

THE UNIVERSITY OF CALGARY

SUSTAINABLE ALLIANCES:
CREATING AND MAINTAINING A SUCCESSFUL RELATIONSHIP

by

JILL WENDY CARSS-GOFTON

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ABSTRACT

In recent years many companies have implemented alliances. A prime driver for this is growing recognition that today's highly complex and technologically advanced projects require more collaboration between the many specialized companies involved than was ever the case before. Unfortunately, necessity does not appear to affect success. Evidence suggests that many alliances fail. This thesis addresses the issue of creating and sustaining a successful relationship. The research concerns alliances in Alberta's oil and gas industry. A key result of the study is the generation of a number of models for establishing and managing alliances. These models address the issue of success based on diverse stakeholder perceptions. One significant aspect of the models is the alignment of the critical conditions and processes which are necessary to develop sustainable alliances capable of delivering maximum benefit.

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CHAPTER 1: INTRODUCTION

This chapter introduces both the topic area and the research study. After a general introduction on the need for collaboration, alliances and particularly those in the oil and gas industry are discussed. Following this a summary of the research is provided, covering the research questions, the methodology and the main achievements of the work. Finally a detailed guide to the thesis is provided.

DEFINITIONS

The term alliance is used for many types of business relationships, including emerging forms and those already existing, and many definitions of alliance exist. Initially, alliance is defined as “an explicit agreement to work co-operatively to improve the partners’ positions”, however this definition will be expanded and elaborated upon throughout the thesis. Also, this thesis follows the common practice in industry and uses the term ‘partner’ to refer to any of the collaborating companies that are party to the alliance. It does not imply any kind partnership in the legal sense. For the purpose of this research, collaboration which results in a separate legal entity such as a joint venture are excluded, as are agreements where either or all of the parent companies are not distinctly sustained, such as mergers or acquisitions.

INTRODUCTION TO COLLABORATIVE RELATIONSHIPS

Business collaboration is increasing, and is likely to continue to do so. There is huge growth in the number of inter-firm relationships, such as alliances. A Cooper & Lybrand survey of five hundred fast growth companies conducted in 1993 found that more than 55% had at least one alliance in place¹. The reasons for this continuing increase appear to

¹ Lorraine Segil, *Intelligent Business Alliances*, (Random House: 1996).

be as a result of the ongoing drive to improve competitiveness. To date, as most increases have been made internally they must now be found externally, causing a shifting focus of productivity towards suppliers². In addition, the current move to project based work, particularly using cross-functional teams, emphasizes the need for integration and to improve team performance. Recent research conducted by the Center For Advanced Purchasing Studies³ reported that: firms have identified that suppliers affect the competitiveness of the firm, and as a consequence of this, they are pushing to integrate the suppliers into the business function through the use of partnerships. The study predicts that “strategic alliances with suppliers will increase in number and degree”. Another study carried out by the Center For Advanced Purchasing Studies⁴ concluded that, “supplier participation, either through formal team membership or through less formal support and involvement, also relates directly to greater team effectiveness”.

COLLABORATION IN THE CAPITAL PROJECT ENVIRONMENT

In general, the business environment motivates inter-firm collaboration.

- As companies concentrate on their core competencies in an attempt to improve competitiveness.
- Increasing globalization and need to work with local companies.
- Increasing technical complexity – no single company can be expert in all areas.

In the capital project environment, these factors are particularly strong and are manifested in an increase in the size and scope of project teams. Most project teams are moving

² Neil Rackham, Lawrence Friedman and Richard Ruff, *Getting Partnering Right*, (Mcgraw-hill: 1996).

³ Joseph R. Carter and Ram Narasimhan, *Purchasing and Supply Management: Future Direction and Trends*, Center for Advanced Purchasing Studies, research report, 1995.

⁴ Robert M. Monczka and Robert J. Trent, *Cross-Functional Sourcing Team Effectiveness*, Center for Advanced Purchasing Studies, research report, 1993.

from the segmented sequential method of working, and starting to adopt some kind of integrated team approach. Recognizing that the need to improve project performance requires that the project lifecycle expands to include the conception and operating phases. Achieving this mandates collaboration between Owners, Contractors and Suppliers, and as such the number of alliances is increasing.

Alliances in the Alberta Oil and Gas Industry

The concept of alliances has been embraced in the oil and gas industry. This is likely due to the increasing need to cut project costs, together with widely publicized success of projects such as British Petroleum's Andrew field development⁵. The oil and gas industry in Alberta is currently no exception to this, even though it is in the middle of a boom situation following the bust in the late 1980's. Ever aware of the cyclic nature of the business, owner organizations are concerned with minimizing the cost of developing and upgrading facilities. As such owners will use whichever contracting strategy promises delivery of the best project for the cheapest amount. Currently alliances are in vogue and many organizations mandate their use through business plans and supply strategies.

However, within the industry there appears to be confusion over the interpretation of what alliances are. Consequently, alliances have been implemented in vastly different ways, taking very different forms. The biggest issue is that not all alliances have been successful. Some alliances have been prematurely terminated and some have involved legal claims and disputes reminiscent of traditional contracting approaches. As a response to these problems this research seeks to address the sustainability of alliances.

⁵ Terry Knott, *No Business as Usual*, (The British Petroleum Company PLC.: 1996).

RESEARCH SUMMARY

Creating and sustaining a successful alliance, requires identifying what constitutes success, and then measuring and managing those criteria. Determining the success measures requires a complete understanding of the overall purpose of the alliance, and the underlying motive for collaboration, as well as investigation and comprehension of its functioning in practice. Correspondingly, we need to understand the differing types of co-operative frameworks and recognize how these frameworks advance the different motives. Only when both the underlying motives for collaboration and the effect of the co-operative frameworks are understood can an appropriate relationship be designed and pertinent goals and metrics formulated.

