1. In summary involved with three alliance type projects – typically pure and relationship alliance projects
16	Auditor with a Contractor type stakeholder, Western Australia based. Operating turnover of respondent's employer organisation AUD800 million. Respondent has 20 years experience in a role that encompasses; construction management of alliance projects; particularly concerned with tender preparation and negotiation. Involved with three alliance projects one of which was a significant infrastructure pure alliance type project.
17	Design type stakeholder, Queensland based. Operating turnover of organisation AUD109 million. Respondent has 30 years experience in a role that encompasses General Manager of an Engineering Services Group, which is a government owned corporation. The respondent has managed Engineering Services and its predecessor organisations for more than 10 years. Prior to this he spent 20 years in the delivery of water resource developments including dams, weirs, rural water supplies, pump stations and pipelines. The respondents experience with water infrastructure development is reflected in his long-standing involvement with the Australian National Committee on Large Dams (ANCOLD) of which he is currently Chair. Involved with dam construction 5 alliance type projects – typically pure competitive relationship alliance projects.
18	Project manager with Client type stakeholder, Western Australia based. Operating turnover of organisation \$626 million. Respondent has 34 years experience, most recently operating as a project manager/ relationship manager. The respondent developed and established alliance Project One; the design, construction, maintenance and support of Supervisory Control and Data Acquisition systems for a 3 - 5 year term (\$15 million). Currently developing alliance Project Two; a contract to build a 400 Mega litre reservoir and water treatment plant (\$40 million). In summary Involved with two alliance type projects, one pure and one relationship alliance project.
19	Partner with a Legal firm. Western Australia based. Operating turnover of organisation AUD300 - AUD400 million. Respondent has 16 years experience. In the last ten years the respondent's role encompasses practice coordination of a project group dealing with alliance establishment. Involved with 25+ alliance type projects – typically these have been project alliances and operational and maintenance alliances.
20	Client type stakeholder, Western Australia based. Operating turnover of organisation around AUD1 billion. Respondent has 31 years experience in a role that encompasses General Manager of water technologies division of statutory authority. Involved with five alliance type projects. Project One: Maintenance Alliance around AUD10 million per annum since 1996, renegotiated twice in that time. Described as a pure alliance. Project Two: Design and Construct Alliance to update Waste Water Treatment Plant (WWTP) and provide odour control; contact sum around AUD28 million. Project Three:

Respondent	Particulars
	D&C Alliance to update WWTP and provide odour control around AUD40 million. Projects Two and Three were described as Competitive Target Outturn Cost Alliances. Project Four: Design and Construct Alliance to undertake a program of work over four years around AUD33 million. Described as a pure alliance. Project Five: Design and Construct Alliance around \$280 million with O&M Alliance (25 years) around AUD10 million per annum. Described as Competitive Target Outturn Cost Alliances. Respondent been the chair of four alliance boards.
21	Contractor type stakeholder currently General Manager of business services, Western Australia based. Operating turnover of organisation AUD1 billion. Respondent has 25 years experience in a role significantly to alliance projects. The respondent has been an Alliance Leadership Team member on four project alliances is Chair of a current billion dollar project alliance and has been involved with numerous other alliance bids. The respondent has been involved with six project alliances. Typically the alliances have been either pure (4 in total) or competitive (2 in total) alliance projects.
23	Facilitator/ coach type stakeholder, Queensland based. Operating turnover of organisation AUD1.5 million. Involved with approximately 40 pure alliance type projects. Also involved with about 20 other relationship type alliances. A civil engineer with almost 30 years professional experience in engineering and construction in various countries, with over 20 years hands-on contracting and senior management roles in Australia. Has been at the forefront of the recent push towards relationship contracting in Australia and is acknowledged throughout Australia and overseas as one of the leading thinkers and advisers in alliancing. Consultant specialising in all aspects of the management and administration of major construction projects. Special interest in the development, promotion and application of innovative contracting strategies in Australia and internationally. Background as Project Engineer then Project Manager for contractors on major civil, road works, marine and building projects in Australia. Has been in various positions as State Manager and General Manager of significant construction companies in Australia.
25	Client/ Design type stakeholder, Queensland based. Operating turnover of organisation AUD60 to AUD70 million in fee revenue. Respondent has over 30 years experience in a role that encompasses director of government authority. Director of a portfolio within a Public Works Department responsible for the delivery of a large range of Government Departments' capital works projects. As such a range of delivery methods are used, many projects are delivered via a managing contractor form with relationship clauses. Projects have been of a large complex nature generally. The respondent is currently pursuing our first alliance form of contract. Involved with 20 alliance type projects – typically relationship alliance projects.
26	Project Manager with Client type stakeholder, Queensland based. Operating turnover of organisation AUD500 million. Respondent has 33 years experience in the Queensland department of public works. The respondent's role covers Public Works Project Manager and Contract Administrator (Principal's Representative) on recently completed Project One (\$135 million). Project was procured utilising a Managing Contractor Design & Construction contract, which included formal 'relationship' contracting clauses. The project was successful due to relationship contracting philosophies. In summary typically involved with relationship style projects.
27	Project Manager with Client/ Contractor type stakeholder, Queensland based. Respondent has 37 years experience and has been involved with one relationship style alliance project in the recent past with Queensland government. Project One: AUD308.5 million upgrading and expansion of arts and cultural facilities.
28	Contractor type stakeholder, Western Australia based. Operating turnover of organisation AUD1.2 billion. Respondent has 24 years experience in a role that currently encompasses Manager of business development. Currently project team relationship manager on major infrastructure project in addition to design/ stakeholder

Respondent	Particulars
	management role. The respondent has run 20 plus partnering workshops in the early 1990's for a national engineering project. Involved with 25 alliance type projects – typically relationship alliance projects.
29	Contractor type stakeholder, Western Australia based. Operating turnover of organisation AUD10 billion. Respondent has 25 years experience. Currently a project manager on a part of WA's AUD1.4 billion New Metro Rail project. The AUD325 million contract is being undertaken by a joint venture (JV). Involved with one relationship alliance type project. The JV team are working in an innovative 'relationship' contract for design, construction and maintenance.
30	Civil area manager with Contractor type stakeholder. Queensland and Northern Territory based. Operating turnover of division AUD180 to AUD200 million within an organisation operating with an annual turnover of AUD2 billion. Respondent has 32 years experience in a role that started as a civil engineer and moved through construction engineer on to project manager. This was followed by regional manager. Involved with eleven alliance type projects. Recent experience has been in the role of regional civil manager which has involved procuring projects, appointing the alliance manager and generally being involved in an offsite support, managerial role during delivery. This role was usually on the Project Alliance Board /Alliance Leadership Team. In this capacity the respondent has been involved with ten relationship alliance type projects one of which was described as a pure alliance project.
36	Client type stakeholder, New Zealand based. Operating turnover of organisation 2004/05, almost NZD800 million. Respondent has 25 years experience in a role that encompasses Project Manager in alliance team. Involved with 2 alliance type projects – typically pure alliance projects.
38	Contractor type stakeholder, Western Australia/ New Zealand based. Annual revenue of AUD1.1 billion is generated largely from four core businesses, Mining, Civil, LSM Projects and Engineering, spread across more than 50 sites, employing 3000 people. Currently Regional Manager WA with 20 years experience in a role that encompasses several project alliances– typically pure alliance projects.
39	Assistant area manager with Contractor /Client stakeholder, Western Australia based. Operating turnover of organisation AUD1 billion +. Respondent has 33 years experience. Team Leader on Project One Alliance; member of Alliance Management Team during the selection process and during the project. Bid Manager on Project Two Alliance, including member of the management team for the first six months of the project. Bid Manager for two unsuccessful alliance submissions. The respondent has participated in a number of Relationship hard money contracts using Partnering. Currently employed as Assistant Area Manager on a hard money D&C project. Involved with seven alliance type projects – typically pure alliance projects.
40	Project Director with a Client type stakeholder. Western Australia based. Operating turnover of organisation AUD700 – AUD800 million. Respondent has 19 years experience as an engineer with a statutory authority. Currently involved with the process of setting up a AUD90 million alliance contract. The respondent is part way through the selection process. In summary the respondent is involved with one pure alliance type project.
43	Facilitator, Queensland based with alliance project experience in NSW, VIC & QLD. Operating turnover of organisation AUD500, 000 – AUD1.2 million. Respondent has 40 years experience in a role that encompasses civil engineering within Brisbane City council working on predominately infrastructure type projects; main projects were described as water and wastewater through to roads, bridges, marine structures, ferry terminals. Worked on alliance projects since 2000 as principle of facilitation organisation. Involved with 18 alliance type projects that range from pure (Projects One to Five) through competitive (Projects Six to Nine) to relationship alliance projects (Projects Ten to Eighteen).

Respondent	Particulars
44	Lawyer type stakeholder, New South Wales based. Operating turnover of organisation is described as significant and typical of an internationally recognised law firm. Respondent has 25 years experience in a role that encompasses Project alliances in construction, Risk allocation and management, Construction and Infrastructure contracts, Project finance documents, Contract claims strategy and administration, Construction law, Professional indemnity insurance and litigation. Involved with 20-30 alliance type projects in the past – typically advised alliances in the construction industry, water, oil and gas, hydro, power, offshore oil and gas, rail, road, defence, a very broad range. All alliances involved with are described as pure alliances.
49	Client type stakeholder, Western Australia based. Operating turnover of organisation AUD300M to AUD500 million. Respondent has 31 years experience in a role that encompasses Project Manager with statutory authority. Involved with mainly partnering type projects.
50	Facilitator/ coach type stakeholder, Victoria based. Operating turnover of organisation AUD1 –AUD1.5 million. Respondent has 20 years experience as a director of alliance facilitation and coaching company. Before becoming a consultant, the respondent gained over twelve years' experience in corporate and project management, design engineering and construction supervision in the Oil & Gas and Civil industries and local government outsourced services with major international design engineering companies. The respondent has been involved in many alliances and high performance projects, which may be described as primarily pure alliances, many relationship contracts and one competitive target cost alliance. Involved with Sixteen alliance infrastructure projects – typically pure competitive and relationship alliance projects ranging in value from AUD100 million to NZD 1.2 billion.
51	Contractor type stakeholder, Queensland based. Operating turnover of organisation AUD200 to AUD300 million. Respondent has 26 years experience. Project One Pacific Motorway package 2 (1998 – 2000). Many difficult issues Construct Only contract resolved by formal Relationship Management process overlay. Project Two similar relationships management process overlay on Yandina – Cooroy section Bruce Highway (2000 – 2002). Member of Project Alliance Board of 6 formal Project Alliances including; Project Three; Port Motorway Alliance (2000 - 2002). Project Four; FPE Seawall Alliance (2002 – 2005). Project Five; ATC Sewer Alliance (2003 - 2005). Project Six; Wivenhoe Alliance (2003 - 2005). Project Seven; Nowranie Ck Alliance (2004). Project Eight; Northern Gateway Alliance NZ 2004 – 2009. Project Nine; INB HUB Alliance (2005 - 2007). Involved with 10 alliance type projects – typically a selection of pure, competitive and relationship style projects.
57	Contractor type stakeholder, Western Australia based. Operating turnover of organisation AUD10 billion. Respondent has 30 years experience in a role that encompasses business development manager, precontract development with an international construction company. Involved with 15 alliance type projects – typically pure and competitive alliance projects.
58	Assistant director of contracts with a Municipal organisation in Queensland. Operating turnover of the client based organisation is approximately AUD600 million. Respondent has 35 years experience in a role that includes the responsibility for all procurement strategies associated with capital works and the development and use of relationship contracts. Involved with five alliance type projects – typically relationship alliance projects.
59	Principle policy officer with a department of public works. A client type stakeholder, based in Queensland. Operating turnover of organisation AUD100 million. Respondent has 23 years experience in the Queensland department of public works in a role that encompasses. Involved with more than ten alliance type projects – typically relationship alliance projects. Most recently involved with a relationship style contract to build a major municipal building with a contract sum of AUD130 million.

Respondent	Particulars
60	Senior project Manager of Contractor type stakeholder, Queensland based. Operating turnover of organisation AUD800 million. Respondent has 26 years experience as a project manager with construction organisations. Involved with more than ten alliance type projects. Since 1991 has been project manager of two significant projects. Project One: AUD200 million Arts project. Project Two: AUD210 million international airport terminal. The projects are described as typically relationship alliance projects.
62	Program manager with a Client type stakeholder, New South Wales based. AUD500 million Capital Works budget. Respondent has been working in the construction/ engineering industry for 42 years. The respondent has experience as a Client/ Owner representative on Alliance Leadership Teams (Boards) for three alliances, two current, one completed. Also as a Client/ Owner representative on Leadership Team for a Relationship Contract. Project One alliance (completed) for design and construction of a AUD466 million tunnelling project. Project Two alliance (current) for design and construction of a AUD250 million program of works comprising a series of wastewater reticulation/ treatment projects. Project Three alliance (current) for a AUD95 M wastewater treatment plant reliability improvement and modernisation program. Project Four relationship contract (current) for a AUD100 million wastewater infrastructure rehabilitation project.
63	Commercial & Risk Manager with a Contractor type stakeholder, Western Australia based. Operating turnover of organisation AUD400M per annum. Respondent has 27 years experience. Involved with seven alliance type projects. Project One: Wandoo B CGS - Alliance contract. Project Two: Yarrie - Nimingarra mining – Alliance contract. Project Three: WWTP Alliance, WA – Alliance contract (tender stage). Project Four: WWTP Alliance – Alliance contract. Project Five: Highway extension - Alliance contract (tender stage). Project Six: ROWS Pond, Kwinana, WA – Strategic Target Cost Alliance. Project Seven: Desalination Plant Alliance – Alliance (contract tender stage). Typically pure and competitive alliance projects. In summary the respondent has experienced seven alliance projects, three to final selection phase and four through to completion and handover.
66	Mechanical engineer (B App Sc). Project director with client organisation, 22 years experience with project delivery; Western Australia based. In depth knowledge of Traditional and alliance contracting strategies. Participated in two alliances as client relationship representative.
67	Mechanical and Electrical engineer (Master Eng Science). Senior manager with design consultant, 32 years experience with project delivery: Western Australia based. In depth knowledge of traditional contracting strategies and alliances. Participated in three alliances as Alliance Board Member.
68	Civil engineer, MBA. Project manager with client organisation, 30 years experience with project delivery: Western Australia based. In depth knowledge of traditional contracting strategies and a working knowledge of the project alliance approach. Participated in two alliances as project manager.
69	Civil engineer (BE Hons). Project director in client organisation, 34 years experience with project delivery: Western Australia based. In depth knowledge of traditional and alliance delivery strategies. Participated in one alliance as alliance coordinator.
70	Professional engineer (PhD). Principal consultant with design consultant, 24 years experience with project delivery: Western Australia based. Working knowledge of traditional and alliance contracting strategies. Participated in one alliance as lead design engineer/project engineer.
71	Mechanical and Electrical engineer (BE Mech, BSc Chem). Design engineer with Contractor, 5 years experience with project delivery: Western Australia based. Working knowledge of traditional contracting strategies and alliances. Participated in one alliance as design engineer.

To summarise key data from the above, reference is made to Table 8-2. The table has five columns that indicate the type of respondent by stratified group; the average years of experience that the stratified group of respondents have collectively; the average number of projects that the stratified respondents have experienced collectively and the percentage (number in brackets) of respondents represented in each stratified group. Column five indicates the geographic location of the respondents and is split into five sub-columns that indicate which State in Australia or New Zealand that the respondents reside. The header row of these columns indicates the number of respondents in each state. Below the header columns the number of each stratified group in each State is indicated.

Table 8-2 Summary of respondent particulars

Type of respondent	Exp in years (mean)	No of alliance projects (median)	No of respondents (n=49)	Geographic Location				
				WA n=30	NSW n=2	Vic n=1	Qld n=13	NZ n=3
Contractor	27.76	4.5	18 (37%)	11	-	-	5	2
Client	29.75	2	20 (41%)	14	1	-	4	1
Design	24.00	3	05 (10%)	3	-	-	2	-
Lawyer	20.50	25	02 (04%)	1	1	-	-	-
Facilitator/ coach	30.00	17	04 (08%)	1	-	1	2	-

WA = Western Australia, NSW = New South Wales, Vic = Victoria, Qld = Queensland, NZ = New Zealand

8.2.1 Sample for Study Three

Table 8-2 shows respondents came from clearly stratified groups that comprised; contractors, clients, and designers (for example quantity surveyors, engineers). These represented the client and non client participants in a typical alliance project. In both studies one and two, the groups of respondents had been similar. This was to ensure consistency throughout the entire research project. To the sample were added several lawyer and facilitator/ coach participants. The addition added to the stratified sample, diversified the breadth and depth of knowledge from the interviews. It was found that the lawyers possessed an impartial *big picture* point of view that to some degree balanced the partial and focussed viewpoint of the contractor, client and design respondents. The facilitator/ coach respondents had experience from both a contractor and client perspective. This experience essentially added to the depth of the interviews from the client and non client participants.

The majority of respondents were either contractors or clients. The contractors accounted for 37% of the respondents the clients accounted for 41%. Design was somewhat under-represented accounting for 10% of the sample. The facilitator/ coach respondents accounted for a further 8% and the lawyers accounted for 4%. Considering the lawyers' comments align with the clients' comments and the facilitators' comments are aligned with the contractors' an equal portion of contractors and clients is obtained in the sample. A review of phase one and phase two respondents in Table 8-3 indicates the overall project sample.

Table 8-3 Stratified sample in Three Study Design

Type of respondent	Study one	Study two	Study three
Contractor	38%	34%	45%
Client	8%	29%	45%
Design	54%	34%	10%

a Respondent's geographic location

The sample selected for stage three was designed to be representative of Australia including New Zealand as far as possible. As discussed the sample was determined using referral/ snowball techniques. This approach presented some difficulties in following the predetermined structural design of the sample. Chapter 7 discusses limitations of the survey in detail. From Table 8-2 it may be observed that the majority (61%) of all respondents came from Western Australia (WA) (n=30) with Queensland (Qld) representing 27% (n=13) followed by New Zealand (NZ) representing 6% (n=3). New South Wales (NSW) and Victoria (Vic) accounted for the balance with n=2 and n=1 respectively. Continuing to review the table it may be observed that Contractors who participated came from WA (n=11), Qld (n=5) and NZ (n=2). Clients who participated came from WA (n=14), NSW (n=1), Qld (n=4) and NZ (n=1). The design respondents came from WA (n=3) and Qld (n=2). The lawyers came from WA and NSW (n=1 in both cases). Finally the facilitators came from WA (n=1), Vic (n=1) and Qld (n=2).

b Respondent's years of experience and generic role

An evaluation of the experience that the respondents have in construction/ engineering industry revealed that collectively the sample had a mean of 26.40 years experience with a standard deviation of 7.33 years. This indicated a depth of understanding of issues that is contemporary within the industry. The contemporary

knowledge would be founded on tacit and explicit knowledge gained over the individual's employment period. The raw data that explains the experience suggests that the group identified as facilitators had the longest period of experience in the industry (30 years) followed closely by the client respondents who indicated 29.75 years. It is noteworthy that there were only 4 facilitator respondents one of whom failed to indicate years of experience. Those respondents with a facilitator background shown in Table 8-1 indicated that essentially they had amassed considerable experience in oil and gas engineering or defence industries associated with construction prior to embarking on a *new* career in facilitation. This accounted for the long period of association and experience in the construction/ engineering industry. The clients' experience of 29.75 years may be summarised with a review of the position that they identified as their role. In some cases the respondents indicated their current position of seniority, in other cases they were less specific and used generic descriptions to describe their position experience and its relationship to construction/ engineering. Of those clients that chose to identify their experience in terms of a role that they carried out - five described themselves as project managers, two described themselves as construction engineers, a further two used the title of project delivery manager and the balance, if they chose to provide a description, used the terms; procurement, project engineer, commissioning manager, policy officer, chief executive, civil engineer, general manager, project director. This information is tabulated in Table 8-4.

Table 8-4 Roles identified by clients

Construction engineering	✓✓
Procurement	✓
Project engineering	✓
Project delivery	✓✓
Project manager	✓✓✓✓✓
Commissioning manager	✓
Policy officer	✓
Chief executive	✓
Civil engineer	✓
General manager	✓
Project director	✓

The contractors indicated that their sum of years experience had a mean 27.76 years. This period of time may be summarised with a review of the position that they identified as their role. In some cases the respondents indicated their current position of seniority, in other cases they were less specific and used generic descriptions to describe their position experience and its relationship to construction/ engineering. Of those clients that chose to identify their experience in terms of a role that they carried out five were project manager/ engineer, two in each case were; construction manager/ engineer, senior project director and regional manager/ general manager. The balance used roles of; business development manager, bid manager, project director, commercial and risk manager; and civil area manager to describe their experience. This information is tabulated in Table 8-5

Table 8-5 Roles identified by contractor

Construction manager / engineer	✓✓
Project manager/ engineer	✓✓✓✓✓✓
Business development manager	✓
Bid Manager	✓
Project Director	✓
Commercial and Risk manager	✓
Civil area manager	✓
Senior Project Director	✓✓
Regional Manager/ General Manager	✓✓

The design respondents indicated that their collective mean years experience was 24.00 years. This period of time may be summarised with a review of the position that they identified as their role. In some cases the respondents indicated their current position of seniority in other cases they were less specific and used generic descriptions to describe their position experience and its relationship to construction/ engineering. Of those design respondents that chose to identify their experience in terms of a role that they carried out four were found to have differing roles. These roles are identified in Table 8-6.

Table 8-6 Roles identified by design

Mechanical and electrical engineer	✓
Principal consultant	✓
Director	✓
Project delivery	✓
General Manager	✓

To summarise, the stratified groups within the sample held senior management positions and used various titles and descriptive terms to appropriately articulate their considerable experience. Many of the respondents had moved through the structure of their organisation to attain very senior positions and others had attained their current senior position whilst moving between organisations and often between disciplines within construction/ engineering. Many of the respondents work for companies that are national/ regional. This defines the sample and is more relevant to the research than the location of their home base.

In the interviews many suggested that whilst working on alliance projects they found their individual roles to be less significant than on other projects that used more traditional procurement. The integration of the team that included client and non client stakeholders was provided as the reason for this. Terms that included *seamless* organisation were used to describe how they perceived their role and commensurate experience had changed in alliance projects. Many of the respondents from all stratified groups perceived that the move to alliance projects had been a natural progression in their experience curve whilst they pursued their career in the construction and engineering industry.

c Number of alliances

As indicated the semi-structured interviews had a particular focus on alliance project development. The researcher was interested to know how many alliance projects the respondents had been associated with. This was a fundamental point that required clarification early in the interview to ensure reliability of the outcome and the ability to triangulate the collective responses with the earlier stages of the research program. A review of Table 8-2 indicated that the lawyer and facilitator respondents had significantly more experience with alliance projects than the other stratified group participants. This follows the principle fact that their input was typically complete at the end of the post selection risk reward workshops and occasional post

implementation meetings. This allowed them to accumulate more experience with multiple alliances. The other stratified respondents; contractor, client and design had a median number of 4.5, 2 and 3 experiences with alliance type projects respectively. The range of number of alliances by stratified respondent provides some additional insight; Contractor range was maximum 25 minimum 1. Client range was maximum 10, minimum 1 and design was maximum 20, minimum 1. These projects have all occurred in recent years.

Where the respondents indicated that their experience was as at the lower end of the range, it was found that they would undertake research into the procurement method often bringing expertise in-house by engaging suitable persons from outside companies by travelling to visit experts that had a more detailed knowledge of the process. Reading about the process was considered wholly sufficient and authoritative discourse came from first hand experience. In several circumstances sourcing information entailed world searches and considerable expenditure in travel and accommodation.

d Type of alliances

The alliance projects that the respondents referred to were significant projects. Table 8-1 indicates the projects that the respondents have been involved with. In all cases to avoid recognition of respondents particular details of project have been omitted. A summary of the projects that respondents have been involved with is set out in Table 8-7. It may be seen that the value of the individual projects is significant ranging from \$15 million to \$466 million. It should be noted that the projects simply indicate the type of project or its generic name. Column two indicates the approximate value of the project and provides an insight into the amount of capital works that is being carried out using alliance/ relationship methodologies at the time of writing. The projects described in Chapter 9 together with projects that were referred to anecdotally throughout the interview period supplemented the scope of the projects initially described and greatly increased the breadth of coverage of the research.

Table 8-7 Summary of projects carried out

General Project Description	Approx AUD \$million (if figure provided)
Alliance for design and construction tunnelling project.	466
Upgrading and expansion of arts and cultural facilities.	309
Design and Construct Alliance.	280
Alliance for design and construction of a series of wastewater reticulation/ treatment projects.	250
International airport terminal.	210
Arts project.	200
Managing Contractor Design & Construction contract which included formal 'relationship' contracting clauses	135
Major municipal building	130
Infrastructure project	110
Relationship contract for a wastewater infrastructure rehabilitation project	100
Operational and Maintenance mechanical and electrical alliance project for the Perth region.	100
Alliance for a wastewater treatment plant reliability improvement and modernisation program.	95
D&C Alliance to update WWTP and provide odour control	40
400 Mega litre reservoir and water treatment plant.	40
Design and Construct Alliance to undertake a program of work.	33
WWTP Alliance, WA – Alliance contract (tender stage)	28
Design, construction, maintenance and support of Supervisory Control and Data Acquisition systems for a 3 - 5 year term	15
Mechanical and electrical alliance project	-
Alliance Project constructing major arterial highway	-
Partnering Project constructing Freeway bus transit way	-
Major arterial Freeway	-
Wandoo B CGS - Alliance contract	-
Yarrie - Nimingarra mining – Alliance contract	-
Highway extension - Alliance contract (tender stage)	-
ROWS Pond, Kwinana, WA – Strategic Target Cost Alliance	-
Desalination Plant Alliance – Alliance (contract tender stage)	-
Pacific Motorway package	-
Section Bruce Highway	-
Port Motorway.	-

General Project Description	Approx AUD \$million (if figure provided)
FPE Seawall Alliance	-
ATC Sewer Alliance	-
Wivenhoe Alliance.	-
Nowranie Ck	-
Northern Gateway Alliance	-

8.3 *Establishment of the Alliance*

The principles of alliance development are readily identified in several documents explored in Chapter 2. The underlying purpose of alliance establishment is to assess the best for project participants. The alliance establishment process was described as a progressive arrangement often, but not always through expressions of interest. Selection was narrowed down when the client engaged with a prospective alliance partner through a series of workshops, face to face meetings together with a series of structured interactions which all led to the alliance contract. Throughout the process the client was selecting the best team in the first instance and then discussing financial considerations subsequently.

The parties to the alliance would have different perceptions concerning the benefit of the process and its impact on the overall outcome. The interview respondents were stratified into their groups and a *matrix intersect* search was made using N6 to establish comment made in the following areas.

All the participants to the interviews engaged in selection of some sort and the level of sophistication used in their evaluation was broad. The clients indicated that they would create a team that was capable of evaluating contractors and design respondents to the request for proposal. The contractors, who would endeavour to keep abreast of market opportunities, would preselect appropriate alliance partners to meet the client needs at the earliest stage possible. The non client participants (contractors and design) would align themselves on the basis of limited information, often well before expressions of interest were called. This enabled them time to select partners with desirable skills from the client's perspective. Due to the specific scope of alliance projects keys skills were limited and non-client participants had to *move* early to secure the best partners. A strategic decision like this is made to balance a portfolio of procurement methodologies across a risk spectrum. The risk reward

model that is associated with alliance projects caps the reward to align with reduced risk. Contractors would balance reduced reward in their project portfolio with *hard money* contracts that were more risky, offering increased reward.

The purpose of this section was not to discuss the process of alliance establishment as this has been documented and reviewed in Chapter 2, but to identify the underlying relationships and associated development that happen at the earliest stage of interaction between the proposed projects participants. As indicated above the project participants are client and non client, both groups are selecting and being selected.

8.3.1 Contractors

Of the 22 contractors that took part in the survey 16 (72%) chose to talk at length about the establishment of the alliance. All were familiar with the process of alliance development mentioning the move from selection of partners; a stage that includes commercial discussion through interim agreement where the target outturn cost is developed with the preliminary schedule to the full project alliance agreement. This process has been described by Walker and Hampson (2003a: 88). The pure alliance model advocated by Ross (2003) which is similar to the model used on the National Museum of Australia was cited by several participants. The typical features of a pure alliance model that contractors referred to are similar to those cited by Walker and Hampson (2003a).

The process to establish an alliance was relatively new and novel. This aspect of newness and novelty drove the contractors to research the process; they evaluated past projects through desk research and sourced *experts* that could be used for guidance, mentoring and leadership in the process of selection and implementation. However they were prepared to vary established models of alliance establishment to suit their own needs and those of their clients. Coaching was important to the contractor participants and was integral in many aspects of the alliance development and implementation. Coaching is discussed in section 8.4.3b. The establishment of an alliance was a complicated process as the contractors had to manage the *commercial* aspects of selection in addition to the less tangible aspect of proving to clients their capability in face to face meetings. The meetings added a different dimension and additional burden to the selection processes that contractors were familiar with. The contractors were aware of the differences between traditional *design bid build* type

procurement methodologies and alliance/ relationship proposals. A quote from one participant encapsulates this notion;

It [Design Bid Build] becomes adversarial because the competitors, the tenderers, are forced to identify any shortcuts they can to win the job in the first place. So if you can avoid that, that's the best way to start. (R60)

Contractors noted three parts to the establishment process: demonstrating an understanding of the project by describing a suitable project methodology; listing the team composition and recording particular individuals and relevant experience concerning the project; and the financial component that included a declared profit margin, preliminaries and supervision costs. This was exemplified by one contractor who said that client participants to the alliance "...Interrogated the contents of the submission and our [the contractors] understanding of the job and [started] to get a feel of the team that [was] put up." (R09) Client participants typically used team-building activities associated with the project and other "Get to know you ...activities." (R40) These activities were said to be focused upon an optimum relationship style negotiated contract. The relationship style contract "Is a negotiated one where a client finds a party who they have a lot [sic] [of] empathy for, who is satisfied they have the skills and capabilities to do the job." (R60). In essence the contractor respondents were talking about a vision "... [That] was a progressive escalation through a bidding phase and building the relationship before issuing the contract." (R10) It was indicated that the client was looking for evidence that the contractor was able to deliver outstanding outcomes across a number of predetermined facets of project delivery aside from the price. Some contractors indicated that they were *selling* trust and providing equitable arrangements of value for money so that clients were able to benefit from a better return on their projects. They recognised the client's investment and referred to the process of establishment as a sometimes *gruelling* process requiring an enormous effort. The effort came from senior management rather than middle management, who would typically be responsible for tendering/ concept development of design and construct or design bid build projects. Some contractor respondents referred to a strategic aspect associated with alliance establishment, a point that refers to the earlier discussion point of selling trust. To prepare for the establishment workshops the contractor team would undertake team building exercises and learning of each other's abilities and attributes.

If a client asked a particular person about a certain issue they would be able to indicate the best person to answer the question. In the strategic *play* at the alliance development workshop there was no place for business development personalities (although they clearly had a role in the background), the contractors were adamant that those who would eventually work on the project were the people that would participate and clarify things about the proposal.

Throughout the discussion on establishment of the alliance the contractors recalled the underlying drivers for the change to an alliance methodology. In the recent past it had become increasingly clear that traditional design bid build and design and construct procurement was a "...Flawed way of doing business". (R21) In effect "...Who ever has the lowest price [wins the tender and consequently] loses the most money" (R21). Many activities in the design and implementation of the project were known not to be in the client's best interest. They were forced upon the contractor "...Through commercial arrangements we were in and vice versa. We saw clients in an adversarial stance who were holding information from us because it jeopardised their commercial position." (R21). In this context earlier attempts to move from traditional design and construct to partnering were noted of little benefit. The contractors view being of partnering was the clients "...Call bids, pick the lowest, screw them down [negotiate the price down from a position of power] and [then sign a partnering agreement]." (R21).

When the contractors were asked about beneficial outcomes of the alliance development process they identified several aspects. They were distilled to three primary themes; trust, commitment and mutual goals. They were not expressed in exact terms but the following points and examples provide evidence of the underlying association.

a Trust

Client selection is made on the basis of qualitative attributes, like trust for example. This qualitative selection enabled contractors to differentiate themselves from competition in a fundamentally different way from price alone selection. It was recorded by many of the respondents that financial aspects were considered, but only in a limited way. Clearly intangible selection criteria were at the forefront in client's minds. The selection process was described as "...Working with people and not the money." (R21).

The trust – there were some things that came up that had commercial impact and it's the way they actually worked through those issues and the final agreement on those issues... – commercial terms and conditions of contract in the workshops [for example]. So that [agreement] tested their commitment as well... there had to be trust going both ways for people to sign off (R01)

b Commitment

The contractors indicated that the alliance development process afforded rapid team building with participants quickly becoming empowered and knowledgeable regarding the project. They indicated that the workshops were integral to alliance development and as an outcome they expected to have an understanding of the management of what needed to be done by the stakeholders through the design and implementation phases. It was said that following the selection process the project had a dedicated organisation, with the participants having roles and responsibilities. One respondent indicated, "...It was a very good process...of getting the team together and all going in the same direction." (R16).

The commitment, we had the senior people there [and their] part of the workshop was to come up with a list of commitments for the particular alliance. So we were assessing from the commitments, that this group were prepared to put up...[in other words] this is what this alliance is committed to achieving. It enabled us to determine whether or not they [the non client participants] were truly an alliance organisation or whether they were just playing the game to get the job (R01)

Commitment was carefully considered and several contractor respondents raised the level of importance that they gave to commitment and its associated risks. Risk and reward workshops form part of the alliance establishment, however their structure and deliberation are outside the scope of this thesis. It was noted that key personnel would have to be dedicated to the project from an early stage. Often the key characters would be very senior. Whilst this was seen as an advantage for the development of behaviours that were beneficial to the project, there was a down side or risk that burdened the project. The risk was that in the very early establishment phase there was competition and it was not guaranteed that the client selection would be favourable to a particular contractor. Once selected as the preferred contractor an overburden of initial resources would add strains to other projects that the participants were involved with.

In the interviews an example of demonstrable commitment was provided by one contractor respondent;

I was involved in that XX [project name withheld] bid and we were going well until one of our senior people got up in the middle of the workshop and said he'd have to leave and fly back to Melbourne because he had something else to do... it went over like a lead balloon. The alternative consortia brought all of their senior managers, if a senior manager was nominated to be on the alliance team he was there, they were there for the full half-day interview and two day workshop.

So there was a demonstration that they were fully committed to it. (R63).

c Mutual goals

The participants were able to put key people into the team; bringing great benefit to the project. Throughout the process participants were concentrating on outcomes from the project rather than the *bottom line* or financial aspects. These financial aspects would typically come to the fore in more traditional design and construct or design bid build procurement process. The contractors articulated that they prepared to access a significant pool of human resources with the likelihood that they would produce outstanding results. The outstanding results were in cognisance of the *client's drivers* that included; innovation, new technology, environmental issues, community relations issues, or dollars. Typically the benefit in this area was an understanding of the people being dealt with and a common understanding "... Of what's expected and what the client expects" (R09). So in effect it varied from a traditional procurement scenario in as much as the project was not a "...Turn up build and disappear job." (R09).

Collaboration with the client's team was important as indicated by the following;

Well the benefits are that once you go through the process and get your team on board, everyone is then focussed on doing the job, so you've done the hard yards, you've everyone aligned, and after that all you're doing is the job.

That's one of the benefits. (R30).

The client was part of the team even in the selection process. It was noted that in traditional design and construct projects each team puts forward proposals in the bid process in the absence of owner representation. In this traditional process there

was the opportunity for miscommunication and consequent tension associated with changes to the scope.

There were some shortcomings highlighted by the contractor respondents when discussing alliance establishment.

Time was an important consideration with many of the contractor respondents indicating that the process of alliance establishment was lengthy.

...It [s] a very long winded process, you've got to write a forty page proposal to say how good you are and then go to a half day workshop, interview, a two day workshop, and you do all the preparation for that, so it's not just the writing and the half day and two day, it's all the in between time getting ready for it, which is very time consuming and very demanding and almost very invasive..." (R30)

The balance of risk and reward in the array of procurement routes concerned contractors. For example, they indicated that the alliance route was less risky than simple design and build. However, in considering potential alliances contractors were constantly reviewing their strategy in the light of prevailing economic data. It was indicated that in the alliance market potential opportunities were limited in a *boom market*. To overcome these shortcoming strategic decisions were made regarding potential alliances to balance a portfolio of projects with other types of procurement, where margins of profit would be more significant. This strategy would balance the risk and reward scenarios associated with the various types of procurement route available.

8.3.2 Clients

In a similar way to the contractors the clients were working in relatively unknown areas with regard to the alliance procurement process. Clients would look for experts and those with existing alliance experience to provide assistance. For example project managers scoping out large scale public sector projects the likes of North Side Storage Tunnel Project in Sydney, Australia, sourced information about the alliance process from those involved with the well-known BP Andrew, Wandoo and East Spar oil and gas alliance projects. Particularly they were sourcing people in the market with communication and team building experience who had worked in alliance selection processes. So in the same way as the contractors, the clients used

coaching to enhance their knowledge and understanding of alliance development. With these coaches they developed rules for working.

Clients were attempting to understand the team that once selected would “...Deliver the project for you.” The process of selection was described as a continual growing process with refinement through subsequent alliances. The clients in accord with contractors recognise a typical model that had developed in Australia. The generic model had developed through specialised consultants who provided a service to accommodate the recent acceleration in the use of alliance and relationship style projects. It was noted that the generic model was varied successively to comply with the unique nature of each project.

The clients were of the opinion that the alliance establishment process benefited them in terms of time and cost. This satisfied two of their key objectives in projects. They cited the fact that alliance type projects

...Enabled meeting tight time constraints [and saved money,]... [Alliances helped] getting the project going with minimal disruption (R17).

Major public sector clients were part of the field study. These clients had significant process expertise. This knowledge and expertise in traditional design and construct projects was found not to be used to its full potential.

Much of the documentation that was generated in a traditional tendering sense was superfluous in alliance development. The clients used face-to-face meetings and workshops to establish the credibility of their final partners to the alliance project. For example clients recorded in many projects that documentation was limited to essential paperwork and there was a great reliance on face-to-face meetings. This circumstance may be illustrated by the following;

Anyway things didn't sink in so when the actual applications closed firstly, every single consortium that was formed and I think it was eleven in the end, every single one of them exceeded what they were told was the maximum and we would throw them in the bin if they exceeded more than the max allowance of pages. We really were serious because all we wanted was to assess the companies, not a 1000 page design of a treatment plant.

Some of them missed the point; some of them missed the point worse than others. But there wasn't one of them that came within constraint so we couldn't carry out our threat and say that they would go straight in the

rubbish, which is what I was going to do. They spent thousands putting them together, and if there had been one of them that complied I would have put the other ten in the rubbish (R17).

In the establishment meetings the client is able to put faces and oral discussion to what they have read in the proposal. In the traditional approach where the proposal is read on a desktop in isolation it can look overly glamorous. Meetings with the project director or lead manager for example can give an entirely different perspective to that gleaned from a written proposal. An example from one of the respondents exemplifies this point;

...When you actually meet the person they're putting up as the project director or the lead designer or the design manager, you may get an entirely different impression. And it can go either way. It could be: ah this guy is a lot better than he reads. Or it could go the other way: gee, this guy sounds like he's got a lot of experience and reads really well, but gee, he's a bit quiet; or gee, he seems a bit arrogant, or whatever.

So they're starting to form an opinion about the people because ultimately they're picking a group of people to work with. So it's almost like...I've heard it referred to like a giant HR selection process (R04).

There were elements of strategy in the selection process and clients referred to workshops where they would design break out meetings with preselected managers carefully placed in each of the groups. The manager's role was primarily to assess how the contractor consortium would deal with the management exercise that had been preordained by the client's facilitator. To allow interaction the managers were rotated in and out of an observer role. This in its own way served to disable the contractor's attempts to *man-mark* those that they suspected had a greater decision making role than others. Senior staff and technical staff were included in the process. The selection criteria were comprehensive and far reaching. The selection was focussed on non-price criteria that looked at the contractors other abilities. Credibility was an oft cited criterion. One public sector general manager captured the sentiment of many in the following;

There was a huge list of things that we scored and it did include things like technical competence in past projects and various things but it also included more *subjective* [italics added] things such as what we actually thought of the

company's attitudes and the people that attended, which was meant to include all the key people that they were going to physically put on the project, one of them scored very badly not just in the subjective but scored badly in that some of their key personnel weren't present because they were with another client. This company probably started as favourites before the workshop but blew it by not having, and the key guy breezed in for about half an hour on the second afternoon, off a plane and they were all very casual about it. It showed a lack of *commitment* [italics added] and we thought not only lack of commitment but they got marked down on lack of nous and political thought.

(R17)

Several clients were clearly not interested in price at all at the establishment phase, others were. This bipolar view is explored in 8.5 below.

Interestingly, in the selection workshops despite the planning and forethought that went into the management games mentioned above, the clients were not particular about the actual outcome. Their focus was on the process and interaction between the group participants. As this interaction ability had a significant bearing on the partner's final selection. The output material was noted to be useful later in the implementation of the alliance project. In the later stage it was to be utilised as benchmark data for building upon in creating the final project design and target outturn cost.

When asked about benefits that were outcomes of the alliance development process the clients identified several aspects. They were distilled to three primary themes; trust, commitment and mutual goals. They were not expressed in exact terms but the following points and examples provide evidence of the underlying association.

The expense of establishment was mentioned by several of the client respondents, with the majority sensing that the cost of tendering to the contractor was far less in an alliance type of procurement than a traditional design and construct project. It was indicated that despite the favourable cost benefits to the contractor clients had a burden of additional expense. The additional expense to clients involved senior personnel in preparation. The preparation developed suitable criteria for evaluation, providing coaching on ways to evaluate the selection criteria and *resourcing* the client's team for the lengthy duration of the evaluation period. The resourcing would not be limited to organisational support; it would typically include

dedicated accommodation, facilities for meetings and review panels separate from the client's home base.

There was a clear sentiment that “The right people either make or break a relationship style contract.” (R25). Alignment of potential partners at the earliest opportunity was seen to be important. The right people in the right environment that nurtures innovations are able to identify and action processes and procedures to establish and maintain incremental major breakthroughs in cost savings at all stages.

a Trust

It was noted that the team development in the establishment phase built trust and created harmony that continued into the implementation phase of the project. The client respondents commented on the difficulty that they had with regard to assessing trust with a suitable scoring criterion.

b Commitment

The sentiment was that clients appreciated working with contractors to develop the scope of projects. They were cognisant of particular individuals' skills and knowledge over and above the company's experience and track record. Clients referred to this as the ability to “Know who you are buying and probably what you are buying in greater detail than you would under a traditional contracting regime.” (R19) They referred to a “Consultative approach” (R21) where the contractors associated top performance with additional reward. Recognising this the clients were of the opinion that they paid more in the early set up stages of the project, recovering additional value throughout the implementation phase of the project. The sentiment of one individual exemplifies this point;

That's a huge [value] benefit and you start a relationship much earlier than you would ordinarily. You have an input into the methodology; not just design or construction methodologies, but the whole pricing philosophy and the way in which things are priced (R19)

For their part the clients indicated commitment to the project by including senior people. The client's senior people were present at the workshop sessions and complicit to establishing a list of commitments for the particular alliance. This enabled the clients to determine whether or not the non client participants were “Truly an alliance organisation or whether they were just playing the game to get the job”. (R01) The fact that the participants were actually agreeing commercial terms that

were to become a part of a contractually binding document was said to show commitment. This commitment was converted to trust as the participants became aware of the commercial impact of their decisions that they had to sign off against as the commercial side of the arrangement progressed.

Several of the clients indicated that commitment was a “Given” (R02) and used terms such as inferred, this is conditional, to explain the concept.

c Mutual goals

In a similar vein to contractors the clients considered the opportunity of actually getting to know the team that they would be working with as a distinct advantage. The sentiment expressed was that doing work in the establishment phase that would be used in the design and implementation was a benefit. “Progressive engagement” (R20) was a term coined by one client respondent to describe the building of a relationship over several months prior to the commencement of a project that served to engender commitment toward mutual goals. Personal development was a factor considered by some that enabled particular stakeholders to achieve highly.

There were some shortcomings highlighted by the client respondents when discussing alliance establishment. Value for Money (VFM) was suggested to be problematic. The problem did not concern those involved with the alliance establishment process to a great degree as they had reconciled themselves to the fact that VFM was provided. The problem that was articulated by many concerned the way that they were able to convince their superiors that a seemingly non-competitive establishment process was in fact achieving VFM objectives. Several of the respondents spoke about discussions that they had in recent past with politicians or auditors general in order to allay the fears of these senior decision makers and advisers. Clients indicated that politicians and advisers suggested “You can’t guarantee value for money unless you can base it on a competitively priced approach.” (R62)

The intensity of the “Embracing process” (R01) was a shortcoming highlighted by several clients. The alliance establishment became a very personal experience with ties created between the stakeholders forging closeness to the project to a greater degree than in a tradition bid scenario. A concern of clients was the losing

team. Their concern was that in the context of a current alliance early severance of a relationship at the time final selection in favour of another would be *crushing* to those not selected and possibly affects potential relationships some time in the future.

8.4 Relationship Building

The relationship that alliance partners were striving toward was likened to personal relationships. Good relationships were the focus and maintaining a position of high regard from a client was described as the contractor's goal. In developing their team the respondents would identify suitable partners that they could work with and trust. They had to be in a position to reciprocate trust that they developed with their potential partners. The relationships were best described by one respondent that indicated;

So it's very much like personal relationships. You have a business dealing with somebody, you like the way they do business, you feel, yep, I can work with these people, [and] I can trust them.

And also you feel they are competent. (R39)

Knowledge of key participants in the industry was deemed to be important. It was described as "Knowledge and respect of the individuals that we dealt [worked] with".

The respondents were clearly cognisant of the association that exists between the individuals that they work with in an alliance and the companies that those individuals work for. Due to the intensity of the relationship building in the early stages of the alliance the participants tend to place the organisation in the background allowing the individuals to come to the fore. They indicated that the companies are accounted for in selection however it is the individuals that are scrutinised in more depth. It appeared to several of the participants that they were looking for an understanding of the relationship development process, a level of comfort with the relationship development process and to work with a team comprising of many individuals that were from organisations outside their own. This was referred to as a search for *organisational compatibility* at one level and commercial arrangements at another.

In addition they had to be able to build a picture in their mind of the overall consortium organisation and think in terms of a bigger picture rather than somewhat selfish gain more generally described as being associated with traditional design and construct type procurement.

8.4.1 *Partner selection*

The respondent's comments concerning partner selection were similar across the stratified groups. Accordingly in this section client and contractors comments are combined. Appropriate reference to respondents identifies the individual in each case.

a Previous experience with alliance partners

Several of the respondents identified existing relationships with their alliance partners. These existing relationships had been established in earlier projects. The earlier projects had been implemented through a variety of procurement routes and whether successful or not as successful as desired, they had developed relationships that were remembered in alliance establishment. Most of the respondents that spoke about the impact of existing relationships on alliance establishment considered that they provided *comfort* to the participants. This comfort was an important attribute to build upon. The fact that the engineering and construction was perceived to be a *small* industry meant that on many occasions the potential alliance partners had knowledge of particular individuals but not first hand dealings with them. Alternatively personnel had moved from one organisation to another organisation and the relationship remained intact. In instances like this intra-organisational familiarity was enhanced due to prior knowledge of the personnel rather than the overall company. This was suggested to give a *natural fit* (R51) that was thought to afford differentiation to a particular team.

Due to the unique scope of alliance projects it was noted that on occasions partners were chosen simply because of their expertise. They were perceived to have the prerequisite expertise required to fill the alliance brief. In these instances there was often no existing knowledge of individuals and little knowledge of the organisation. However there were some benefits in a lack of relationship knowledge as the example given by one respondent provides.

On most alliance projects to date we have had long standing relationships. However on the XX [name deleted] project the participants were new to us and this changed the dynamics of the situation. A clean sheet [as in this

instance] provides some benefits as no one has expectations of the other parties. This provides the benefits of diluting any non alliance behaviours that may have been created in the past. (R38)

It seemed that clients worked on the assumption that both the contractors' and clients' organisation had reasonably good relationships. It was noted that a bad relationship with a company would impact significantly on the selection process. Generally speaking the relationship factors would come down to the relationships that had evolved in the past with individuals involved rather than organisations. One contractor respondent noted that there was a propensity to form an over reliance on personal impressions. In other words the subjectivity of the selection forces some in the selection process to "[Consider] subjective views; they are exposed to ...people liking each other rather than having people who are actually good for the job." (R28). The respondent continued to explain that in actuality it often transpired that those people in the tender evaluation phase did not progress to the project.

Overall two factors were required. The first was described as a willingness to embrace the objectives of the alliance or simply an understanding of alliances and how they work. The second was technical expertise and skills needed by the stakeholders to deliver the project. In essence their depth of knowledge was important. For example many of the projects that the respondents were involved with at the time of the interviews were particularly complex or had a degree of novelty that had driven the client in the first instance to consider an alliance/ relationship style contract. In these circumstances it was clearly noted that they were looking for particular expertise in a specific area, waste water treatment, special concrete or structural matters for example. The skills brought in would *blend* with existing (client) expertise and skills creating certain strengths that were needed for the project. The contractor partners were aware of client requirements in this context and many spoke of the need to sell a credible team that had the requisite skills and understanding of alliance attributes to the client. The contractors were looking for ways to add value for the client. It was unusual for them to partner with others that did the same thing. They noted there was no point forming a relationship with a group of people that do not have the right skills mix. However the relationship may have been simply used to increase resources available to the project. The question often posed by contractors was;

There's got to be a logical answer to the question, 'Why should I work with this other company?' 'What's in it for them?' And you should be honest about it. 'What's in it for them; what's in it for me?' (R39)

One participant described the value created as "Their knowledge and ...modus operandi." (R15). In other words knowledge was created from the synergies of people brought together to undertake the project in a certain way. This tacit knowledge available to the individual was made explicit to the project participants through the vehicle of the alliance contract relationship. It then became codified for review in the workshops and development exercises. The environment of commitment and trust enabled this sharing of knowledge and enabled the participants to look at new ways of reworking processes and products to gain advantage for the client in completing the project. Several of the respondents identified acronyms that would encapsulate the factors that they were considering in selection. One respondent noted that they referred to 4-C's. 4-C's stands for "Commitment, Capability, Culture and Cost." (R07). It was emphasised that whilst cost represents a part of the model; it only represents a minimal share. In the respondent's words commitment, capability and culture are the "Big Ones" in alliance development and selection.

Other criteria mentioned that effectively formed selection criteria that the respondents would draw on to rationalise their previous experience were "Personal capability and experience; design capability; management, financial capability; product; appreciation of the alliance approach; organisation compatibility, and work force management." (R02). Having said this, client respondents clearly focussed on the less tangible in measuring their previous experience, for example this was captured by respondents indicating that they attempt to measure commitment to open-sharing of information against selection criteria. These intangible criteria could not be measured when reviewing a written submission and were evaluated in the workshop.

b Ranking of participants

Approximately 25% of those interviewed chose to speak about the actual ranking or weighting given to certain attributes of participants involved with selection.

Experience was recorded as a high ranking selection criterion. One of the respondents indicated that there was often too much emphasis or weight attributed to

experience. Demonstrated capabilities and skills rather than experience were defining factors. The following encapsulated the point;

Experience is an interesting issue because as you go through life you start to find people who have twenty-five years experience at doing something, but there are a large number of them who have twenty five years of, twenty five of the same years...that usually means, god they're hard to change. (R43)

It was clear that particular personnel were not suited to the relationship environment that is being created for the team to move in to. In these instances the contractor respondents noted that if it became clear after a couple of workshop sessions that particular people were unable to commit to the relationship environment, action should be taken. As a rule the typical action that would be taken would be to swap them around to utilise their skills in other areas or replace them. It was not always necessary to replace individuals. It was identified that the strength of the other participants in the team would make up for any shortcomings from one person.

Participants recognised a ploy used when making presentations to those upstream in the supply chain. The ploy consisted of employing business development people to put on a good show that would impress those making a selection. In the alliance selection, care was taken to avoid this and those interviewed indicated that management people that would undertake the project were always used. It was said that in a scenario where business development people were used they would quickly be found out. The discovery was generally associated with the long time scale of the workshops. Respondents indicating that a *false pretence* may remain intact for a short period, but over the course of two days it was difficult to maintain. In addition to the time scale the intensity of scenarios given to work through would also make it difficult to provide a front.

In the workshops interaction was carefully managed in order that previously established relationship development criteria was fairly evaluated. The evaluation process was problematic from the client's perspective in one particular way. The design of the workshops was to maximise interactivity, establish connection to the project and evaluate stakeholders under a number of selection criteria. The selection criteria would, amongst other things determine the propensity of the partners to establish and manage useful relationships. The interaction by its very nature would require combined input from client and non client participants. The client's

participants for their part found it difficult to evaluate and at the very same time endeavour to form the connections/ relationships that were themselves a crucial part of the development process. Particular problems were described as to avoiding *leading* the non client participants.

Much of the ranking of participants was associated with the level of maturity of those involved in the alliance selection process. For example more and more frequently respondents are working with groups that are willing and able to work within the sphere of an alliance or relationship contract in a collaborative and cooperative way.

8.4.2 *Partner credibility*

The respondents were asked how they established credibility of their alliance partners. The purpose of the questioning was to construct a link, or otherwise, between the stakeholders developing intangible selection criteria that would enable them to satisfy their own perception of value for money. Subsequent questions investigated their ability to evaluate or rank the selection criteria that they had created. The end result of their deliberations would enable an accountable and auditable decision trail that was clearly documented.

a Contractors

To determine the credibility of their partners in an alliance the respondents in most cases took the opportunity to discuss their efforts to evaluate demonstrable evidence of organisations and those people working within the organisations. A thread that flowed through all the discussions in this section was an ability to show or assess effective experience and competence that could be delivered through the project vehicle. For example particular respondents indicated;

...People being able to demonstrate that they have done it [alliance/ relationship style projects] and are effective. (R43).

...You've got to be satisfied of their [alliance team's] competence, and you've got to be satisfied of their genuine wish to abide by alliance principles. (R39)

Many of the respondents seemed satisfied to assess credibility based on their past experiences with individual organisations or personnel within particular

organisations. The respondents indicated that a decision simply came down to knowing the people and their capabilities. This was described as;

[With] knowledge of the market [associated with feedback from the client]...you've got feedback ...about how particular companies are performing; how particular individuals are performing, their backgrounds... (R57)

Utilising this information it would be known how particular companies were performing, how particular individuals are performing, and also forming an understanding of an individual's backgrounds. In other words reflecting on one's own experiences with a particular person from an organisation and supplementing the decision with referral from referees.

Other respondents indicated important issues in determining credibility were "By reference checking, previous knowledge, checking their CVs, their capability statements". (R30) Respondents also indicated "We know who has the expertise and who does that sort of work around in the business." (R14) this was further elaborated upon and exemplified by the following;

You would know that there are four possible partners and whether other consortia had teamed up with other partners or whether we got in first. All the people who know are elsewhere at the moment. You have got to settle on somebody. (R14)

And I guess, you tend to know who the good ones are and aren't and we've been fortunate enough to ask the best ones and be able to have their agreement, you know...So I imagine...ah, in some cases we've been told, oh no, sorry, you're too late, we're with another team. (R51)

You really need to get in early because that's the nature of the contest that if you can secure the best team you've got a better chance. (R51)

How the assessment of credibility was made varied between the respondents. Some relied on little formality indicating "It's really phone calls and a meeting asking – 'do you guys want to join us in this?'" (R14) These respondents suggested there is no formal process as there is no time to carry it out. However, others were more formal in the process and undertook their evaluation along similar lines to a quality audit. The audit was to provide full documentation and accountability of those participating in the process. In the audit process they would consider performance, technical capability, communication skills, and relationship type skills; and "Whether

they're [those being assessed are] seen as an A-grader or a B-grader" (R57). The evaluator would consider an individual's personal experience and how that person worked with a particular team. A comment from one respondent typifies this;

From XX's [company name deleted] perspective, I believe we had a couple of meetings with one or two other engineering houses and then settled on company Y [company name deleted], I understand though from Y's [company name deleted] side they actually interviewed a whole range of companies and scored them and then settled on a partner of choice. So from XX's [company name deleted] perspective it was a lot less formal than Y's [company name deleted]. (R16)

Essentially those doing the evaluation would ask whether those being assessed "Were alliance type people, whether they were going to fit in with the team and whether they were team players". (R57) If it were found that they were not a team player the evaluation team would ask themselves if they were still able to work with them based on their technical expertise. This question was based on the premise that the alliance team would be able to second others to carry out the communications and relationship aspects of the ongoing project. This was referred to as a necessary *balance* in competitive markets.

Issues of trust were noted to be rising from the foundations of credibility determination. Much of the foregoing discussion showed that the respondents were relying on their feelings when determining the credibility of their partner. They were putting faith in the word of those that they were interviewing and relying on the fact that promises made would be delivered. This link between promises and the earlier notation to trust signifies the bonds that the participants were associating with respect to communities of practice. The communities alluded to by the respondents are similar to those that Walker and Hampson (2003b) describe as being vital for alliances and partnerships to be maintained. Individuals and not necessarily the organisations were under an obligation to be credible in their dealings associated with the project. This may be exemplified by one respondent who stated; "Whose word are you actually going to rely on, [a rhetorical question] and that's very much individuals in the companies." (R43).

Credibility hinged around the people put forward for the project. The respondents were anxious to ensure that they not only select credible people, but also

that those people selected would be available for the project and were not simply ‘marketing’ people with the sole purpose of winning the job. A noteworthy comment encapsulated this point; “...An important part of credibility is that the organisation can deliver those people” (R43).

The process of assessing credibility was perceived as a powerful assessment tool. The process was referred to as cutting through the surface. In the process the assessor had the ability to gain an understanding of the *real people* and the *real organisation*. The comment was made that this was far better than in the past where the only assessment was “...A [written] proposal and a price and they [the documents] would also say all the right things.” (R04).

b Clients

Client’s determination of credibility was largely assessed through analysis of financial and commercial checks. Clients would request information that would indicate typical overheads and profit of a particular organisation and then check the facts with the use of auditing processes. They would ask the non client participants to open up the books for example;

It’s their openness, whether what they told us is actually supported by commercial reality. We asked them for a look at their profit and overhead, for the level of profit and overhead they were actually achieving from the market place and we asked them to open their books up so we could see that what they told us was in fact true.

Yes, whether what they said they would achieve was backed up by fact. We actually went in and audited their books.

It was expressed that by doing this the non client participants to the alliance were submitting themselves to a review of their *inner sanctum*. This in itself “...Demonstrates, you know, how credible they were in putting themselves forward as a good partner”. (R62). Clearly the client respondents put great stock in the preparedness of their partners to be open in a *commercial way* as they put it. In some instances clients relied upon their external facilitators to “Put the acid on them [non client participants] to some extent” (R62) at the workshops to solicit appropriate information. As mentioned above the information provided in the initial workshop would subsequently be checked through a rigorous auditing process. In effect the client would expect to know that what was said was in fact true.

The key things that clients considered, in addition to ascertaining that the companies they were looking at had the capability and capacity to do the work, was their team and their affinity for alliancing. The affinity for alliancing came out of testimonials. Clients solicited testimonials first hand and expressed the sentiment that it would be easy for organisations to say;

We get along with clients and look after their interests but that's them telling us that, so when you get the clients telling you that, it means something.
(R01)

The client respondents suggested that when they received alternative client referrals first hand, it really meant something. It was suggested that this approach was fairly novel as non client participants never actually asked clients for a testimonial.

In the same way as the contractor respondents answered the client participants were interested in the people that would be associated with the project. It was expressed that observing the potential participants was more suitable than looking at a list of names on letter headed paper. Without the opportunity to meet the participants it was noted that the client participants had no way of knowing what they were letting themselves into. Clients advised that it was very important to know whom the teams of people were and there was an expectation that suppliers or contractors would actually provide their background and appropriate CV's. The sentiment was that it was not necessary the company that was going to make a project successful it was the actual team that were working on the project.

Typically the clients also wanted some guarantee that the workshop participants were going to be staying with the consortium for the duration of the project.

It does come down to do I think that I can work with the person sitting across from me, how do I think I'm going to work with that person when it hits the fan basically and this project is going badly. They're the intangibles that come into it. It really is a question of experienced people from both sides sitting down and saying yes I can work with that person. (R19)

8.4.3 Relationship development

The relationship development was in an early stage of evolution at or around the time of the two day workshops. The two day workshops were an integral part of

the relationship development process. Theoretical scoring had been carried out prior to the workshops but it was during the workshops that the client participants would like to draw those relationships out. The client participants to the alliance would rely heavily on guided facilitation providing interactive sessions that would test the non client participants to see if they were really able to behave in accord with the spirit of the relationship contract or whether they would be likely to revert to '*adversarial contractor type roles as before*'. One client respondent encapsulated this reliance;

Hopefully the activities will put people on the spot and put them under a bit of pressure and see through the veneer. (R40)

a Contractors Relationship Development

This is the write up of relationship development from the contractor's perspective and was created using a mind map of the lengthy transcript concerning the line of questioning (Cacioppe 1992). The mind map came from the vector matrix created using N6 that is described in Chapter 7.

It was indicated that the interview process for alliance selection was difficult from the contractor's perspective. Many of those that spoke about the process of being interviewed for selection suggested that it was an uncomfortable procedure for them. They were not always familiar with the process and many of the respondents were not experienced in what appeared to them to be a very subjective process. Their background and experiences thus far in construction seemed to like a far more methodical and tangible selection process. The workshops that followed the initial interviews were said to be similar from a level of perceived comfort although it was indicated that coaching prior to the selection workshops provided some benefit by giving an insight into what would follow. Coaching reduced their levels of anxiety to some degree.

The contractors that responded to the questions that covered relationship development in the main spoke about the relationship development that they would experience in regard to the client participants of the project. Prior to meeting with client participants at the workshops the contractors indicated that they had spent considerable time developing their own relationships with other non client participant partners.

The main focus of the following discussion relates to the relationship that would develop with the client participants at the two day workshop as this was the thrust of the questioning. Despite this some respondents chose to talk about development that would ordinarily have taken place prior to the workshop. Notes from this aspect of the interviews have been captured below only where it is found that relevant issues of relationship building had an impact on the relations that were created in the workshop.

When asked about the relationship development several themes emerged from the contractor respondents. These are listed below in Table 8-8 and elaborated in the subsequent text.

Table 8-8 Relationship Development Contractor themes

1. The process of the RD workshops
2. The underlying attributes associated with the RD
3. The outcome for the team or participants in RD
4. Organisational issues associated with the RD workshop

1. The process of the workshops

It was indicated that the workshops provided a context for the relationships to develop. It was implied that the underlying structure of the workshop would form a scaffolding from which the relationship, and to some degree the success of the project, would be built around. It was suggested to be a “Very good process of getting the team together” (R16) or “Kick-start for the relationship development.” (R04). It added value to the whole process. Coaches/ facilitators were invariably used in the workshops to guide the participants along the desired course. These facilitators were often outsourced or occasionally seconded from managers with experience from within the client participant’s organisation. In the context of the workshops where the relationships were nurtured and evaluated a coach was only able to do so much. A corollary of this suggests the participants were collectively responsible for the development and the outcome of the workshop. In other words the outcome would be despite the consternations of the actual facilitator as “You can only coach so much you have to have the base material.” (R15). The base material would be the participants and the knowledge that they brought to the particular workshop.

Despite the feeling that the workshop process provided a pressure cooker type of environment where the contractors were attempting to learn principles and concepts associated with an alliance methodology and at the same time show they were receptive to the concept; it was suggested that it was a good deal “Better than what we’ve been through in the past; it’s a good process [of selection]”. (R04).

Participants to the workshops had differing experiences with the workshops and the workshops were often adapted to suit the needs of those attending. There was no standard suite of things and the workshop process was different depending on the participants. Coaching was recognised to have a bearing on the outcome of the workshops and so it was apparent from the interviews with contractors that certain tactics were employed by the client participants to neutralise any outside influences that coaches may have. It was stated that the workshop formula was changed constantly to avoid this influence. The contractors would endeavour to understand the process and to supplement limited knowledge they would study the process for a long time, visited other alliances, interviewed alliance owners and alliance participants. Doing this they would become very well informed. The process of the workshop was developed with an evaluation guide and then there were activities designed to specifically test particular competencies under consideration. This process was described as a competence based approach to selection. The process was likened to a giant human resources (HR) selection process.

2. Underlying attributes associated with the RD

Collectively the contractor respondents were positive regarding the underlying relationship development that took place in the two day workshop. Within this theme the contractors identified several issues.

The most regularly spoken theme was trust. Of the 17 contractors that responded in this section of the questions 35% of them recorded comment concerning trust building. The respondents linked trust to respect as being important concepts in the relationship development. Having made this point it was emphasised that the participants require the right mix of “Aggression and outcome” (R09). It was described as important because the relationship was not meant to be an arrangement where everybody had to get on with one another regardless of the outcome. One

respondent expressed a need to be open and candid; another expressed the same sentiment with the use of the expression not holding off of one another. By acting in this way they were able to engender trust. As an example if someone was answering direct questions and adding no more, they were not really engendering trust, but this did not mean that they could not be trusted necessarily.

To determine relationship building the workshop was designed to break down the formality of the interviews that short listed the non client participants immediately prior to the workshop sessions. It was described that the formality was deconstructed using a mixture of formal and informal activities that put the non client participants through a combination of stressful and more relaxed circumstances or scenarios to see how their reactions to them were. In all the activities whether formal or informal, the non client participants were assessed by the client panel. In these circumstances the client panel would be considering how the non client participants were going and whether they were displaying empathetic behaviours for example.

The respondents were particularly receptive to trust and trust building behaviours and were prepared to commit to the ensuing relationship. They were careful not to approach the workshop with too many doubts and indicated that “If you approach it [the relationship building workshop] with doubts and looking for [problems] you are going to find them...just like marriage.” (R10). Several respondents suggested it was easy to respond from the heart in the workshop environment suggesting that mutual understanding was a key to the relationship.

The contractor respondents went into the workshop with an open mind and went forward with the assumption that they could trust the client and hoped the clients reciprocated the trust offered.

Twenty four percent of the contractor respondents chose to convey the feeling of openness that was endemic within the workshop environment. This was described as an honest open attitude coming from a proponent team that provided a fantastic focus to the project. Openness and candidness in expressing views was described as the biggest measure of trust development. This was conveyed by one respondent who indicated;

...[I] believe that if I put this forward, I'm sure that it is not going to get knocked back; everybody is going to listen to what I've got to say, because everyone else is of the same mind that they're going to be listening (R51).

Openness as a trait that the client participants were monitoring was clearly aligned to the trust building environment that is described above. Much of the dialogue from the respondents on the issue of openness was articulated at the same time as they conveyed their thoughts about trust. Clearly from the contractor perspective the two variables were closely related. It was suggested that sharing experiences both at work and outside of work enabled the workshop participants to "Very quickly come to understand each other and... [gain an] understanding of what makes these people tick" (09).

The third priority theme for the contractor respondents was focus. The workshops clearly focussed the minds of the collective participants on the prospective project. Much of the activity that took place in the workshops was targeted toward development of strategies and processes that would benefit the project. It was argued that trust and openness that has been described before allowed the participants to focus on problem solving and develop innovation that would be transferred to the project itself. Having said this it was noted that workshops were purely focussed on people and assessing their suitability for the project. Any technical outputs would simply become a benefit once selection was made. The focus is such that the non client participants were in the workshop with the sole objective of securing the project on the basis of best for project outcomes and participants.

Effectively what you've got, if it [the workshop] is done well, is you have an owners team understanding why it is doing an alliance and preparing itself for the alliance while in parallel with that you have proponent teams out there in industry, really focusing on delivering the project and building a high performance team that is going to give them the best shot and deliver the project (R19).

Several of the respondents spoke about the following issues.

- Bond

To be successful the non client relationships should be well established prior to the workshop, and a bond should be evident. The non client participants should be

thinking and talking as a team and behaving like a team in an appropriate alliance manner at the outset of the workshop. It was suggested that the creation of a bond was a really important step. For example it was suggested that typically in the construction industry it would be found that there would be prior knowledge of some participants before the workshop. This was explained by the fact that construction is a small industry. Further explanation followed; if the client participants had fifteen people at the interview, there would be most likely half that a participant would have met before. If the client participants did interviews (as opposed to workshops) and then you met some participants a month later, the chances are those people you met for the first time would likely become a vague recollection. However, when you go through a two-day workshop, it would be likely that an individual would remember ninety percent of the people who had been present. They would be remembered for years afterwards.

This was explained as the difference in terms of how much you get to know people in a two-day workshop compared to a straightforward interview.

It was suggested that the workshops enable the parties to see each other in their *true light*, which is an advantage over interviews. The interviews were difficult for some and not nearly as effective as providing a good insight into how the future relationship may develop.

It was indicated that relationships developed quickly if a bond is evident and there were particular tactics that enhanced this attribute. One respondent indicated that the non client participants collectively set up an office and saw each other every day for about 6 weeks prior to the tender phase. In doing this their team bonded quickly. Subsequently during the two day workshop with the client participants they found it easy to form casual working relationships with the entire project team. It was suggested that on occasions there was not too much depth to the relationships in the first instance at the workshop but the positive side of the workshop outcome was that the non client team got to meet all of the stakeholders from within the client team who were interested in the project and outcomes. It was a good process as pre-existing relationships were renewed.

- Testing the relationship

The comparative newness of alliance procurement was cited as a reason that it would test relationship development. It was indicated that client participants were requesting the non client participants to work in a manner that they had not worked in before. It was suggested that as commercial and corporate positions were tabled at an early stage alignment was reached quickly with a full understanding of the different corporate perspectives that were brought to the workshop. The workshop relationship development was designed to reaffirm technical issues that were broached upon at earlier interviews. At the earlier interviews selection criteria or prequalification matrixes would rank order a comprehensive list of those consortia that had submitted expressions of interest against a broad based request for proposal. Following this it was purely the relationship criteria that were under scrutiny in the workshops. The relationship criteria were described as subjective and this has been noted before. Examples of typical criteria were given as knowledge of alliance principles and where the proponent team were in terms of their culture. These aspects would be considered at the present date and also some time in the future; allowing for some incremental progression. The participants had to decide that they wanted to make a go of the relationship. It was up to the entire team to "... Just put all those [adversarial] issues to one side and make a go of it." (R21). Arising from this the virtual alliance organisation transcended individual company behaviours quite quickly and the team formed a life of its own.

3. The outcome for the team or participants in RD

A significant focus of the non client respondents' response concerned the outcome of the development of relationships that is described above.

Of the seventeen contactors that responded in this section of the questions seventy one percent of them concerned the teams that were an outcome of the relationship development. The integrated teams were interrelated with organisational fit from within the newly established virtual team and externally to their parent organisation. The boundary interface of these teams was clearly important to the respondents as it was described that the team would get a life of its own and transcends individual company behaviours.

This was described as an outcome of the team building and selection exercises that were carried out in the workshops. To get to this end the individuals at the workshop would have to “Be thinking and talking as a team and behaving like a team and behaving in an alliance manner.” (R57). The participants to the workshop had become “... A team, truly integrated, [it appears stakeholders were] almost part of the same organisation.” (R04) that knew what each other expected, were fully formed and were not holding back from one another. Thinking of innovative ideas in an open fashion was one of the ways that the contractor participants articulated this sentiment. Commenting on a point that construction/ engineering in Australia are small industries; the respondents suggested that certain participants might know one another. However this was regarded as positive in as much as it allowed new synergies to develop creating innovation and thereby empowering the team.

Following this there was recognition that individuals within the non client and client participants would be at different levels with regard to team development and there were strategies put in place that intervened and attempted to redress any imbalance. It was suggested that individuals were “... Trying to identify where a persons at, what they might be struggling with and respond accordingly.” (R43). The goals developed in the relationship development workshop were committed to further developing the team that would challenge the norm. It was suggested that positive behaviours were still likely to be forthcoming that wouldn't be entirely predicted at the workshop. Reflecting on their performance the non client participants would ask themselves; did they come across well as a team? The team that came from the workshop had actually integrated an additional player, the client participants. They had brought the client into the team and from the perspective of the non client participants this was perceived as the next step of the process; that of bringing an inclusive team together. A testament to teams was the development of personality recognition when people know each other fairly well. It was noted that in-jokes formed, likened to self-deprecating comments or comments made at the expense of somebody's personal habits. They actually caused no offence as a consequence of the strength of the team that was formed.

Contractors indicated that the relationship developed over time. The workshop period enabled the stakeholders to enter the alliance as fully formed, fully committed partners. This enabled the alliance to be up and running straight away. Others pointed

out that in the early stages of the relationship development workshop there would appear to be some cynical hardnosed approaches to the likelihood that relationships would consequently develop. Despite this it was observed that relationships would develop and synergies would form. The participants found that some connections would not work and their action in this instance would be to change things around and move on in other quarters. The participants did this with the anticipation that stronger relationship would develop as an outcome of the amended strategy.

4. Organisational issues associated with the RD workshop

It was suggested that both personal (individual) and organizational relationships would have to be formed. Having said this there was an expectation that many of the participants associated with contemporary projects would be known to one another to various degrees. The organizational issues were important but several of the non client respondents indicated that relationship building with individuals was paramount as it was fundamental to the relationship development workshop. They stated that they were keen to build relationships with those that were unknown to them. Following this, by the end of the workshop period the stakeholders would be a truly integrated team. The integration was so strong that several respondents to the interview suggested that it would appear to outsiders that they all came from the same organization.

b Clients Relationship Development

Following is the analysis of relationship development from the client's perspective and was created using a mind map of the lengthy transcript concerning the line of questioning (Cacioppe 1992). The mind map came from the vector matrix created using N6. The vector matrix is described in Chapter 7.

When asked about the relationship development several themes emerged from the client respondents. A point that the client respondents noted was the effort that was required in the workshop phase of the alliance development. The considerable effort was recognised to be universal to both client and non client participants. Although the contractors did not report this themselves it appeared there was a move in place from some quarters to dilute the relationship building workshops as the learning achieved from the process was becoming common-place. One participant

referred to this as “You almost need to do the dance [a reference to the process of work shopping]” (R19) so that things can be loosened up for the second day. More participants than not had been through the process at the time of writing and apparently this provided sufficient knowledge for some to suggest they should *cut to the chase*; the purpose being to speed up the relationship development process. Others noted that this was an unfortunate eventuality and allude to a false representation of the process. It was suggested, “No commercial workshop is ever the same it doesn’t matter if you are dealing with the same people again.” (R19)

The client respondents indicated that over the two day period of a typical workshop the group started working as a team, an integrated team and the ensuing discussions became totally open. The types of issues included how the non client participants were going to overcome the technical issues, the community issues and environmental issues; how the alliance was going to deal with safety. Other issues concerned how the relationship within the project team, the relationship between the governing body and the project lead team and the project team itself were to be managed. Finally they were concerned as to how the organisations were going to interact. In essence a major concern was indicated to be how intra organisational and inter organisational relationships were going to be populated together with policies on putting people into the alliance. It was clear that intra organisational alliance relations impacted upon inter organisational relations and relationships. There were several themes that provided an insight into the client’s perceptions of relationship development. Several were combined to develop Table 8-9. The four points in the table below are discussed in the following text.

Table 8-9 Relationship Development Client themes

1. Individuals, the organisations and their impact on RD
2. The impact of coaches/ facilitators on RD
3. The selection process underlying the RD workshop
4. Trust cooperation and commitment in the RD workshop

1. Individuals, the organisations and their impact on RD

The client respondents were interested in the individuals that were to become part of the overall team. Clients mentioned that they were particularly interested in

finding somebody within a non client team that had a people skills focus and the ability to judge and build on strengths weaknesses and behaviours of the team. The person they were looking for had to be able to carry out particular intervention skills, sensing “Where the heat [disagreement/ misalignment] is coming into some of the relationships [and enabling it to be dissipated].” (R20). Despite this discussions were often *animated* but individuals were prepared to overcome uncertainty as the workshop progressed suggesting that they were all looking for win-win solutions to problems and were to negotiate in according to the spirit of the ensuing alliance agreement.

An example where relationships would become strained covered aspects of risk and reward allocation and financial recovery that were discussed as part of scenarios developed for the purpose of relationship building and monitoring. These *hard negotiations* often came later in the workshop sessions after rapport had been developed and the participants were perceived to be getting along quite well. Other attributes considered that were highly regarded by the client participants were the ability to manage the interface between those within the alliance and those involved but not actively participating. It was described that most of the alliance benefits at this relatively early stage came from leadership skills in the area of forming and reforming teams. Personalities generally were important and clashes between members of the non client participants were noted. These clashes were noted in the same way as likely clashes between members of the non client team and client team making the assessment. In one instance a potential non client team had lost a tender for a project due to perceived personality clashes and the fact that they did not “Recognise... [the] problem and come up with some way of dealing with it” (R12). In another instance the client perceived that the “The project managers inability to engage in an appropriate way with the client, and the selection team.” was a problem (R17). In particular the clients were looking for well developed relationship skills. It was intimated that these skills did not generally come from project management people who spend most of their time working in a lump sum environment. The point made was that in a lump sum contract the client has the opportunity to walk away from the particular antagonist. However in alliance projects there was a need to manage the interaction to produce a better outcome for all parties concerned. This aspect was emphasized to be one of the key issues in an alliance. It appeared from discussion

with several respondents that senior people who appear competent are not always strong in the area of managing antagonistic interactions referred to above.

As indicated the client participants had strategies to evaluate and select individuals. This selection was in addition to their earlier consideration concerning company selection. In regard to individuals the clients noted issues that included openness, personality and a willingness to share. These traits appeared to be positive proof from the client perspective that the individuals within the non client team were suitable for the alliance environment that was being designed. The openness preceded the feeling of integration where the entire team were able to talk candidly and in a frank manner covering “Everything from governance through to technical solutions”. (R01). The workshops became project development sessions, the outcomes including; “This is how we are going to operate this project, and this is how we are going to work together.” (R01). Commitments were made and contribution came from all parties associated with the workshop, as it was perceived they were contributing to the shared objectives of the team. On several occasions the analogy of a poker card game was used with the client respondents observing the non client participants and noting whether they were “Communicating and putting all... [their] cards on the table up front.” (R30).

Working together was regarded as an important attribute. Of the client participants that responded to section of questioning thirty-seven percent highlighted this attribute and gave positive examples to exemplify the importance of the trait and indicate how it enabled the team that were preparing in the workshop for the alliance. In one instance a respondent cited an example where they found themselves in an existing relationship with a firm of engineers with a need to bring a constructor into the team. It was indicated that the opportunity for non client team members to form had not presented itself. To overcome the dilemma the client indicated to the engineering firm that they should endeavour to evaluate potential relationships with several preferred contractors under the watching eye of the client. The brief was to select an appropriate contractor and then move toward establishing a final resolution with the client. In the end the relationship was disjointed through the protracted process and did not work out as well as the client had expected. In another project development similar activities had moved the team’s mind set from one of *them and*

us to an inclusive group. This in turn enables fantastic contribution from an inclusive group that would be recognised as an integrated team.

The client stakeholders prepared themselves well beforehand and developed guidelines as to how they would score the performance of the non client participants in two areas. First confirming the individuals' capabilities, and second how well they would follow the principles of alliancing. This was described as putting people to the test to determine if they were acting in accordance with alliance principles and not reverting to their past *adversarial type contractor* roles. It was suggested that at least in the initial stages individuals' egos had to be tempered for the good of the project, as if an individual's ego was let go then it would make it difficult throughout the balance of the ongoing project. So it became apparent in the interviews that the selection team had been coached to high levels beforehand by facilitators in what things to look for and they had some guidelines that they followed in the selection process. The client participants expressed the view that the contractors knew they had to be on their best behaviour and attempting to demonstrate what the client wanted to see, they were also aware the client was endeavouring to see where their weak spots were.

It was clear that depth of relationships between all the participants to the workshops were different. The engineering/construction industry was described as small and it was suggested that it was inevitable that certain participants had developed a working knowledge of many participants whilst a similar number would be a comparatively new to the majority of participants. It was suggested that this was simply a dynamic of the workshop that would be monitored and had some benefits in terms of bringing additional knowledge to the alliance project. These levels of integration enabled benchmarks of trust to be set and aimed for by those with lesser levels of initial integration. Others described this situation as the development of additional levels of comfort.

The selection process took a great deal of development as it involved establishing benchmarks that were to be measures of the objectives. Some of the benchmarks were more difficult to establish than others; for example "Community relationships and environment [concerns]." (R62) would be a more difficult metric to measure than safety concerns which were more familiar themes for the participants to evaluate. The client team were aware that the non client participants were receiving coaching in a similar way to them. They took this to be a positive action. It was

expressed that the coaching or facilitation enabled the importance of the personal relationships to be accentuated and allowed to come to the fore in the selection process. This in itself enabled the client participants to make a correct decision that in many ways due to the level of competition would be a *marginal decision* not withstanding the coaching. It was indicated to be marginal due to the capability and experience of the non client participants that were being assessed.

Experience was often contextualised by the client participants in terms of previous alliance experience. Several of the respondents chose to discuss the impact that previous alliance experience had on their decision making. They were aware that often members of non client alliance consortia had previous experience and took this into account in their decision making. In a similar way to the non client participants the client participants to the workshops were interested in experience that could be captured by three main headings; technical issues, relationships and interaction. This was articulated to encompass establishment of professionalism. In other words the client participants were looking for people that had a good background of knowledge and experience in what they were currently working on, they had the right technical, analytical and report writing skills, and they were reasonably honest. To encapsulate this one client referred to the partnership that would be created at the end of the selection process. Clients were concerned about the balance of power that would be the result. The question the respondent would ask was; “Do they [non client participants] come to the table as an equal partner in the sense that they contribute as much to the alliance as we do?” (R20)

Another aspect of required experience concerned the ability of the participants to deal with intangible and often nebulous selection issues. The point was made on several occasions in the interview discussions that experience was essential from both client and non client participants. The participants would have to be able to reconcile intangible aspects of selection with more tangible selection criteria and visualise a project outcome based on a view that was developed from sometimes limited knowledge of the participants. In essence they were determining “Yes I can work with that person.” (R19). It was suggested that in many cases the experience was latent and tacit, particular to the individual and often unrecognisable by those required to make the selection. Here reference was made to facilitators/ coaches who were tasked with a role to “Bring people out of their shell” (R19), use examples and recognised

experience to provide a vehicle for those unable to articulate their experience to communicate it better. This facilitator task added significant value to the workshop process as it enabled less tangible issues of experience to be codified and documented for the entire team to build upon. An important link that was made in this context relates to a link between experience and trust. It appeared from the discussion with the client participants to the workshop that they perceived that they should endeavour to generate experience of the non client participants as quickly as possible. This was important to them, as they were conscious that only through experience were they able to generate the requisite levels of trust for the continuance of the alliance project.

The debate focussed upon the contractors' strengths and weaknesses, all the time recognising there was some inherent nervousness in the initial stages of the workshop due to the significant scope and value of the project to the participants. Another respondent referred to these strengths and weaknesses as an individual's boundaries; tasking himself to "Understand where they [the other participants] are coming from, and what they know, and where their boundaries are, what they can and can't do." (R49). It was indicated that strength and weakness resolution was the subject of much debate. The debate would be unreserved as it progressed through the workshop meeting. It was suggested that the participants were coming to the realisation that decisions could be made consequent of some healthy and robust discussion within the alliance principles developing;

A fantastic foundation to a relationship, because people see and understand where people [other participants,] are coming from and know that they are going to be honest. (R19)

Selected criteria would be developed and those selecting would negotiate an agreed scoring method for each of the criteria. It was suggested that the individual scores weren't necessarily the final scores the particular contractors received.

The ability of the non client participants to show that they were able to provide solutions to problems was one of the main areas that were identified under this heading. Indeed it has been identified above that a consortium lost a tender due mainly to the fact that there was the perception from the client that they were unable to solve problems when they eventuated in the workshop environment. This lead the client to believe that they would be unable to identify and resolve problems in the future; essentially problems that occurred through the life of the project itself. The

client's were aware that the time allowed for problem solving was an issue. Several of the client respondents made reference to the proximity of consultants to the project indicating that geographic distance could be a matter of issue when decisions would be required in timely manner. In any event time was always an issue on projects with the clients aware and concerned that innovation and game breaking solutions throughout the life of projects would have a marked impact upon the duration of the project and possibly create a *time trap* (Keniger and Walker 2003). The relationship as it evolves through the workshops enabled clients with "Space with the facilitators to... ask a question" (R44) to clarify when they perceived that a problem would be driving the participants away from the collective alliance principles. Listening skills were linked to problem solving, it was suggested that the clients would note in the selection process of the workshops whether the non client participants would take on board what is said. It afforded all with the opportunity to ask do we mean this or do we mean that? This action of problem solving principally allows the final participants to secure a practically complete alliance agreement at the earliest opportunity without having to "Unwind too many conversations [agreements] that have already occurred." (R44). Using the individual relationship building exercises to build the project metaphorically speaking was used extensively by the client participants. It was suggested;

Solving real problems that are required to be solved to build the job and that's, there's no shortcuts to do that yet, it's a development relationship, you've actually required to be working together on real hard issues. (R30).

Some of the *hard* issues that were highlighted as interesting to the client participants included allocation of risk associated with the project together with profit margins and management fees. These problem solving aspects were described as principally important to move the relationship forward.

All the foregoing took place in an environment where the client respondents were tasked with the role of interacting in the workshop, participating in team development sessions and constructing game breaking solutions to complex problems. At the same time they were required to evaluate the non client participants and determine their value to the alliance project and its goals. They had to establish best for project team members. In many instances they would divide their group up and "Populate [themselves] across all the teams [in order to make specific value

judgements].” (R44). The client participants hypothesises in several instances that there should be an evaluation team sitting *on the side* monitoring all the behaviours that were going on rather than being involved in the process.

Several described this as strange, articulating the problem to be working with someone and supposed to be connecting with them in the alliance and at the same time holding back and not contributing at all.

They conceded however that there were pros and cons to this approach. In conclusion it was suggested there were pros and cons for this as an alternative to the interactive model accepted by most.

Respondents cautioned counsel when referring to the outcome that they would expect from the limited period at time that they allowed for the workshop. In some instances they indicated that they should have allowed the consortium more time to develop. The final commercial arrangements that followed the relationship development workshop would still require considerable time and effort working with the preferred proponent. Following this it may be interpreted from others that a two day workshop was barely sufficient for the complexity of relationship development that was expected.

It seemed that the clients were prepared to invest a standard two days into the workshop to allow for both relationship development and negotiation. Earlier dialogue identifies the scope of assessment that they would expect to take place. However it seems that relationship development was of primary concern to them.

2. The impact of coaches/ facilitators on RD

In much of the foregoing it may be seen how much reliance the client respondents placed upon their coaches or facilitators to help develop and analyse the behaviors that were of interest to them. Often the client participants were in the hands of the coach. One respondent indicated that in their *considerable* experience all alliances benefit from somebody with people skills providing coaching, initiating particular interventions and sensing “Where the heat [disagreement/ misalignment] is coming into some of the relationships [and enabling it to be dissipated].” (R20). Clients expect their facilitators to put the non client participants to the test and ensure

correct behaviors that accorded with the alliance principles and that they did not revert to adversarial relationships.

The following section provides an insight into the perceived impact the coaches and or facilitators had on the process from a client's perspective.

There was a sense of artificiality that arose from the nature of the selection process. Clients perceived that some non client participants would undertake a crash course in relationships the day before the workshop. The clients were concerned that the non client participants would be simply telling them what they would like to hear. The client anticipated that the coach would see through this pretense and ensure that their experience would reduce the likelihood of incorrect or inappropriate selection. It was suggested that an experienced facilitator would ensure that "People's inhibitions are broken down" (R19), this would enable the client participants to see people for what they were and see through any veneer. Some particular activities also assisted in the process. They are incidental to this thesis but noteworthy. Several mentioned a social function, as an example where after a long hard day of considerable pressure there was the opportunity to build on social connections that were touched on in the activities through the day. It was suggested that any reserve that may have been there due to the perceived competition would disappear as people are carefully brought out of their shells. Experienced facilitators would use examples and draw on participants' experience and expertise on other projects to do this. Other activities that were noted to occur included; introducing other people that you had spoken to earlier, discussing favorite pastimes, outlining what their children do, what you did last night or perhaps what you consider you are famous for. In these exercises the client participants were endeavoring to gain an understanding of the non client participants. It was noted that the exercises were more one on one than some teambuilding exercises that usually took place in the bush involving lots of ropes and blindfolds. In essence they were timely, carefully constructed to match the participants and appropriate to the alliance environment envisaged as the appropriate vehicle to deliver the project.

Earlier in this section it was suggested that experienced alliance participants had becoming familiar with the processes associated with the relationship development. Several participants suggested, "Almost every contractor or contractor group would have some facilitation." (R20) When talking through the impact that coaches have on the relationship development workshops it became clear that an

experienced facilitator would be able to identify non client participants that had received coaching prior to selection. Following this the facilitator would work through the issues that were perceived as *standard* put them up on the whiteboard and move onto the formula that would deliver an appropriate team for the client. The facilitator would do this using a process that was equally appropriate for the particular project selection but not so familiar with those in the non client group who had some background experience in a more familiar process. This flexibility and innovative approach displayed by experienced coaches disabled the risk of inappropriate selection and afforded additional certainty to the client participants. It was also suggested that by not simply adopting a standard approach added credibility to the selection and afforded additional credence to the relationships that came from the workshop. These relationships translated more successfully into working partnerships for the duration of the alliance project, which in itself was suggested to add validity to the process.

One client respondent outlined his typical role in the activities that were played out in the relationship building workshop. He suggested that he would always go into a break out group that was to portray the alliance structure. This was affected by breaking the participants into groups that they were to carry out in the actual project. This was described as a typical relationship building exercise. One of his roles in the exercise was to make sure that the people in the particular group would understand the underpinning principles of the alliance, and indeed what their alliance was. In the task he would observe who would take on a particular leadership role. It was described as an interesting exercise to see who, if anyone, the project manager empowered to lead the discussion or if they would undertake the role themselves. It was observed that on occasions those non client participants being watched would attempt to follow a script. The suggestion was that the rehearsed role play may work for a few hours but it could never last for the duration of the workshop. If there were any pretense, eventually it would fail and the observer would begin to see relationships build by actually doing the project.

In addition to the important role of managing the process the alliance facilitator would also act as a conduit channeling communication that took place between the non client and client participants in the workshop. It was indicated that the facilitator would recognize any miscommunications and interject with a question

or statement of clarification asking, “do we mean this, or do we mean that?” as and when required. This role was described as “...A bit of an honest broker, someone to play the middle ground in that area.” (R20).

As a corollary to this the facilitator enabled the participants in several other ways. One way that was mentioned by several was presentation skills. Presentation skills are perceived to be of importance to all stakeholders in the alliance environment as workshop communication effectively relies upon it. The example explains how non client participants who were described as rather introverted and “Didn’t come across [present themselves] as well as they should.” (R17) were counseled by the facilitator. Consequently their presentation skills were enhanced with beneficial outcomes to the process and project.

3. The selection process underpinning the RD workshop

Clients were keen to talk about the selection activities that underpinned the workshop’s overt relationship development activities. They spoke about concepts that included; the testing of non commercial activities, selection themes; the balance of formality and informality in the process together with its qualitative nature and apparent lack sophistication in the process.

Commercial alignment was an important issue that supported the relationship development from the client’s perspective. Some clients suggested that the relationship development workshop was designed to avoid commercial activities. Other indicated that commercial perspectives were difficult to ignore because they effectively optimized project delivery and afforded focus. In addition to this some proposed a middle ground and suggested that there was always some initial work carried out on a broad cross section of issues

An example that was recorded earlier to describe relationship development may be also be used in this context. The client had suggested to an engineering firm that it wanted to work with them. Accordingly the engineering firm should evaluate potential relationship with constructors and move forward with a relationship from that point. It was suggested that the ensuing relationship was unsuccessful and somewhat dysfunctional. It follows that the parties were unable to establish and develop suitable mutually acceptable commercial interests that would normally be

expected to mirror the development of relationships. In the example the alliance did proceed but the client found it had a considerable amount of additional work to obtain final agreement of the commercial arrangements between the parties.

There was a sense portrayed by clients that there was room in the development building for additional activities to enhance levels of sophistication embedded within the process. It was stated that the clients were not that sophisticated and some of the activities to measure or evidence trust exhibited in the workshop environment were poorly examined or reported. There were strong elements of formality underwriting what appears to be on the face of it a relatively informal process. In effect the process would be representative of the project value; larger projects attracting more and earlier elements of formality. Selection themes [games] that teased out more qualitative attributes were recognized to impact on commercial aspects and have implications on the overall project cost. The clients seemed to appreciate that the benefit of the qualitative attributes inherent in the selection enhanced and optimized overall delivery of the project.

4. Trust cooperation and commitment in the RD workshop

In the interviews there was some specific discussion concerning trust cooperation and commitment the focus of which specifically concerns the relationship development from a client's perspective. Overall the dialogue was brief but the several points made are summarised below.

It was indicated by the clients that trust was being assessed parallel to commitment. As has been indicated earlier clients were assessing their personal feelings of trust toward individuals in the non client group of stakeholders and teasing out underlying issues like "Can we trust them and work with them?" They indicated that they perceived increasing levels of trust throughout the workshop duration. When asked by the researcher if they had any special way of measuring or determining evidence of trust several clients indicated that they use performance measurement systems. The performance measurement systems successfully measured such things as communication. Effective communication was said to be symptomatic of relationships and relationship building and accordingly proposed as an appropriate determinant closely aligned with trust development. Interestingly some of the client

groups had formalized documentation that provided policy and guidance setting out procedures for measuring attributes that they considered as determinants of trust and trust building behaviors or action. The clients regarded these documents as valuable intellectual property, closely guarded for internal use and assessment only (largely unavailable for this research program). Having said this it was conceded, “Trust is a very hard one.” (R44) and essential could only be measured by stated commitment in the relationship development workshop period. Increasing levels of trust and commitment had a dual purpose. It tested the ability of the non client participants in their ability work in a cooperative and collaborative environment. In addition it built relationships, these relationships established rapport well before the start of the implementation phase of the project. “So by the time the actual contract is awarded we’ll have a good relationship.” Clients used performance measurement systems to measure cooperation in the same way as they used them to measure trust described above.

As described in the foregoing the relationship development workshops were public affairs and senior people from all stakeholder organizations were present. Commitments were made in the meetings with the client respondents indicated that they would rely on the commitments made. It was emphasized that failing to honour commitments would be frowned upon resulting in a poor report that would affect future work. It appeared that from the clients perspective this sanction would be sufficient a penalty in the current relationship environment. In this context a consensus was reached by several who reported that reaching agreement and committing to many issues prior to establishing a contract document was the biggest test of people’s commitment. This aspect was said to be a big departure from a normal price based approach. This is further explored in Section 8.5. Examples of commitments were given and several innovative points were raised. For example one client respondent noted that on a particular project there was a typical list of commercial outcomes, in addition the participants to the relationship development workshop established a commitment to life skills. These life skills allowed for the provision of training outside of the normal work environment.

8.5 *Value for Money and Behavioural Issues*

Most of the respondents took time to discuss and compare alliance procurement with traditional or Design and Construct procurement. The observations below are apart from generic procurement comments.

Nearly fifty percent of the respondents provided some commentary about a cost competitive alliance model (CCAm) of delivery and compared it with the pure alliance model (PAm). It was clear that the need to articulate a comparison was contemporary and pertinent and one that the respondents suggested should be debated.

The respondents collectively identified three areas of concern; Value for money (VFM), behavioural issues and business as usual (BAU).

8.5.1 *Value for money*

Value for money (VFM) was a priority for many of the respondents who referred to CCAm. It appeared that the reporting structure in many client organisations meant that the project champion would be responsible to inexperienced or uninformed line/ section managers. These managers were described as unaware of the subtleties associated with relationship development in an alliance project environment and its positive association with VFM. Price was perceived as a tangible certainty and a lack of price made it difficult for a project manager to *sell the process* of a PAm from one level to another. Some form of competition was seen to be *needed in the process* to “Demonstrate to a third party that there has been some value for money component”. (R19)

The continual question is how they know that they’re getting value for money, because the only way they traditionally determine value for money is by seeing two or three prices and saying one’s cheaper than the other (R51).

A clear understanding of what VFM means in some sectors was required as there is a “History of value for money being the cheapest price.” (R19). Head to head competition on price keeps the selection process tangible and consequently favourably increases the pressure on price. Accordingly benefits of reduced project price are accrued by the client as a consequence of the pressure.

Following this there was some anecdotal evidence referred to by respondents that indicated the advantages of successful PAm carried out in the past were being leveraged to support the notion of a CCAm proposal. In this context pricing pressure

on the two competitors typically sourced for selection in a CCAM was perceived to be a means to determine in a tangible way with whom the client team would be able to work better with. In addition innovative scope development of the losing team could be used to enhance the scope of the project by the team awarded the CCAM project. Interestingly there was no question of copyright or ethical considerations noted at this juncture.

As an indicator of the intangible but very real VFM afforded by the PAM procurement route an argument that the alliance is a commercial undertaking by its very nature was taken up by one respondent who indicated;

We're also looking at getting the right blend of people together, and that in itself gives the greatest chance of getting...appropriate, outstanding results in terms of cost (R62).

A further indicator of VFM was expressed to come during the project delivery phase of an alliance when the parties reach a commercial agreement. Two examples of VFM were proposed; the first involved human resource recruitment to the alliance, where pressure bought to bear in order that costs are constrained by way of profit, or head office overheads; the second example concerned an offer by the non client partners in terms of risk sharing.

8.5.2 *Behavioural aspects*

Many of the respondents identified CCAM as tending to support behaviours akin to adversarial/ traditional procurement; price low and then make up the margin through the process of the delivery of the project. One respondent articulated the sentiments of several and indicated;

“[If] you don't have trust and you are not honest with people you may as well forget about it. It's the fundamental principle under which the thing [alliance] operates.

He went on to say that a CCAM “Approach totally drives the wrong BAU [behaviours].” (R63). Other respondent's indicated that the challenge of a CCAM project was to be able to switch from traditional behaviours into alliance behaviours in a short time frame when moving from tendering process to project delivery phase. The change was perceived as a big obstacle but once overcome gave the benefits of both CCAM and PAM,

...There's no reason why you shouldn't do a competitive alliance on the basis that you can get the innovation and cost saving in a competitive environment and then move through to project delivery where you have the benefits of a relationship environment (R20)

A PAm creates stronger relationships due to the process of developing the Target Outturn Cost (TOC) in a collaborative and interactive way. The process of developing the TOC can take several months. The time was described as a valuable seeding ground nurturing of trust and commitment. Trust and commitment in the project was a fundamental aspect in the continuance of integration and organisational learning through the project life cycle.

8.5.3 *Business as usual*

Respondents indicated that profit and overhead are reduced in CCAM alliance projects. The non client participants will adjudicate their tender in a traditional way;

...The competitors; the tenderers, are forced to identify any shortcuts they can to win the job in the first place (R60).

So it's not strictly a relationship – you are always thinking about the commercial side as well (R14).

In addition respondents referred to weaknesses derived from CCAM. They indicated that CCAM brought with it many of the weaknesses of BAU type procurement processes. The respondents went on to indicate that if a CCAM is pursued the project manager needed to be able to understand and compensate for it. CCAM tends to drive down levels of contingency (this is interpreted to mean contingency in time, cost and scope) in the final bid. This process leaves *no fat* but was described as creating some friction if the procurement process was not carefully managed.

In a PAm the parties were all sharing the same reward at the end of the project process and their energy was focussed in the same direction. Where contractual boundaries were placed between the parties as occurs in a CCAM a diminution of ability to focus in the same direction occurs.

8.5.4 *Conclusion of VFM*

Fundamentally there appears to be two schools of thought with regard to the best way to carry out an alliance; they were the pure alliance and the cost competitive

alliance models. The sample that represents the construction/ engineering population recognised the difference in the principles of the two alliance models.

There were difficulties for the respondents in articulating the benefits of one model over and above the other. These difficulties manifest due to the fact that key principles of procurement such as the term value for money were not clearly defined in the minds of the respondents. Without a clear definition the project managers were unable to articulate the benefits of either model to their line managers. The process of alliance procurement is different enough from more traditional procurement approaches to warrant some articulation of VFM in its particular context. Tangible VFM (price) identified in the selection phase may preclude less tangible but equal and mutually favourable VFM outcomes in the process of the project. VFM may well exceed expectations as it becomes earned from the product outcome. The earned product outcome affects all stakeholders and is important to relationship marketing (building).

8.6 Trust

8.6.1 Contractors

Twenty two percent of contractors chose to talk about the aspect of trust and how it developed in the relationship building workshop. The contractors articulated the concept of trust using the following terms; experience, openness, history (of association), integration (of systems), inclusive entity (of firms), and expertise to deliver the job. These constructs have been elaborated upon in the earlier sections that discuss relationship development.

The contractors were conscious that the activities that the coaches would carry out with them would enable and develop trust. One participant suggested that with a good coach/ facilitator trust would simply not remain as an issue. Other contractors spoke of developing vision and goals, work shopping agreements and simply *buying* into goals as associated with the trust that they were endeavoring to develop. Experience was a factor that contractors used as a framework from which to build trust, several suggested that it took a long time to build trust. An expression used exemplifies this point. “It takes years to build a level of trust and only a few minutes to destroy it.” (R39). As a corollary to this another contractor used the term “Emotional bank account...built up over time.” (08). The suggestion being that as

trust builds experience of that trust is packaged together. Over a period of time it forms into a depository of trust toward a particular person that may be drawn upon at various times. Effectively the suggestion was that trust built over time would not be destroyed in one fell swoop but may be reduced depending upon the impact that a particular action undertaken impacted upon the trustee.

Experience was described as a big issue for the contractors and they were conscious that time had an impact on varying their perception from the actual reality. In other words they were careful that they did not misinterpret past experience and put it into a favorable context when it was not appropriate to do so. The contractors knew the subjective nature of trust and trust indicators and they would evaluate their own levels of comfort with particular people in an effort to assess it. Having said this several contractors highlighted simple experiences that would develop trust. Going to university together was one such example.

The open book approach that is typical of alliance projects was given as an example of where Trust is built/ developed. The open book approach was described as “Part of the openness, honesty and trust... [you are not] hiding anything”. (R39). This aspect lead the contractors to discuss the reciprocal nature of trust, it was suggested that to be able to work in an alliance environment an individual needed to be able to work with their colleagues and typically be a *trustworthy* person themselves. It was suggested that in the early stages of the relationship development when experience of other participants was limited the contractors would keep an open mind and move forward in the project with the assumptions that they were able to trust the client participants and hoped that the clients reciprocated. It was suggested “Trust requires affirmation in the first instance.” (R10)

The contractors spoke pragmatically about trust, they were aware of risks associated with trusting behaviour; particularly at the outset of the project in the relationship development phase. The contractors main concerns hinged around *opening up* to others outside there organization and hoping that they were honorable. Similarly they would like to anticipate working with an organization that was prepared to put forward talented people who are easy to work with and know what they do.

Effectively trust and associated factors were perceived by the contractors to be a fundamental principle of action and conduct underlining the alliance approach to project delivery. Many indicated that working through a relationship built on trust provided significant project improvement. Care was taken by those that attended the workshops to ensure that commitment to working in a trusting environment was communicated to those who came to the alliance project as work proceeded (R08). Procedures to deal with this aspect were embedded into the project to ensure that early/ primary trust was not diluted as new members joined the team as the project progressed.

8.6.2 Clients

More than one third of the clients chose to talk about the aspect of trust and how it developed in the relationship building workshop. For their part clients articulated trust in terms of equity, cooperation, pro activity, risk allocation, working together and an open book environment. Several of the issues have been elaborated upon in earlier sections (for example Section 8.4.3) and the reader is referred to these sections for additional detail.

In one respondent's view the current interest in alliance relationships was driven by a lack of trust in design and construct or turn key types of procurement. It was suggested that in the latter the contractor would tend to bully an external designer in order to save money and consequently the client would not get a suitable end result. Some clients suggested that lackluster trust in alliances came from very senior management in organizations where there was limited understanding of the process, others suggested that a lack of trust was driven by internal audit people that failed to grasp or "Understand warm fuzzy relationships" (R11) that were developed in the early stages of an alliance.

Several clients articulated trust in terms of information sharing, noting that a difference existed in this context between an alliance type project and that type of information sharing would exist in a more *traditional* type of project or design and construct projects for example. In the former requests for information would be discussed in the first instance and there would be significantly more opportunity for proactive, collaborative decision making. One client provided an example where a web based information system had been developed to facilitate particular aspects of information sharing, to the advantage of all participants to the project. Another client

noted that the process of getting to know the project in the relation development process assists in trust building. In words the openness generated through information sharing, as in the above examples, builds trust and confidence in what is to be delivered.

It was suggested that alliance participant's level of trust would vary at different times during the relationship development process. The clients would observe high levels of trusting behavior with trust building followed by much lower levels being displayed. It appeared to the clients that people would jump in and out of trust. The clients expected trust, to develop over time. Typically they would rely on incrementally increased knowledge and examples about individuals or organizations from which to draw an opinion from. However in the environment that they were creating in the relationship workshops they had a desire to generate a body of examples to work from very quickly. They expected it to evolve through people meeting commitments, delivering (promises) on time and generally being reliable. In the relationship development workshops they would endeavor to generate and assess trust by making the participants do real things. Predictably "trustworthy" was an expression used by several clients. The implication being that as noted above (in the section 8.3.1a that discusses contractors and trust) there needs to be a preparedness to trust the relationship development would take place.

It has been noted earlier that the relationship development workshops are used to establish policy and procedure that would enable the ensuing project to be successfully executed. It was suggested that in doing this stated commitments had to be made with all parties being prepared to sign off on a final agreement that included the commitment. This action shows that as required or preferred, trust is working both ways and that through the process levels of uncertainty are being reduced.

8.7 *Summary of Analysis of Study Three Data*

To summarise the findings from the qualitative survey reference is made to the aims and objectives of the survey and its association with the previous two studies.

The aims of the third study were to;

1. Investigate the development of relationships in alliance and relationship style projects

2. Identify if there were any differences between the stratified sample in terms of the relationship development processes
3. Provide a deeper understanding of the output from the earlier studies. Particularly, but not limited to study two
4. Propose generalisable findings that may be applied to construction projects. These findings are in the next chapter, Chapter 10

To meet these aims the following objectives for study three were determined;

1. Source an appropriate stratified sample and survey / question them on the establishment, relationship building, alliance performance measures and management of alliances projects.
2. Draw comparisons between studies one to three and link the associations found, particularly between study two and study three.
3. Summarize the association between non project RM and the output of study three.

Whilst the research questions addressed in study two identified perceptions of relationship drivers from the perspectives of a stratified sample drawn from the construction industry they failed to identify how the particular phenomenon developed. Following the quantitative study (study two) qualitative data was used to validate particular meaning of the findings in line with discussion by King (1994: 16). The particular meaning was to follow research on Alliance projects. Issues of concern included the principle factors that influenced selection of particular partners to an alliance. The focus study one had established that relationships were important to construction and that traditional design bid build type procurement did not assist in relationship building or relationship maintenance. A study of several definitions of alliance arrangements identified several key concepts that differentiate it from traditional procurement thinking; alliance arrangements were described as frequently legally informal; transcending typical contracts, and transforming relationships in a contractual and behavioural sense (Larson and Drexler 1997, Baker 1996, Construction Industry Institute Australia 1996, Schultzel and Unruh 1996).

As discussed in chapters three and seven the respondents were questioned in five sections. The questions were derived from the literature, the preceding focus

group study and study two. In the following summary the readers focus is drawn to the literature review (chapter two) and note below relevant notation to the literature.

8.7.1 Sample

The sample had considerable experience from which they were able to speak with authority. The stratification of respondent was balanced across the industry, their geographic location across Australia and their number of years experience in the industry. It is found that they had representative roles in industry and the projects that they were involved with were typical and representative of contemporary alliance/relationship projects.

8.7.2 Selection of Alliance Partners

The selection process was a risky business according to many of the respondents requiring careful planning, investigation and forethought in the majority of cases. The risk associated with the selection required that they evaluate trust and monitor its development as best as they were able. They would do this in cognizance with limited information concerning the individuals associated with proposed stakeholder organisations. In the majority of situations their preference would be to work with individuals and organisations that they had prior favorable experience with. Previous experience would reduce the risk and enable a more tangible assessment of trust and commitment. These factors would be based on the past experiences. The established model of alliance relationship development added a burden to the contractors and was indicated to be unfamiliar territory to them. This aspect once again moved them into a risk area and RM variables of trust and commitment were evaluated in a workshop environment with appropriate facilitation or coaching to reduce risk-moves. The allocation and management of risk in the workshop followed the work in relationship development by Dwyer, Schurr and Oh (1987), Ford (1982) and Wilson (1995) for example. The workshop environment, albeit a manufactured environment using management games/ selection themes, enabled the participants to fast track experience; thereby enabling them to assess experience over a reduced time frame endeavoring to achieve a suitable almost tangible outcome.

The primary themes of the selection process were described as trust, commitment and mutual goals. Trust enabled contractors to differentiate themselves or be selected in a different way from the more traditional and familiar price alone

selection. This aspect of differentiation follows Ford (1982) and Dwyer, Schurr and Oh (1987). Early development of trust engendered harmony within the stakeholder group. This harmony was found to continue into the implementation phase of the project. Commitment to others in the alliance workshops through the allocation of resources for example, generated attitudes that reduced risk for all parties. It enabled a client to have a better understanding of the process of the project they were generating in more detail than would ordinarily happen. Mutual goals were described as a common understanding or focused alignment of expectations in a communicative way. The clients used the term “Progressive engagement” to describe the goal development that took place in the early stages of an alliance project.

8.7.3 Relationship Building and Development

The relationships that the respondents were striving toward were likened to personal relationships. As indicated in the section above they would endeavour to identify suitable partners that they could work with and trust. Individuals were important and their respective organisations tended to be placed in the background as a secondary criterion. Organisations are a criterion but individuals are scrutinized in more depth, as it was their knowledge that was in demand. The focus on knowledge at this juncture mirror the works of Dubois and Gadde (2000) and Barker, Hong-Minh & Naim (2000). In consideration of knowledge networks and learning in supply chains one of the key elements is that effective supply chains share information and knowledge. Accordingly their delivery capacity is increased because they are communicating more as teams and addressing joint problem-solving (Spekman, Kamauff and Spear 1999: 110).

Caution was counseled with respect to personnel selection and advice was provided that selection of individuals should be based on best for project as opposed to selecting people for their personal affability or friendship. Having said this, it was indicated that these traits are often an outcome of the relationship workshops and ensuing projects. A commitment to alliance principles and required skills in specific areas were said to be selection factors. Commitment and capability were described as the “Big ones” when referring to selection criteria. The skills displayed by an individual would need to compliment existing expertise that was a priori in the existing client or non client group making the selection. Due to the relative small

nature of the construction industry there was often a race to acquire the best resources at the earliest opportunity.

In the relationship development the participants would have to show their selectors that they were credible, in other words were the statements they made or actions that they took in the relationship development workshops believable. Doney (1997 :36) indicates that credibility is integral to trust, much of the discussion that took place in the interviews related to trust. Effective experience and competence were strong indicators of credibility. Often these were based on their experience with each other on past projects; whether alliance or traditional type projects. Seemingly the respondents were prepared to put faith in the word of those that they were dealing with in the relationship development workshops, on the basis that promises made would be delivered. This link between promises and the earlier notation to trust signifies the bonds that the participants were associating with respect to communities of practice. The communities alluded to by the respondents are similar to those that Walker and Hampson (2003b) describe as being vital for alliances and partnerships to be maintained. Clients would look for openness and a willingness to share. Some respondents used rational checks to supplement the less subjective measures of credibility. Examples of rational checks included calling for CV's or commercial checks. A preparedness to provide *open books* was described as showing credibility. Some of the respondents were clearly far less formal than others.

The relationship development workshops provided a context for the relationships to develop. The structure of which provided a framework or scaffolding from which the relationship would be built upon. The actual process of the relationship development in itself would provide value to the project. Often however the value created in the process would not be captured in a tangible way through reporting for example. This failure caused several respondents, mainly clients, to miss the worth of the *value* and presume that the relationship development afforded little net gain to the overall project. Maskell (1998) refers to this as the codification of tacit knowledge, in as much as it may remain tacit whilst it is available only to an individual. It is only when information is shared with others having facilities to understand the idea and grasp its significance, as they did in the workshops, that it became codified. Several underlying attributes of the relationship building workshops were identified. They included, from a contractor's perspective; trust; development of

bonds and tests of the relationship. A later section in this chapter reviews trust. Because the non client team were assessed as a collective entity it was important that they were able to show a bond between them that would translate into a team that were prepared to integrate with the client participants. Testing the bonds with technical issues was part of the relationship development workshops. From the respondent's perspective an integrated team was the goal of the relationship development workshop; a team working together as if part of the same organisation solving problems and having preparedness to confront *hard* issues. Collaboration provided focus and alignment to the team that was to influence the project outcome. There was a level of maturity developing in construction/ engineering with incrementally more alliance/ relationship style projects being procured. Trust and commitment were said to be a test of collaboration with an example being given concerning collaborative decision making. The sentiment was expressed that only when trust and commitment were evident would positive decision making be possible.

Coaches were indicated to have an enormous impact on the relationship development process and were used to deliver a fair workshop outcome that was balanced and objective. Both client and contractor respondents made use of coaches and/ or facilitators. This resource utilization was an addition to the guidance given by the many writers that the researcher sourced in the development of the literature review. It was apparent that the sample recognized their shortcomings and used facilitation to overcome them.

8.7.4 Comparison of stratified sample

There were many similarities between contractors and clients with regard to their perceptions of important themes associated with relationship development. A comparison is tabulated in

Table 8-10. A discussion follows.

There were four themes that the contractors and client respondents found important, a review of the themes and sub-sets associated with the themes displays similarity in their line of thought. This may be seen by combining the following themes that portray parallel lines of thought.

a The Process of the RD workshop
- Contractor theme 1 = client theme 3

The process of the relationship workshop and the important aspects that underpinned the relationship development process were found to be important issues for all the respondents regardless of whether they were contractors or clients. Overall relationships were described in the literature as evolving, incrementally redefined strategies that change the context in which people in partnering organisations act. It was identified as an iterative and evolutionary learning process (Boddy, Macbeth and Wagner 2000: 1016, Dwyer, Schurr and Oh 1987: 15). Significant aspects of RD are experience; uncertainty, adaptations, commitment and distance (Ford 1982). The sample referred to this as a “Pressure cooker” environment when discussing the relationship development workshops. The clients spoke about the formality and at the same time informality associated with the workshops.

b Underlying attributes of RD
- Contractor theme 2 = client theme 4

The underlying attributes associated with relationship development were similarly important to all the respondents. All respondents identified trust and trust building its association with commitment and communication that are relied upon by the relationship driven team. In the literature review trust was found to be an important concept in a construction relational contact (Doney and Cannon 1997: 47, Han, Wilson and Dant 1993, Dwyer, Schurr and Oh 1987). It influenced the interpersonal and group behaviour of the project team (Dwyer, Schurr and Oh 1987). Wilson (1995) considered it as a fundamental building block. In addition to trust particularly, the contractors spoke about the bond that is created by the relationship development process and issues that concern testing the relationship. In the literature review sections that considered the supply chain link and communities of practice it was noted that interdependencies across boundaries transform work patterns and relationships and reconfigure them to mutual advantage (Vrijhoef and Koskela 2000, Araujo, Dubois and Gadde 1999, Spekman, Kamauff and Spear 1999).

Table 8-10 Relationship Development Summary of Contractor and Client themes

Contractor Themes	<i>Sub-sets of theme</i>	Client Themes	<i>Sub-sets of theme</i>
1. The process of the RD workshops	Scaffolding for relationship development "Pressure cooker environment" Non-standard format	1. Individuals, the organisations and their impact on RD	Project management skills Team development Evaluation of alliance maturity and experience Strengths and weaknesses Problem solving
2. The underlying attributes associated with the RD	Trust and trust building Open and honest Focus on the project and product <ul style="list-style-type: none"> • Bond • Testing the relationship 	2. The impact of coaches/ facilitators on RD	Themes/ management games Balancing the outcome best for project Channel communication
3. The outcome for the team or participants in RD	Team outcome Levels of <i>maturity</i> of individuals in team	3. The selection process underlying the RD workshop	Formality/ informality Commercial alignment
4. Organisational issues associated with the RD workshop	Forming and stabilising relationships	4. Trust cooperation and commitment in the RD workshop	Trust impact on commitment Communication

c The outcome (goal) for the team/ participants to the RD workshop
- Contractor theme 3 = client theme 1

The outcome for the team in relationship development was important to both the contractors and clients. All respondents spoke of the maturity that they would be reviewing in the relationship development exercises. They were familiar with team development and would be assessing development at the same time evaluating problem solving skills that were being developed. Indeed a considerable focus was placed upon these points when consideration is made of strategic supplier selection. Day and Barksdale (1992) provided an insight into the selection of professionals. Their work should be juxtaposed with work undertaken by Patterson (1995), who found twelve important criteria for accepting a consultancy. Day reported that

“Participants rarely talked about price even in discussion about selection criteria” (Day and Barksdale 1992: 88). In other words their focus was on problem solving in “The ultimate evaluation”.

d Organisational/ individuals associated with the RD

- Contractor theme 4 = client theme 2

Following the above bullet point the respondents reviewed organisational issues associated with individuals in the relationship development workshops. Issues referred to by the contractors concerned forming and stabilizing relationships, whilst clients via the management games were focusing on balancing outcomes that were described as best for project. This aspect accords with the final stage of the RD model that is set out in the literature review.

8.7.5 Trust/ Commitment/ Mutual Goals

The respondents throughout the various sections of the interview discussed trust. It was proposed that trust and trusting behaviors provided value to clients in the process and product. Trust was viewed as a means for contractors to differentiate themselves from others in tender selection. It was posited that trust was one of several “Intangible selection criteria” that were in the minds of the respondents when making relationship decisions. The value to the project that was derived from trust enabled the respondents to work with people on issues that were important as opposed to concerning themselves with monetary considerations. The trust and trusting environment of the relationship development workshops generated potential for rapid team building and project outcomes development. The incremental growth of relationships in the workshop phase continued into the implementation phase of the project, albeit the client respondents that were interviewed had difficulty with the subjective nature of trust, identifying that evidence of trust was poorly examined and reported. This subjectivity was at odds with their more typical objective scoring methodologies utilized in Business as Usual (BAU) projects, but was rationalised by several as symptomatic of a limited understanding of the process. It was indicated that effective communication and information sharing was indicative of relationships and relationship building and an appropriate measure of trust development. In other words appropriate communication and information sharing increases as trust develops.

Commitments made associated with the relationship development processes, for example goal setting and outlining certain deliverables, were converted to trust as

commercial alignment was explored and established later in the same process. The commitments and the trust that came from it were very personal. There was a clear delineation between relationships that were being established, or in existence, between associated firms or individuals. Indeed individuals were held in high regard when considering carrying out business with a particular firm. Evaluation of trust and commitment took place at these two levels in the relationship development process and respondents were aware of their own requirement to reciprocate trust that they developed with their potential partners. They kept an open mind in this regard initially and hoped that trust offered in whatever form would be recognized and reciprocated through the development process. Often these reciprocal arrangements hinged around knowledge transfer and process improvements, essentially problem solving. Throughout the implementation of the project a trust and commitment cycle was said to perpetuate integration, interrelationships and organizational learning. Once again these issues were indicated to provide additional value in an intangible way.

Trust was put into context with regard to the project outcomes; it was not the expectation that everyone would get on with one another all the time; however there was an expectation of respect. Being open and candid was the way in which the respondents conveyed a sentiment of engendering and maintaining trust. Much of the dialogue from the respondents on the issue of openness was articulated at the same time as they conveyed their thoughts about trust. Clearly from the respondent's perspective the two variables were closely related.

An important connection made relates to a link between experience and trust. It was determined at the relationship workshop that there was a need to 'fast track' experience. The suggestion was that as trust builds experience of that trust is packaged with it, in other words it is a cyclical process.

Commitment was closely associated with trust in the minds of the respondents. It was rare that commitment was mentioned without some prior or post reference to trust. Commitment was displayed via resources that were dedicated to the relationship development workshops; an example given was that senior people were allocated to be present at the meetings and whilst representing an expense was warranted. The upstream party in the relationship would generally express the need of senior management resources as a requirement. It was indicated, "Trust could only be measured by stated commitment" (R44). Contractual issues agreed at the relationship

development meeting were associated with commitment; these were initially converted trust issues and subsequently (post meeting) set out in writing as part of a contractual agreement.

In the same way that the workshops were designed to *fast track* trust, development of commitment was known to be time related and was reported to be assessed in a similar way.

8.7.6 *Pure Alliance v Cost Competitive Alliance*

Literature indicates that prevalent behaviours or drivers in an alliance; trust and commitment for example should be nurtured over a period of time to allow them to develop and make a difference through the delivery phase of the project. The Cost Competitive Alliance model (CCAm) appears to short circuit this process in an effort to achieve a tangible selection criterion to supplement many of the intangible or “Gut-feel” decisions that are prevalent in the alliance selection decision making process. This decision making process, whilst appearing to be ad-hoc on face value occurred widely according to the sample interviewed. The decision process is however significant when balanced against the outcome of the projects that are represented through the sample and their collective output/ delivery to the Australasian community. The short circuit whilst providing an interim/ initial betterment to the client may be a cause for the VFM to be lost or diluted through the delivery phase of the project. The respondent’s indicated that value for money deliverables occur in many shapes and forms throughout the project’s whole life and for input to new projects these should be captured and reviewed. A study of post implementation reviews and close out reports from recent alliance projects that are becoming more accessible would provide a valuable source of information.

The BAU seem to be an outcome of the two preceding aspects; VFM and behavioural concerns. The history of respondents is typically hard money contracts; this is what they know well. Any failure in the process of identifying and counselling against BAU behaviours and enabling innovative VFM deliverables has the tendency to cause the respondents to *return to their roots*. In other words they will return to BAU activities that detract from the alliance process and this in turn encourages non client alliance partners to think more about the contractual aspects of an ensuing relationship.

8.7.7 *Associating Study Three with Study One and Study Two*

The particular themes that were forthcoming from study three have been set out above. In the summary of study one and two (section 6.9) the sample indicated willingness/ desire to add value to projects that they were involved with; for example see section 6.9.2. They had a propensity toward RM as they identified a focus toward product issues as may be identified with reference to section 6.9.3. They displayed strong commitment to both upstream and downstream relationships. Similarly they had high expectations with regard to working in a trusting environment. A particular aspect of trust identified in study two was displayed through information sharing.

Contrasting study two with this chapter it is seen that additional depth has been forthcoming in several areas.

In study one it was noted that the focus group identified problems associated with price determined selection. Adding value was found to be an objective of the respondents to study two. In study three it was noted that the actual process of the relationship development in itself would provide value to the project. Trust was viewed as a means for contractors to differentiate themselves from others in tender selection. In addition it was posited that trust building itself had the ability to add value to projects. The value that was derived from trust enabled the respondents to work with people on issues that were important as opposed to concerning themselves with monetary considerations. This aspect was not envisaged in study one.

Commitment and trust was evident in study three and linked closely with process and product issues of transactional and relationship marketing respectively. These issues were reported in study two. Trust and its association with commitment were powerful issues that were reported upon by the respondents under many areas of questioning associated with study three. The depth of response associated with the two variables trust and commitment added meaning to the earlier discussion from previous studies.

8.8 *Chapter Eight End Note*

This chapter has analysed the transcripts produced by the forty-nine respondents that took part in the semi-structured interviews. Revisiting the research questions indicates that the final two research questions have been addressed above

Research Question 4a – What principle factors influence selection of particular partners to an alliance? This question is addressed at section 8.7.2.

Research Question 4b – What processes and/ or interactions allow relationships to become forged in alliance projects? This question is addressed within

Table 8-10 and its associated summary.

The final chapters that follow will expand on the above comments that relate to the research questions. They will review several models that were proposed through the research period and show how they align with the research questions and identify their use in explaining and defining an appropriate understanding of construction relationship marketing.

Chapter 9 Alliance Participation Selection Workshops

Chapters 7 and 8 reported the research methodology and output from a significant qualitative survey respectively. The qualitative survey comprised a stratified snowball sample of forty-nine project managers who were all experienced with alliance procurement. The aim of this Chapter 9 is to contextualise propositions made concerning relationship development and validate the qualitative survey that was analysed in Chapter 8, or essentially triangulate the output from study three. Four projects were selected as appropriate for review. Relationship development workshops were attended and lessons learned close out session documents scrutinised. The findings show that the interviews reported in Chapter 8 are reliable, robust and consistent. The respondents' recollection summarised in the interviews are borne out by the actual circumstances. In conclusion three studies have been completed together with external validation.

9.1 Introduction

To validate the research presented thus far, several recent alliance projects are outlined (Yin 2003). These projects enabled detailed analysis of relationship development that took place in a managed environment with suitable facilitation. The focus was on the two-day development workshop that typically happens in project alliance procurement. Four projects are presented, in the first two projects discussed the researcher attended workshops. In the remaining projects analysis of documents together with transcribed personal accounts showed particularly where trust and commitment was developed. The purpose of this analysis is to contextualise propositions made concerning relationship development and validates the qualitative survey that is analysed in Chapter 8. To ensure internal consistency a further section summarises lessons learned from the development process. The lessons learned were abstracted from various project papers developed at the close out stage of the individual projects.

9.2 Method

In each case the selection process associated with the project delivery strategy comprised several activities. The activities themselves are well documented, for

example see Ross (2003) and KPMG Legal (1998). As noted in the introduction the purpose of attending/ documenting the workshops was to validate the interviews carried out in Study Three. Much of the discussion in Study Three had centered on alliance workshops and the researcher was keen to triangulate the data via an external source.

In the first of the two projects, observations were made with the explicit consent of all participants. This happened at two-day workshops. Additionally as part of project two the researcher attended a *Lesson Learned* session where a synthesis of discussion was developed (SRD Consulting 2002). For Projects Three and Four a desk review of available documents and transcribed personal accounts were made.

9.3 Project One

Project one was to provide 90 kilometers of roadway through an alliance relationship. It involved the design, construction and maintenance of roadway between two important towns in the northwest of Western Australia. It was anticipated that the contract sum would be in excess of \$100 million. The contractor would be paid direct costs, corporate overheads and profit and a risk / reward component. The project's alliance approach was based on a previously successful project implemented by the client. The client believed that by carefully selecting industry partners they would be able to accomplish results far beyond those normally achieved by using traditional contracting arrangements. The alliance was predicted to create innovative thinking and reduce whole of life costs.

In project one the client had chosen a competitive process to select the preferred non-client participants. Throughout the process the activities were designed to build relationships.

It was clear that the participants were anticipating the ensuing relationship. The anticipation was displayed through conviviality and friendliness as the participants entered the meeting room and informally introduced themselves to one another. Quite deliberately the seating was not allocated to individuals or organizations this enabled the client participants, who were observing, to distribute themselves amongst the non-client participants. It was noted that at this early stage in the relationship development that some participants chose to reserve seats for latecomers with whom they had prior acquaintance.

The activities were focuses toward the output of the project and designed to develop relationship opportunities at the same time. It was the relationship opportunities that were the focus of attention from the client's perspective. Initially two 'ice-breaker' games were played out to bring to the attention of the participants that there were always going to be individual differences between those participating on the project. The first activity, a game, required the grouped participants to race against each other as highly competitive entities, this served to stress the participants to some degree. Subsequent discussion followed by the next game served to de-stress the participants and forge a better understanding of individuals and their particular dynamics in a group environment. Practically speaking it was an awareness exercise for all concerned. The third activity was designed to develop a vision for the project based on better mutual understanding that the participants had gained from the earlier exercises.

It was noted that seven participants nominated to articulate their vision subsequent to previous group work. Of the seven, three spoke generally about the process of implementing the project and four were more concerned with the product that was to be achieved from the completed project.

Subsequent to the group vision activity the entire cohort at the workshop was invited to talk about their particular group's findings. Noteworthy comments revolved around team development during the project and how established bonds between the participants could be built upon and utilized for the benefit of the forthcoming project.

In the afternoon of the first day and in the morning of the second day the participants were divided into three groups. The groups in all cases were identified as an Alliance Leadership Team (ALT), Alliance Management Team (AMT) and Alliance Project Team (APT). All three groups were representative of the entire collective of stakeholders and were expected to hold their respective positions on the actual project when it commenced. The researcher observed the groups in rotation for the balance of the workshop to gain proportional representation, attending one activity fulfilled by each group.

- Alliance Leadership Team

The group was slow to start their particular exercise and it was obvious that there was some initial tension between the participants. The client participants chose

to allow one of the non-client members with the opportunity of setting the agenda. This strategy seemed to work well and from that point onwards relationships seemed to build with some momentum. One comment at the end of the activity served to sum it up to some respect;

I would say that there seemed to be a sense of fast track learning for all in that exercise, we seemed to be learning our new company structure.

- Alliance Management Team

In the activity that the researcher observed the AMT were discussing how to effectively bring client participants into *the team*. There was concern that as non-client participants had undertaken a good deal of work in development client participants had considerable catching up. The AMT endeavored to establish senior positions for the client participants. It was noted that the group were actively differentiating between the two main groups of participants at this relatively early stage. However there did appear to be some *forming* within the group when they spoke about open and honest dealing complete with respect. It was suggested by one participant that the process they were participating in was “A leap forward over and above traditional design and construct”.

- Alliance Project team

The APT was observed much later in the second day than the other two groups. It was noted that the group appeared to be fully integrated and convivial discussion was ongoing concerning their proposed *home office* and its use for providing an entity from which the participants could differentiate themselves from others within their particular organizations.

9.3.1 Discussion Project One

In addition to comment made above concerning the relationship building that took place during the two day workshop the following interpretation was made.

The workshop commenced on a sound footing with the majority of participants from the various companies attempting to and actually interacting with one another well. It was clear that they wanted the process to work, had prepared well and intended to develop good rapport over the relatively short period of the two-day workshop that was ahead of them. When they broke into groups for the activities it was noted that there appeared to be some discomfort and the individual groups

whether ALT/AMT/APT seemed to initially lack focus and clarity in their assigned tasks. The lack of clarity would appear to be a trait endemic in the process of forming and developing trust. For example participants would question in order to rationalize issues in their own minds; answers would then be evaluated against the individual's personal trust building and trust benchmarks. A suitable outcome would enable the development to continue whereas an unsuitable response would leave the individual undertaking additional search and clarification tests thereby delaying the development in some respect. To the observer this activity may be simply seen and rationalized, to be a "Lack of focus and clarity."

The groups did appear to manage the relationship development process well but the outcome that was to be used in the implementation of the project did appear to be "Somewhat superficial in terms of usefulness". This comment may be expanded upon in two ways. First in terms of process; there was clearly growth in terms of interaction and the groups were seen to commence relationship building over the course of the two-day workshop. Second in terms of outcome; whilst not wholly remarkable the limited outcomes would form the basis from which relationships could be nurtured and developed; essentially this was the perception that the researcher took away from the workshop.

9.4 *Projects Two, Three and Four*

The following three projects numbered two to four are outlined and followed by collective discussion. Final discussion encompasses the four projects.

- **Project Two: Beenyup WWTP Odour Control and Upgrade Project (stage 2) Alliance (Beenyup)**

The client decided that Project two should be an alliance early in the conception stage. The decision was supported on the basis of delivery date, community relations, evolving requirements of the project and the need to carefully manage the multiple interfaces with numerous contractors on site (Water Corporation 2003b). The project budget was significant. The scope of works encompassed process improvements in preliminary, secondary treatment and sludge handling areas, and odour control for secondary treatment and sludge handling areas (Andric, 2004). The principles of the alliance were established as safety first, minimise whole life costs, best for project decisions, open and honest communication, stretch thinking

(challenge the past), integrated team approach, accept responsibility with a no-blame culture, respect local community values, commitment, timely decision making and enjoy the alliance experience (Water Corporation 2003b).

- **Project Three: The Acton Peninsular Project (National Museum) in Canberra**

Project three was a design and construct project delivered using an alliance arrangement. The client was looking for quality of performance in project delivery as opposed to price in a project that shares a unique setting. The design was required to be distinctive and unique, reflecting the cultural heritage of approximately 50 000 years of indigenous peoples. The budget for the project was just over A\$155 million and considered to be a cornerstone for Australia's centenary of federation celebrations in 2003 (Walker & Hampson 2003c).

- **Project Four: Woodman Point Environmental Enhancement Project (WA21)**

Project four had a primary objective to upgrade the capacity of an existing waste water treatment plant and pumping station so that it would be able to meet long term needs of the community south of Perth, Western Australia (WA) treating and disposing up to 160Ml of effluent per day (Whiteley 2004b). The project was completed on time, being developed and delivered between 1998 and 2002 showing significant capital and operating cost savings (Water Corporation 2003a; Water Corporation 2003b). It was a complex project costing A\$150 million involving patented control technology, breakthrough engineering design and innovation in difficult ground conditions (Whiteley 2004b). An alliance was formed as the delivery vehicle and the project represented the first major public works construction alliance in WA.

9.4.1 Discussion Projects Two, Three and Four

As in project one all the above projects benefited from relationship development (RD) processes that happened in participant selection workshops. As before described the selection workshops were two days duration and enabled determination of trust, leadership, and commitment to the project, from those contractors being considered (KPMG Legal 1998). The parties were endeavouring to understand what it was like to work together and at the same time build relationships

(Hutchinson & Gallagher 2003; Ross 2003). This is exemplified in project two where participants were asked to convey their expectations of the workshop/ RD process. Several themes were observed from the twenty three participants including; commitment, relationship building both new and existing; eliminate misalignment of goals; deepened understanding and clarity of process, participants and product; and organisational learning and consistency of approach to problem solving (SRD Consulting 2002). These themes were built upon through the duration of the RD process when the discussion measured behaviours and commitments. Observations recorded included; focus on objectives, best for project decisions with no blame; working hard in tough times; challenging boundaries and risk taking; and a respect for background skills (SRD Consulting 2002). In the evaluation of the RD process highlights were observed that included; exchange of ideas, stretch thinking, good listening and balanced contribution; and the ability to work together (SRD Consulting 2002).

Project four was no different to project two with the RD process soliciting and gaining team member commitment (Water Corporation 2003b). Feedback from the participants at project four RD workshops displayed a desire to work together; solicit technical excellence, and an inherent fit with the alliance culture. It was recorded;

There was a great deal of *bonding* [italics added] achieved as part of the selection process.

In establishing the evaluation process the steering team was aware that alliances are about people and relationships (Water Corporation 2003a). The project three evaluation team selected from four short listed national and international companies, three of which went forward to a two day RD workshop (Walker & Hampson 2003c). The purpose of the RD workshop was inherently similar to the two described earlier being principally to establish a pattern of relationship development that would enable outstanding project success. Walker and Hampson (2003c) indicate that the RD process “Effectively revealed true intentions, vulnerabilities and strengths of all the proponents.” An unpublished survey by Walker (2003c) showed several examples. First, when considering the sharing of technical and commercial information respondents returned a response rate of double the confidence measure than anticipated in a business as usual (BAU) environment. In a second instance when

a question was posed that considered participant's involvement a double score rating over BAU was once again shown.

9.5 *Lessons Learned*

In a collection of case studies Lendrum (2003) identifies amongst other things that an alliance promotes interaction between participating organisations, indicating that where *them and us* dichotomies have existed they are converted into *we* with participants learning and performing together to solve problems. Much of the following exemplifies this point.

9.5.1 *Project One Lessons Learned*

Project one was in the concept phase, accordingly no opportunity for analysis in for this section presented itself.

9.5.2 *Project Two Lessons Learned*

The purpose of the project two lessons learnt meeting was to benchmark achievements against the original alliance principles and objectives. The *virtual organisation* created by the stakeholders was discussed as a particular *strength* in terms of a teamwork structure that generated a communicative environment where people were *addicted to succeed*. There were high levels of pride and passion associated with project involvement and it was found that alliance partners “Contributed knowledge from outside alliance”. Indeed, learning was an important issue; not just from a technical perspective but also from a process perspective where individuals with alliance experience were sourced by the team for specific advice. Close interaction in a committed and cooperative atmosphere followed discussion on teams. This discussion was found to arise from the original agreement. The original agreement set the scope of the project and its governance. Interestingly this governance model *rubbed off* onto subcontractors and those downstream of the client and non client participants associated with the project. Cost of the project was raised;

Everyone being driven by dollars; however people were thinking solutions not claims

Stretch targets were part of innovation built into the project. It was indicated that this philosophy was utilised well. However the targets did impact upon

relationships between the stakeholders and came close to *causing issues*. Further discussion on this point is set out in project four.

9.5.3 *Project Three Lessons Learned*

On project three the alliance partners were selected on their expertise and ability prior to any price consideration (Walker & Hampson 2003c), trust and commitment was encouraged whilst at the same time manipulation was discouraged. This point is elaborated upon in a survey of project participants where it is described that *goodwill* is used expeditiously to enable solution development and innovation (Keniger & Walker 2003). A survey reported later in this section indicates better than business as usual (BAU) information and knowledge sharing was evident on the museum project (Keniger & Walker 2003). There was a true democratic management team. An unpublished survey by Walker (2003c) shows several examples; when considering the sharing of technical and commercial information; respondents returned a response rate of double the confidence measure than anticipated in a BAU environment. In another instance when a question was posed that considered participant's involvement a double score rating over BAU was once again shown. Enthusiasm and commitment were seen as drivers for change (Keniger & Walker 2003). There was a downside to commitment, which is referred to as a *time trap* (Walker 2003). This develops through a combination of flexibility of time and availability of time that leads to dampened enthusiasm and commitment. On the museum project participants felt that there was a time cost borne by them that acted as a barrier to positive change. Walker (2003) also refers to a *trust trap* that is controlled by clarity and credibility of management values. If poorly handled, commitment is reduced. On the museum project *amazing* results were achieved indicating a willingness to share ideas through high levels of individual empowerment. Risk and reward arrangements also encouraged a team approach. The project participants were keen to share knowledge and had the best interests of the project at heart (Keniger & Walker 2003), working as they did from their *virtual organisation*. A key desirable result set at the outset was *outstanding* quality. This was described as innovative, rigorous and intelligent (Keniger & Walker 2003). The fact that the quality benchmarks were achieved is likely to be due to the team that included a specialist adviser with direct experience of developing quality measures for another significant alliance project (Walker & Hampson 2003c). The creation of an alliance leadership

team encouraged motivation as all alliance partners were represented. Devolved dispute resolution identifying best for project solutions virtually banned litigation (Walker & Hampson 2003c). Negotiations were not without heated discussion and debate but they were always managed on the *best for project* outcome. Walker (2003) surveyed participants on project four to compare negotiating styles with their approach to negotiation on BAU projects. The results indicated a more open and project focus with high levels of sophistication. There was strong evidence that collaborative attitudes and effective communication skills drove sound decision making. In the same survey project participants were willing to make sacrifice to ensure the long term viability of the relationship. Walker (2003) compared negotiation tactics on the museum project and interesting points were raised with regard to negotiating style, in as much as a significant number of those interviewed believed that their style and impact of negotiating had significantly changed (for the better) from BAU.

9.5.4 *Project Four Lessons Learned*

In the case of project four the lessons learned are found to be many and subtle (Water Corporation 2003a). Alliance contracting was selected carefully; there was analysis and comparison of alternative procurement options. The contractor was selected without submitting a price after a rigorous process that looked at contracting organisations and inevitably individual people. Establishing the alliance was seen as an important stage where individual team member commitment was gained. It was important that training opportunities were provided to assist understanding alliance contracting and alliance management processes. It was however, necessary to continue the training throughout the implementation phase to give newcomers similar opportunities. A team lead by well regarded person was critical to gain trust and support from the client. Understanding the full scope of work was important and time was well spent to fully ensure understanding of the *challenge*. The alliance philosophy of seeking breakthrough innovation had an adverse impact on schedule, design cost and morale; to many people a breakthrough meant delay and rework. Further discussion on this point is set out in project three below. Integration provided the solution to this dilemma in project four. The role of the project manager was noted as critical, great care was taken in selecting people for the role and articulating the requirements of the role. The role required excellent leadership qualities and the

ability to take an overview, *managing* rather than *doing*, not becoming involved in too much detail. A feature of success was the excellent relationship and effective communication between the client and operational and maintenance staff. Finally there were lessons learnt in *managing* the alliance. Many focussed on the importance of planning. However, a significant lesson had also been learnt through the distinction that has been drawn between the style of leadership required for an alliance and the style of leadership expected in a BAU project.

9.6 Summary of Alliance Participation Selection Workshops

An increased understanding of relationships that encompasses technical, knowledge and social areas was also found in the development stage of the case studies. Once again this appears to accord with the literature.

The projects discussed show similarities of lessons learned in many areas, in combination they show that the literature that forms the body of RM knowledge is appropriate to construction and engineering projects. Relationship benefits and drawbacks are identified in the case studies and strategies to manage them are rationalised. The relationship variables of trust, commitment and performance satisfaction tested in quantitative analysis in Chapter six are shown to be robust from a qualitative perspective.

The findings show that the interviews reported in Chapter 8 are reliable, robust and consistent. The respondents' recollection summarised in the interviews are borne out by the actual circumstances. In conclusion three studies have been completed together with external validation that is described above.

The following chapter concludes the thesis together with recommendations for future research together with a section that discussed the shortcomings of this thesis.

Chapter 10 Conclusion and Further Research

It had been indicated at the outset of this thesis that the theory building and analysis was one of discovery. The research was an iterative process where each of the three studies led into a subsequent study and incrementally developed an outcome that was envisaged at the research candidacy stage. For clarification; study one was a focus group exercise designed to explicate a suitable research question; study two built on the output from study one and endeavours to provide a more rigorous evaluation of the pertinent factors that are associated with relationship development; in study three of the research project the development of relationships in alliance type projects was studied as it has been determined from the empirical evidence associate with RM that there were similarities/ parallels in the concepts. Forty-nine people were interviewed. These people were principally associated with alliance projects Australia wide. In addition, attending alliance workshop and desk research enabled studies two and three to be validated.

Several models were developed through the research process and these models were used to test the propositions that were encapsulated by the research questions set out in Chapter one. The hypothetical models were presented throughout the research period at various international conferences; a list of these papers is catalogued in the introduction chapter. The various models, which are displayed and discussed in the following chapter, provide an insight and understanding into the benefits that RM may provide to construction. Several of the models were limited in their scope and application initially, but were reconfigured to meet the parameters of the research as it developed through the understanding of the literature review and an analysis of studies two and three together with the review of several project meetings.

This chapter will review the several models that were proposed through the research period and show how they align with the research questions and define an appropriate and deep understanding of construction relationship marketing. The main purpose of the chapter is to draw together the summaries of the quantitative and qualitative studies two and three and compare them with the research questions. The research questions will be reiterated to enable comparison. A new model of relationship development for construction projects, derived from an analysis of previous chapters, will be introduced. The relationship development model will be

explored in the context of extant literature and its typology addressed in the context of construction procurement. At the end of this chapter several options for future research will be explored.

10.1 Construction Relationship Marketing Models

Essentially traditional procurement models focus on discrete projects; process features, short time scales and little emphasis on client service; they operate in an environment of low commitment and contact, producing negligible vertical integration. This is described as transactional marketing by RM marketing writers such as Christopher, Payne and Ballantyne (1991). Traditional procurement and its well documented focus on price fails to recognise interrelationships between important elements of the marketing mix, communication and the customer’s concept of value. These elements and interrelationships are set out in Chapter Two (Lovelock 1984; Christopher, Payne & Ballantyne 1991; Ferguson & Brown 1991; Woodside, Wilson & Milner 1992; Nickels & Wood 1997). RM pinpoints client service and fundamentally enhances transactional marketing or in this context traditional procurement (Christopher, Payne & Ballantyne 1991; Day & Barksdale 1992; Boström 1995; Kotler et al. 1998). The relationship model’s integral linkages assure long term clients, they add value to projects and reduce price emphasis (Kotler & Bloom 1984; Lovelock 1984; Christopher, Payne & Ballantyne 1991; Ferguson & Brown 1991; Kotler & Armstrong 1993).

Following this in a construction context it becomes apparent that traditional procurement mirrors a transactional marketing perspective; this may be seen with reference to Figure 10-1.

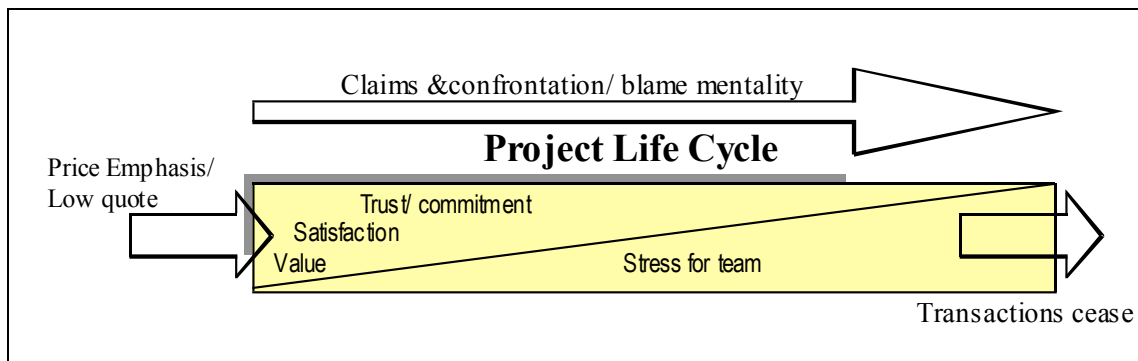


Figure 10-1 Transactional marketing/ traditional model of procurement

The model above follows the marketing continuum described in Chapter two adapted from Barnes (1995). In Barnes' model a transition from relationship marketing (RM) to transactional marketing is described. Based on this model it can be seen above that a procurement route driven by a client's price emphasis, indicated on the left, leads to an overall reduction in relationship marketing constructs of trust commitment, satisfaction and value, as the project proceeds. Claims and confrontation with a blame mentality through the project life cycle (PLC) increase stress for the team. The outcome is that ongoing transactions will cease, creating a short span of life for relationship development.

RM has been shown to represent long-term commitment and mutually beneficial collaboration (Morris, Brunyee & Page 1998). The aim of RM is a predisposition to build and maintain long-term relationships between a client and its project delivery team. RM introduces value adding in on-going transactions (Nickels & Wood 1997; Kotler et al. 1998; Morris, Brunyee & Page 1998) and partners to RM have a win-win outlook working toward common goals (Hollingsworth 1988; Kubal 1994; Wilson 1995; Tomer 1998).

As we have seen, particularly in Chapter 8, an alliance relationship development program enables trust and commitment to grow with clients. These levels are largely impossible with transactional marketing. Once trust and commitment is in place clients are likely to procure additional services and, importantly, they are unlikely to switch to competitors. They will stay with the organisation longer due to satisfaction with the process and product success received (Patterson, Johnson & Spreng 1997).

Additionally if construction clients follow those described in RM they will provide referrals to others as a result of their satisfaction, and they may be willing to pay a premium price for *quality* service. The end result using RM is value adding in construction projects and product satisfaction for clients and project stakeholders (Berry & Parasuraman 1991; Nickels & Wood 1997).

Once again putting this in a construction context it is clear that a RM approach provides significant benefits over transactional marketing; this may be seen with reference to Figure 10-2.

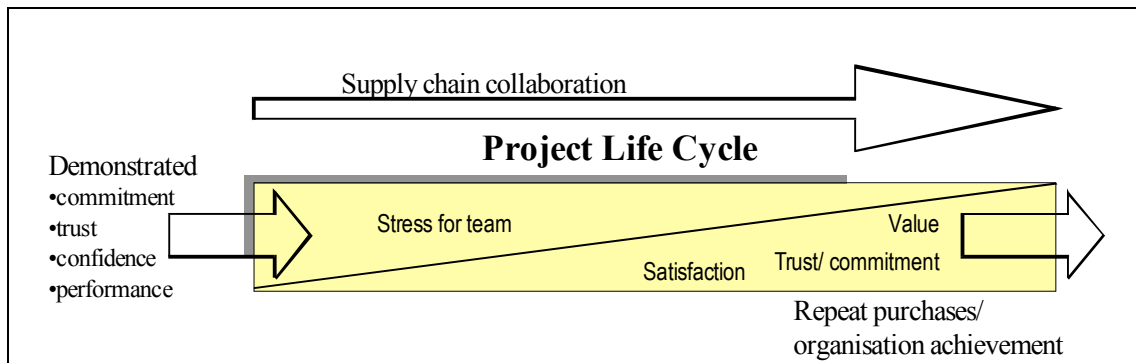


Figure 10-2 - RM procurement approach

A RM procurement route reduces the importance of client price emphasis, focussing instead on demonstrated commitment, trust, and confidence building; and performance satisfaction. Through the PLC supply chain collaboration and vertical integration are developed and enhanced. Project trust, commitment, satisfaction and value are increased, whilst at the same time stress for the project team and associated project delivery stakeholders are decreased. The outcome is the likelihood that transactions will increase, creating a long span of life for relationships and overall enhanced organisational achievement.

High transaction costs associated with estimation, selection and dispute resolution processes that leads to the generation and dispute of claims for additional costs can be reduced by adopting a RM approach (Coase 1937; Walker 2002).

A number of government agencies and reference groups have been cited in this research (Latham 1994; Egan 1998; Anonymous 1999; Barlow 1999). These agencies have called for reform of the construction industry procurement approach. Several elements to these reforms have been identified. These relate to the development of a relationship-based, rather than transactional, approach to project procurement. It is argued that these relationship-based approaches will address dissatisfaction with many clients' project procurement experiences and include:

- Greater customer-focus;
- Development of win-win rather than zero-sum outcomes for project participants; and
- Generalisation of trust, commitment, and confidence to reduce stress levels in all parties associated with the project delivery process.

It is also indicated that a RM approach in which projects are procured on a basis of a service, rather than an end product delivery ethos, is more likely to address past disappointments with the experience of both clients and teams involved in the project delivery process. Figure 10-3 builds on Figure 10-1 and Figure 10-2; it illustrates the antecedents and associated relationship characteristics that have been presented in this thesis.

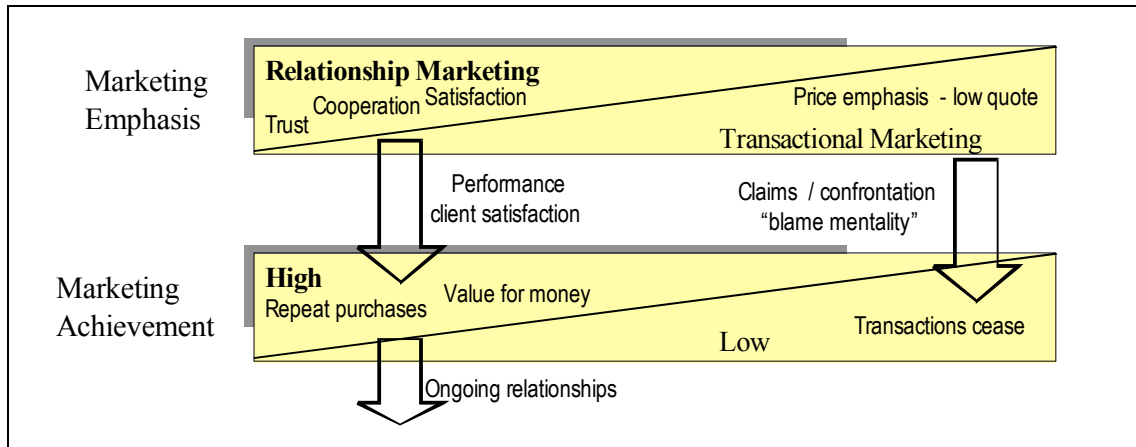


Figure 10-3 The association of transactional and relationship marketing (Barnes 1995; Davis 2001)

A difference between process success and product success in projects has been identified (Baccarini 1999). The link with RM being that transactional marketing can be likened to process success and RM has been shown to be long term and may be likened to product success.

This may be seen with the use of Figure 10-4. Process success is short term and transactional in marketing terms involving meeting time, cost and quality objectives and satisfying project stakeholders’ needs as they relate to project management processes. In Figure 10-4 it may be seen that process success is a development of transactional marketing, leading from low levels of marketing achievement and similar low levels of organisational achievement. Consequently there are limited and fundamentally short term benefits provided to project stakeholders in any venture, regardless of the procurement system adopted.

Product success matches long-term RM criteria involving satisfying user and stakeholders’ needs where they relate to products and meeting project owner strategic organisational objectives. Once again, referring to Figure 10-4, it may be seen that

product success is derived from a RM approach. RM leads to high levels of marketing achievement, with the use of concepts such as trust, cooperation and stakeholder satisfaction. This in turn produces high levels of organisational achievement derived from innovation and value adding. Consequent benefits to stakeholders include mutual goal achievement and repeat purchases.

From this it is suggested that whilst transactional marketing provides process success, RM is more powerful, concerned with product success and importantly, a long-term view of client relationships. Interestingly, RM can be applied to client-contractor relationships and contractor-sub-contractor relationships. Mutual benefit accrues in each case.

To realise and maintain these relationships and enhance the likelihood of long term success the construction manager should focus their efforts, building upon attributes including; trust, cooperation and satisfaction.

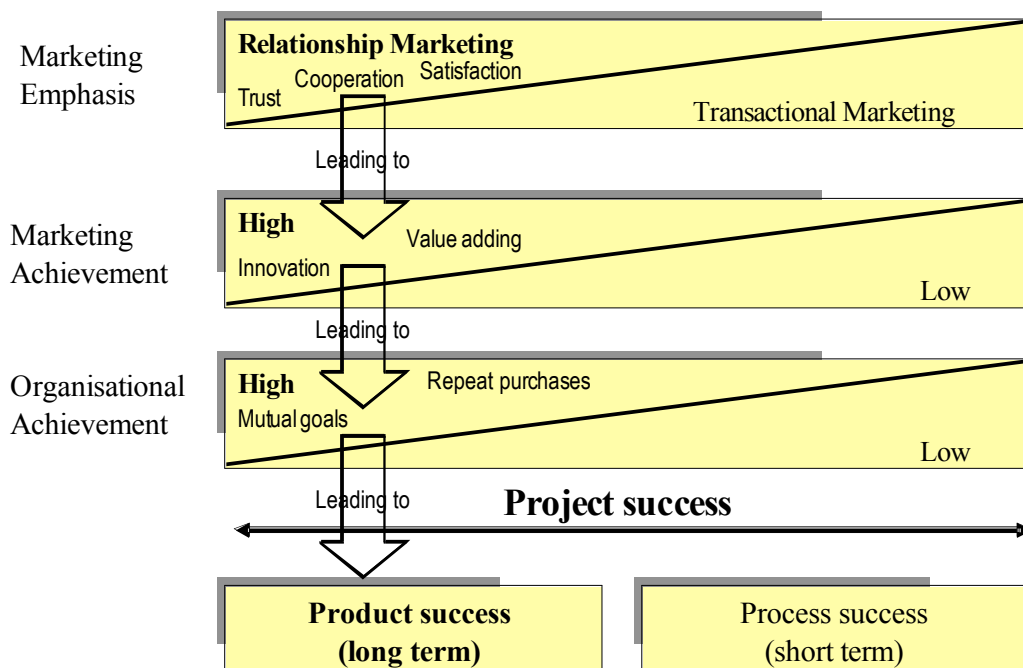


Figure 10-4 The association between components of project success, RM and organisational achievement adapted from Baccarini (1999)

10.1.1 Organisational issues

There are many aspects to consider when developing a RM approach within a construction organisation.

Gamebreaking projects are typified by fast rates of learning to meet production and process requirements. By maintaining relationships, the learning costs associated with switching partners is reduced (Gwinner, Gremler & Bitner 1998). Several writers also agree that a relationship approach that displays high levels of trust, commitment and cooperation will *ride out a storm*, for example a slip in quality or a departure from the specification. Whereas a relationship that focuses on contractual governance with limited trust has less chance of surviving a similar scenario (Leavy 1994; Wilson 1995; Conrad, Brown & Harmon 1997; Doney & Cannon 1997; Hennig-Thurau & Klee 1997). Early trust development enables organisations to reduce the number of supplier contacts and assists in solving development and production problems in gamebreaking procurement scenarios (Zeithaml & Bitner 1996). Organisations are able to obtain optimum satisfaction from a relationship-partner who is permitted to achieve a better understanding of their needs and preferences. Other strategies that can be accomplished better through a RM program include; the retention of the most desirable clients, enhancement of the construction organisation's image and the ability to attract desirable prospective clients (Connor & Davidson 1990).

At the heart of RM is a predisposition to build and maintain long-term relationships between project stakeholders. RM introduces value adding in proactive exchange (Nickels & Wood 1997; Kotler et al. 1998; Morris, Brunyee & Page 1998; Donaldson & O'Toole 2001). Partners in RM have a collaborative outlook and work toward common goals (Hollingsworth 1988; Kubal 1994; Wilson 1995; Morris, Brunyee & Page 1998; Tomer 1998; Donaldson & O'Toole 2001). Typically transactional marketing is administered with an external perspective. RM however, is concerned with interdependencies of all departments and individuals within a construction organisation and their exchanges both internally and externally. The objective is that all employees build (on) relationships (Gummesson 1995; Gummesson 1998; Kotler et al. 1998). Using RM, construction organisations develop with their clients. Clients are likely to procure additional services in a RM environment and, importantly, they are less likely to switch to competitors. The end result of using RM is collaboration in construction projects and long term (product) interdependence (Berry & Parasuraman 1991; Nickels & Wood 1997; Donaldson & O'Toole 2001).

10.1.2 Key points

To assist in understanding the models above three noteworthy points are made with regard to the research. These points will also help to understand the issues that follow in the conclusion. The three points are alliancing, social capital and relationship development.

- **Alliancing**

Project alliancing is identified as one manifestation of a RM approach that delivers successful projects with high levels of client and project delivery team satisfaction. However, the key issue that has been argued relevant to project procurement is that in general the RM approach and RM outcome, for example project alliancing, seek to deliver greater understanding between project participants and hence greater customer-focus. It is concluded that the benefits and opportunities that RM offers as a business development strategy should be more widely adopted by the construction industry.

- **Social capital**

It is argued that relationship based procurement systems are based upon the development of effective use of social capital. It is also argued that supply chain management provides a useful framework for applying relationship based procurement systems in practice, with collaboration and cooperation being a core feature, again reliant upon social capital.

Evidence, from several prominent examples of relationship based procurement projects in Chapter 9, illustrated how relationship based procurement delivers win-win for project participants throughout the project supply chain. This provides a framework for understanding the underlying process that lead to project success using a relationship based procurement approach. Clearly, social capital and its positive impact upon supply chain management influences the outcome of the projects reviewed.

- **Relationship development**

It is argued that the relationship development process is crucial to a successful relationship contract/ alliance. It is also argued that there is a definite structure that is underpinned with specific themes that should be considered when managing the RD process. Trust and commitment has been explicitly addressed in the thesis and are

recognised as important implicit elements. It is indicated that relationship based procurement is dependent upon and is reinforced by joint learning from joint problem-solving activities.

Case studies that are prominent examples of relationship based procurement projects illustrate how the RD process can deliver mutual understanding for project participants throughout the project supply chain. The RD processes and their positive impact upon supply chain management influence the outcome of the projects. There is value to the argument that this lies at the core of understanding how this may occur.

10.2 Comparison with Research Questions

In this section the research questions that were established at the outset of the research are revisited. In each case the main issues from the research project are captured and discussed with appropriate literature below.

Research Question 1a – Has a RM approach the ability to add value to construction projects?

Research Question 1b – Do construction actors endeavor to add value to the projects that they carry out?

As has been seen in the literature RM adds value to projects, and reduces an emphasis on price (Kotler & Bloom 1984; Christopher, Payne & Ballantyne 1991; Kotler & Armstrong 1993). In the quantitative study two (Chapter six) it was reported that the respondents recognised that different procurement options provided various opportunities to add value to projects that they were involved with. They viewed adding value as a means to differentiate the service that they had available. In study three the intangible nature of adding value was explored following the literature that indicated the very nature of a service makes it difficult for clients to put a value on services prior to their purchase (Lovelock 1984; Fisher 1986). It was suggested that the relationship development process in alliance projects enable value creation via principal components of trust development and maintenance and commitment to mutual goals. It was proposed by respondents that trust and trusting behaviors provided value to clients in both the process and final product. The value to the project was derived from trust that enabled the respondents to work with people on issues that were important as opposed to concerning themselves with monetary

considerations. Value was also identified through codification of organisational learning. Often, however, the value created in the relationship development process would not be captured in a tangible way through reporting for example. This failure caused several respondents, mainly client respondents, to miss the worth of the *value* and presume that the relationship development afforded little net gain to the overall project. The respondents indicated that value for money deliverables occur in many shapes and forms throughout the project's whole life and for input to new projects these should be captured and reviewed. A study of post implementation reviews and close out reports from recent alliance projects that are becoming more accessible would provide a valuable source of information.

Research Question 2a – What are construction actors' attitudes toward relationship benefits in the project environment that they work in?

In upstream relationships the primary factors associated with relationship benefits were found to be product or relationship issues with contractor and client respondents. The design respondents ascribed process issues to be the primary factor. Parity was found across all three groups of respondents. All respondents identified for example cost benefits as a process based or transactional marketing attribute. It should be noted that whilst both contractor and consultant have identified RM as the primary factor, the design group of respondents had identified transactional factors as primary, both upstream and downstream. However all of the three groups of respondents identified underlying factors of product and process when they spoke about benefits to their projects. They have separated the transactional marketing issues from the relationship marketing issues as important factors in their relationships.

In study three when asked about relationship benefits associated with alliance projects the respondents were positive. Essentially they believed that the selection process that included relationship development workshops added significantly to the benefits that they all accrued from the project. The benefits were not limited to process benefits but flowed into product or relationship benefits. The benefits ascribed to RM from the literature were wholly supported; for example Han (1993) and Wilson (1986) cite examples where relationships between long-term buyer-suppliers save inspection costs and consequently provide benefits in quality and reduced lead-in times. The primary benefits that all the respondents in study three spoke about were trust, commitment and the development of mutual goals that were engendered at an

early opportunity and reinforced throughout the project development stage. These aspects are referred to in research question 3 below.

Research Question 2b – Are relationships (RQ 2a) stronger upstream or downstream in the supply chain?

In study two the stratified sample highlighted benefits arising from relationships in two ways; initially during the process of carrying out the project, and secondly in the product or outcome of the project. In a project sense this follows (Baccarini 1999). Grönroos (1994) and others have indicated that these may be referred to transactional and relational outcomes respectively. Responses to the questionnaire indicated high levels of consensus as the groups of respondents put considerable effort into assuring mutual outcomes. There appeared to be a little more effort in the development associated with upstream relationships compared with downstream relationships.

Research Question 3a – What impact do RM variables including commitment, trust, satisfaction and mutual outcomes have on construction actors in their construction project environment?

Research Question 3b – Do these variables (RQ 3a) have a stronger impact on upstream or downstream relationships?

Study two identified several notable aspects of RM as important to construction. These included; the concepts of trustworthy behaviors leading to trust maintenance and commitment; the development of mutual goals together with early collaboration. The three variables of trust commitment and mutual goal development were intrinsically linked in the minds of the respondents. The effort that the respondents put into developing mutual goals was greater than that they perceived to obtain from the relationship. In other words they were prepared to put more in than they received from the arrangement. This action of preparedness to commit to a relationship more than you expect to receive from it is a trust building/ maintaining behavior and follows the various writers that were sourced in the literature review, for example Hennig-Thurau and Klee (1997) whose definition of commitment identifies the conviction that remaining in the relationship will yield higher net benefits than leaving it. The respondents looked upon trust building more favorably upstream than downstream. It appeared that they were marginally more cautious with downstream

relationships. One factor that may account for this was the strong association displayed between actuality and expectation of trust with the variable confidential information sharing. Thompson and Sanders (1998) provide several examples that relate to future conditions that are contrary to expectations of the relationship. Similarly it would be a significant *risk move* to share confidential information with a partner downstream in the relationship. Certainly it would be more significant than the same circumstance with a partner upstream in the relationship. This follows (Dwyer, Schurr & Oh 1987). In summary it was found that all the stratified groups of respondents had high expectations that their dealings with other stakeholders would be underpinned with trust.

In study three it seemed that the entire process of relationship development hinged around commitment, trust, satisfaction and mutual outcomes. From the respondents collective perceptions it was all important and entirely reciprocal, regardless of upstream or downstream engagement. Connections that evolved in the team drove the process and enhanced the outcome of the project, and as indicated above added substantially to the value that was to be derived from the project – albeit sometimes somewhat intangible.

Research Question 4a – What principle factors influenced selection of particular partners to an alliance?

The relationships that the respondents were striving toward were likened to personal relationships. As indicated in the section above they would endeavour to identify suitable partners that they could work with and trust. Individuals were important and their respective organisations tended to be placed in the background as a secondary criterion. Organisations are a selection criterion but individuals are scrutinized in more depth as their knowledge was in demand.

Research Question 4b – What processes and/ or interactions allow relationships to become forged in alliance projects?

There were four themes that the contractors and client respondents found important.

The **process of the relationship workshop** and the important aspects that underpinned the relationship development process were found to be central issues for all the respondents regardless of whether they were contractors or clients.

The **underlying attributes** associated with relationship development were similarly significant to all the respondents. All respondents identified trust and trust building its association with commitment and communication that are relied upon by the relationship driven team.

The **outcome for the team** in relationship development was relevant to both the contractors and clients. All respondents spoke of the maturity that they would be reviewing in the relationship development exercises.

Following the above point the respondents reviewed **organisational issues** associated with **individuals in the relationship** development workshops. These points are further defined in the exploration of relationship development models in section 10.3.

10.3 Model of Relationship Development

Referring to Figure 10-5 study two has established three tenets that should be embedded in a construction relationship program. They are identified with call out boxes on the drawing collated and discussed below;

1. There is a fundamental association between the procurement method (ways of obtaining work) and propensity to add value to a project. The process of selection whether it is an alliance methodology for example or more akin to a BAU (traditional approach) will impact to a great degree on the outcome with respect to project and/ or process success. Both are required and should be managed carefully at the outset of a project by working as an integrated team toward mutually agreed benefits and outcomes.
2. Trust is a central attribute to a construction relationship program. Credibility, commitment, satisfaction and mutual benefits all depend upon it. Aspects of trust in the guise of confidential information sharing, being interactive and communicative, and willing/ able to understanding problems and solve them to the benefit of all stakeholders are factors that cannot be forthcoming in traditional price imperative procurement models. Particular effort in these areas is crucial to a construction relationship program.

3. The benefits that are derived from a construction relationship program require an appropriate relationship development strategy to be in place at the commencement of a project. Alliance projects are generally large and complex infrastructure projects involving capital resources and lengthy time frames; it may prove difficult to extrapolate the processes from alliance projects to more modest construction projects. However this is not to say that an appropriate inference cannot be made. The benefits that accrue from a relationship development strategy have been shown to include many factors from RM that are suitable for construction; these factors are embedded in alliance projects. Figure 10-6 shows a model developed from the research that sets out the requirements.

The model is discussed below.

10.3.1 Exploration of the RD model

Further reference to Figure 10-5 identifies a *cloud* highlight that connects the important underpinning variables that impact upon a construction relationship development model. It can be seen that the cloud links **trust** with **commitment**, **credibility**, **satisfaction** and **mutual outcomes**. These are the underpinning variables that were identified in study two and confirmed as vital by the respondents in study three. They form the response to research question 3 identified in section 10.2 above.

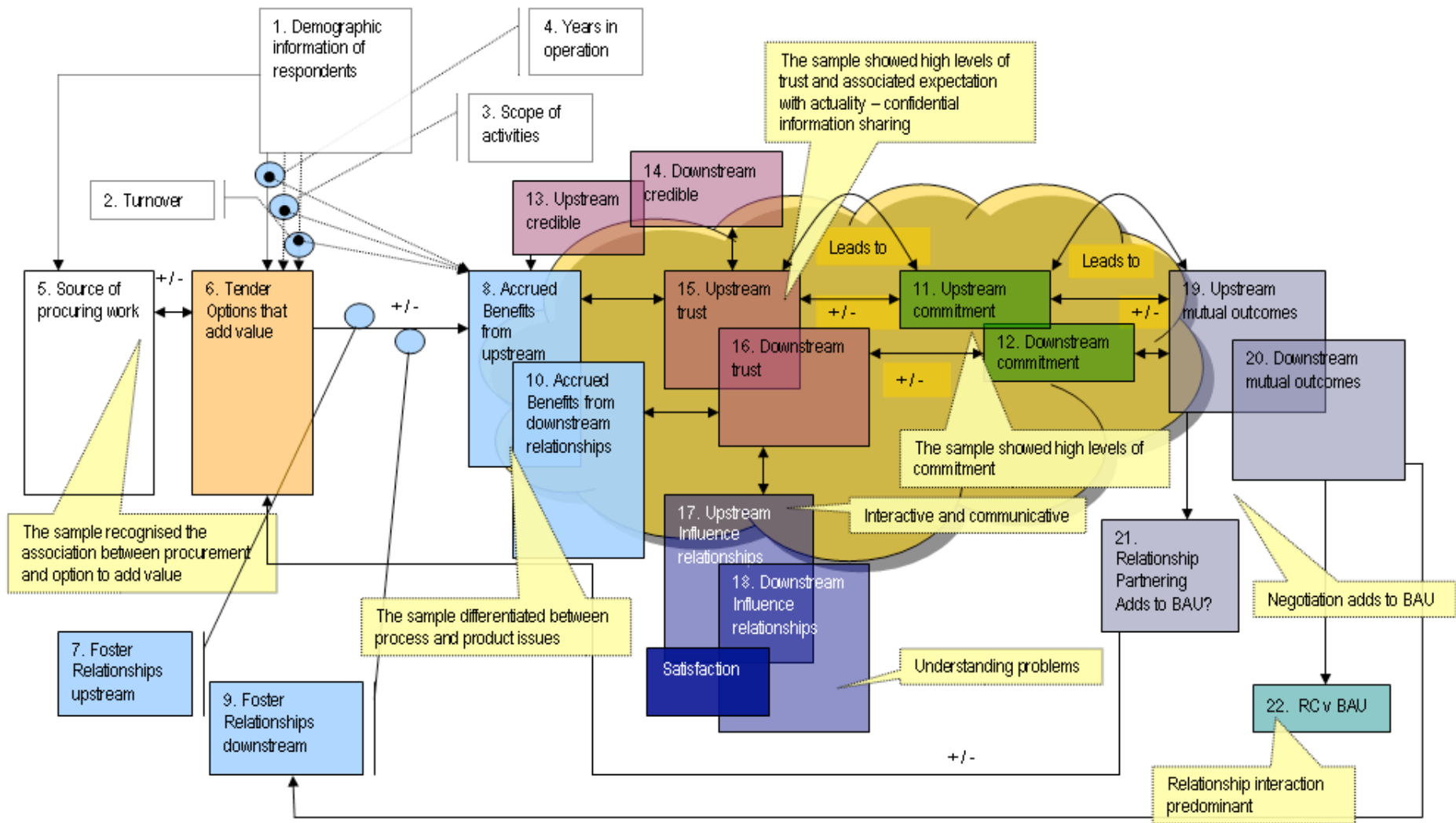
Figure 10-6, drawing on the information at bullet point 3 in section 10.3 above shows the association between the underpinning variables of **trust** with **commitment**, **credibility**, **satisfaction** and **mutual outcomes**; the four themes that were identified as critical to relationship development in study three and the extant literature derived from relationship marketing's body of knowledge. The RD model also validates earlier models in this summary as they stand; Figure 10-2 - RM procurement approach, Figure 10-3 The association of transactional and relationship marketing , Figure 10-4 The association between components of project success, RM and organisational achievement adapted from Baccarini

The model utilises a three stage approach to relationship development that draws on several key papers that discuss relationship development (RD) (Ford, Hakansson & Johanson 1985; Dwyer, Schurr & Oh 1987; Wilson 1995; Pascale & Sanders 1997; Ford 1998; Thompson & Sanders 1998; Donaldson & O'Toole 2001;

Walker & Hampson 2003b); these findings are summarised in an associated table in Chapter 2.

Figure 10-5 Associated links to trust in Relationship Development Model

The figure referred to above is shown overleaf.



In the first stage that in construction terms would be referred to as the pre-tender phase a client would interact with a number of service suppliers (contractors). It is indicated that objective judgement would be difficult due to the intangible nature of the construction service and the client would be looking for cues that would reduce risk associated with decision making in the first instance (Day & Barksdale 1992; Patterson 1995). Many strategies were identified by the respondents in study three, these varied from quite complex to relatively straight forward discussions. Essentially a client would be asking the question; “Can you do this for me”? The question would be seeking information concerning resources, technology together with managerial expertise (Ford 1982; Wilson 1995; Ford 1998). The direction of the questioning in the first instance should be directed toward a firm. Analysis of individuals would follow in subsequent stages. In the first stage there would be limited commitment and if commitment was evident it would be difficult to recognise and evidence. To avoid an adversarial position that is well researched in construction Spekman (1988) would guide a client with useful questions. Examples of appropriate questions are listed in Table 10-1.

Table 10-1 Question to determine propensity toward mutual relationships, adapted from Spekman (1988).

Is there a commitment to quality?
Has the contractor committed resources that cannot be used in other relationships?
Does the supplier understand the overall commitment required?
Is the contractor able to grow with us?
Does the contractor offer true innovation in the product or services that it supplies?
Is the senior management team of the supplier committed to a relationship (in the context of this research)?
How much is the contractor willing to share?
What does the contractor demand of us?

As the relationship evolves and intersects with the second phase trust should be initially developed with the use of relationship development exercises that have been shown in this research to *fast track* commitment. The commitment in itself would lead toward trust and enhances trust maintenance, albeit relatively limited at this stage in the model. At the conclusion of the first stage, which will permeate the second stage boundary rather than happen at any pre-determined time, there would be an option for either party to end the relationship. This action follows both the literature and the respondents’ comments in study three. It is noteworthy to recognise

that a predisposition toward upstream relationship variables of trust has been identified as stronger than downstream and this fact should be accounted for in the workshops. At this stage the parties should be evidencing guarded information transfer and exhibits of limited trust. This trust may take the form of an offer to reconfigure capital items of plant or IT equipment to meet the needs of a client. It would be suggested that the workshops should take place in the second stage of the relationship development model in line with current practice in alliance procurement and as described by the respondents.

The second stage of the construction relationship development model would be the relationship development stage. In this stage it is envisaged that workshops similar to those associated with alliances would be carried out. The parties associated with the relationship should be reduced to limit the cost associated with the workshops; an impost that was identified by respondents in study three. The questions that the parties to the workshop would be endeavoring to answer would include; “What are our common goals?” and “How can we do this project together?” they would also be looking to establish ground rules. The ground rules would not only be required for the workshop meetings but also for the project to be carried out. The parties would be thinking about risk and open discussion should be revolving around adaptations required to deliver innovation that are best for project outcomes. These preceding points lead to deeper trust between the parties and embed commitments based on propositions about future actions. Trust would be growing through this stage with commitments being increased. According to the outcome of study three the process of the relationship development workshop, its underlying attributes, and the measured goal and commitment outcomes, together with organisational interrelationship issues are fundamental to success. These should be addressed in the construction relationship development model.

The respondents to study three spoke at length regarding the use of facilitation, its suitability to enhance the process of relationship development and the need to capture evidence of intangible value that could be reported as part of the relationship development process. The validity of these sentiments was established with the desk based exercise that is reported in Chapter nine. In study two the important underpinning variables that impact upon a construction relationship development were described. These are links that **trust** has with **commitment**, **credibility**, **satisfaction**

and **mutual outcomes**. These are the underpinning variables that were identified by the respondents in study three and form the response to research question three identified in section 10.2 above.

Accordingly, in a construction relationship model, participants in this stage should be working with suitable facilitators that are able to manage the process of relationship development and recognise/ report on the aspects that are important to the client. Invariably, as in the research reported earlier, this will hinge around value adding to the process and the final product. However, as indicated in the literature by Day and Barksdale (1992) both clients, and those hoping to work for a particular client, should be in a position to develop an understanding of that particular client’s needs and satisfiers. Other research cited identifies that effectively managing a supply chain, as a coherent single-team requires an understanding of organisational interrelationships. These interrelationships are characterised differently to their traditional ways of being managed. A list of drivers is shown in Table 10-2.

Table 10-2 Organisational interrelationships associated with stage two contractors relationship development adapted from (Spekman, Kamauff & Spear 1999; Vrijhoef & Koskela 2000)

Having long joint planning and monitoring horizons
Compatible corporate philosophies -in other words actors share essentially the same vision for the project
Risks and rewards are shared over a long term
A rationalised supplier base allowing increased coordination and reduced transaction costs
A propensity for information sharing
A focus on total costs and a desire to leverage technology

Although the above list may appear similar to Table 10-1 shown as part of stage one there are subtle differences. They are appropriate for a construction relationship development program at this point in its development.

Trust and its links to commitment were identified as important attributes of a relationship marketing approach; the respondents in study two or three did not miss the association. They should not be overlooked in the development of a construction relationship model. Examples may be drawn from the sample in study three. Effective communication and information sharing were shown to increase trust and trust development. Goal setting and outlining deliverables were indicators of commitment, aligning these commitments with commercial objectives were also provided as

examples where trust development in this stage will enhance the relationship. Again in study three, the reciprocal nature of trust was explored and practitioners in a construction relationship development program should be cognizant that often the reciprocal nature of trust is displayed through knowledge transfer in what was described in the literature review as communities of practice.

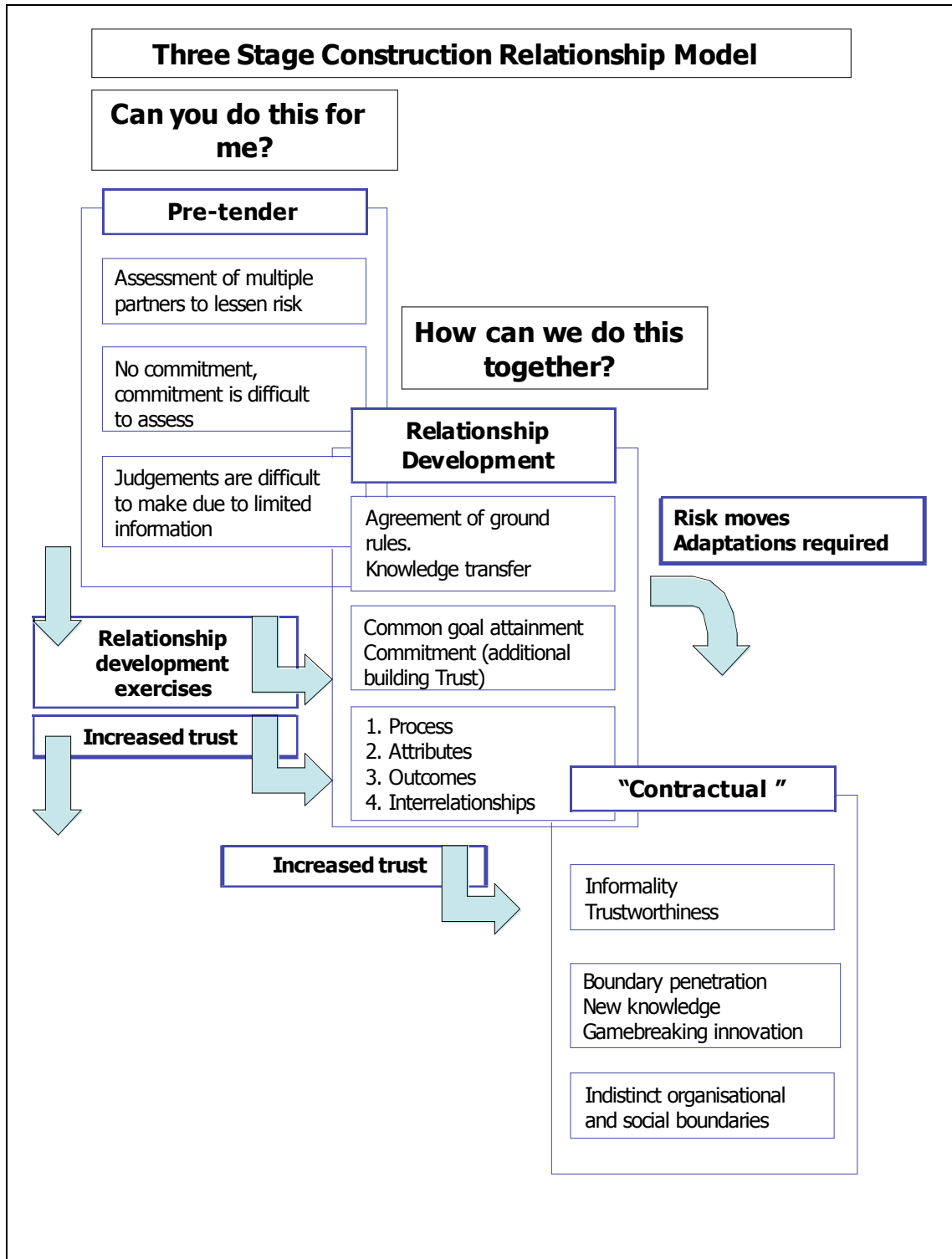


Figure 10-6 A construction relationship development model (Author 2005)

The third stage of relationship development was referred to in the literature as *enduring and variable*. For the purposes of the construction relationship development model it may be referred to as the contractual stage. As indicated in the literature the relationship would be becoming close to fruition. Indistinct organisational and social

boundaries would become less evident as boundary penetration of actors creates an informal hybrid team that is to be in place for the duration of the project (Wilson 1995). The term *absorptive capacity* (Cohen & Levinthal 1990) has been discussed in the literature review. The capacity to absorb new knowledge which includes openness, tolerance of mistakes, having a history of gamebreaking ideas is relevant to this stage of the construction relationship development model. People that have an ability to note an opportunity of an idea transferred from one discipline to another are useful to the relationship at his stage. For example in one of the projects discussed by the respondents in study three several were able to cite an example of technology transfer of a significant nature that was indeed *gamebreaking*. This competency together with others cited by Maskell (1998) including reliability and trustworthiness cannot be bought and are not readily available to competition in the market place. They augment the competitiveness of an organisation through there continual reuse in the enduring relationship. In the last stage enduring strong ties that encompasses technical, social and knowledge areas are forged. Regular evaluations still remain in place to ensure the quality of the relationship but many organisational benefits similar to those outlined in Figure 10-4 are accrued.

10.4 Recommendations for Future Research

Prior to this research there had been no comprehensive study that placed relationship marketing in the content of construction. This thesis has filled a gap that existed in the body of knowledge concerning the development and maintenance of relationships at or around the time of tender. The research has added depth to existing knowledge in both construction and marketing sectors of commercial undertaking by providing a series of models that show how relationships may be in the first instance created, and then nurtured in early interactions within a project's life cycle.

The research has set out a robust methodology that may be replicated to accommodate similar research aim and objectives. It is conceivable, for example, that development of a research programmed in the Australasian region may build up a cross-tabulation of information enabling a cultural database to be developed over time. The database would enable knowledge capture and transfer in a more meaningful way. In its own right a model arising from this database would enhance the internationalization of construction innovation and provide incremental

advancement in regional knowledge management. Norms and values are closely linked to specific culture, as are power/ negotiation strategies associated with organizational maturity. Whilst these issues are not comprehensively investigated in this study, satisfactory development may be drawn from the preceding groundwork and would form a fertile basis from which essential construction research may follow.

Aside from the foregoing the research presented in this thesis has raised a number of issues that are worthy of further investigation. These include:

- A study of project close out documents from a number of recent projects underpinning this current research would fulfil the requirements from a phenomenological perspective. The initial interactions that form the basis of evaluation has been the subject of this research project; future research may consider the maintenance of trust, independent and intervening variables through the **life of the project**. Completing this research would complement this current research and serve to close the *loop* in terms of construction service quality and relationship development and maintenance.
- Throughout the literature review period associated with this research project many papers have been reviewed that provide discourse within the confines of service quality and these would form a useful starting point to develop a construction model that has not yet been developed.
- This research has focussed on relationship development that occurs between a client and non-client participants. Subcontractors are used extensively in the construction industry and should not be ignored in developing an holistic view to relationship development and maintenance. An examination of this using a similar methodology would be appropriate.
- A psychological contract that impacts upon the ways of working within a relationship was considered within the current research. Aligning this to human resource policy and selection procedures would enable a future researcher to establish its impact and catalogue a level of understanding. Extrapolating this knowledge to development workshops that were described in this research would enable a better understanding of the development that takes place within intra-organisational relationships.

- The benefits that accrue from a relational contract or alliance have been shown to be difficult to articulate from a stakeholder's perspective. Future research may be directed at further quantifying the benefits and comparing/ contrasting them with BAU projects. The aim would be to enable the decision making process of stakeholders.

To conclude, this research has provided an insight into RM from the perspective of construction. It has identified several models and procedures that may be used to deliver better outcomes to all stakeholders in the project delivery process. Some caveats to this have been recognised through the research process. The comprehensive literature review established a gap in the knowledge concerning marketing and particularly relationship marketing as it may be applied to construction and construction actors. However, the combination of methods and methodologies provides significant advancement in the knowledge of RM and RD when applied to construction. The key benefit that arises from this research is in the improved understanding of selection and its impact on RD.

Future research possibilities in the areas of trust maintenance, service quality; alternative aspects of the supply chain; psychological contract relationships and stakeholder are offered for the benefit of future researchers. Additional investigation in these areas will enable them to explain and consolidate current extraneous factors associated with RD in construction.

Chapter 11 References

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