RESEARCH QUESTIONS

The fundamental research problem involves identification of the critical success factors necessary to both create and maintain a successful alliance. This was addressed through four primary research questions:

1. What is an alliance?
2. What is success – within the context of an alliance?
3. How is success achieved?
4. Who influences success – actual and perceived?

RESEARCH METHODOLOGY AND ANALYSIS

For this study ‘Sustainable Alliances: Creating and Maintaining a Successful Relationship’, a qualitative approach was believed to be most appropriate. First, an exploratory study seems most suitable for identifying critical factors for alliance success.

Second, based on the initial literature review, it appears the human aspects would play a significant and complex role and these could best be investigated in context.

In general contextual research techniques appear particularly appropriate for conducting project management research, regardless of ontological view:

- From a positivist perspective as very little academic research has been previously conducted initial exploratory work is required before any hypothesis testing research is undertaken.
- From a phenomenological perspective the constructed reality of the project participants can be examined.
- From a pragmatic position the unique and temporary nature of projects, coupled with a profusion of human relationship issues, suggests that research should be performed whilst maintaining situational context.

The primary research data was collected through a series of qualitative interviews of diverse alliance participants. The analysis is based on the modified grounded theory method⁶, and was conducted with the assistance of computerized qualitative data analysis software (ATLAS/ti).

A total of four alliance cases were investigated, and nine participants were interviewed. The primary data is the interview transcripts collected through the semi-structured interviews, and comprises three detailed alliance case studies plus one additional interview from another alliance. The total data consists of nineteen hours of audio taped material.

⁶ Anselm Strauss and Juliet Corbin, *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, (Sage Publications 1990).

BENEFITS

Although the research of alliances has been carried out for non-project environments, very little academic work has been conducted regarding the use of alliances in the project environment. Essentially, most of the published results are authored by individuals involved in such alliances, and as such may be biased opinion. This work will contribute to the knowledge by providing an impartial examination of the topic.

In addition, the research will assist practitioners by providing an understanding of which factors are critical to alliance success from the perspective of all stakeholders involved.

The results of the study will allow us to focus on improving the factors which have the greatest impact on project and/or alliance success.

MAIN ACHIEVEMENTS

The extensive literature review resulted in:

- Development of a conceptual frame work for alliances.
- Identification of proposed Critical Success Factors (CSFs) for alliances.

The investigation of four alliances in Alberta's oil and gas industry found:

- A definition of how alliances are implemented.
 - A definition of what success was perceived by different stakeholders.
 - A list of CSFs different to those identified through literature.
 - The CSFs bifurcate into conditions and processes.
-

- Culture is the primary driving factor for conditions, conditions affect process, and in turn processes modify culture.
- A model showing alignment of CSFs in relation to success and stakeholders.
- Trust is the single most important condition, but unconditional trust is not required.
- A model for trust, bounded by contract and expertise of the partner.
- Recommended ways for practical application of aligning conditions and processes.
- Identified the single most important action as interfacing via one on one relationships.

GUIDE TO THE THESIS

CHAPTER 2: BUSINESS COLLABORATION

This chapter provides an overview of business collaboration, from the initial historical economic basis to the current situation in the Alberta Oil and Gas Industry. General motives for collaboration and common forms of business relationships are discussed in order to place the alliance configuration in context and provide an overall theoretical framework. The alliance structure is then further considered from a more pragmatic perspective together with its specific business drivers. Following an overview of the capital project environment, the reasons for collaboration and the specific drivers for this situation are further explored, and the current collaborative relationship structures are presented. The chapter concludes with a short introduction to the Oil and Gas Industry and a description of the type of alliances commonly found.

CHAPTER 3: LITERATURE REVIEW

This chapter presents the literature review of business collaboration, in particular information related to alliances and critical success factors. The sources and purposes of the literature review are described. This is followed by a description of the identified characteristics of collaborative relationships. The human centered issues perceived as important are then discussed in detail, followed by the operational related ones. Finally based on the above and previous research, several Critical Success Factors are proposed.

CHAPTER 4: RESEARCH METHODOLOGY

This chapter describes the methods used to conduct the research. This chapter presents the justification for the research approach selected, followed by a discussion of the reasoning for that choice. The epistemological and ontological issues are explored in the context of research strategy. After this a discussion of potential overall approaches to research design is presented. After this the specific research design used in this study is provided. Finally the specific procedures employed are considered in detail.

CHAPTER 5: METHOD OF ANALYSIS

This chapter presents the methods used to analyze the data. A synopsis of qualitative data analysis is provided, together with an overview of the use of computerized analysis packages. The primary and supplementary data used in this research are defined in detail. The Chapter concludes with a full description of the analysis process and procedures used.

CHAPTER 6: DISCUSSION OF RESULTS

This chapter presents the results of qualitative analysis of the transcript data. For clarity of presentation the chapter is organized around the research questions. The chapter provides case descriptions of each alliance. An examination of the meaning of success within the alliance context is presented, together with the identification of the required determinants for success and a comparison with those factors found in literature. The individuals and groups which influence and evaluate success are also considered. A model, based on the identified success determinants, is proposed. The component parts of the overall model are also presented.

CHAPTER 7: CONCLUSION

This chapter summarizes the research findings by answering the research questions and the original problem statement. The limitations of the study are discussed, together with the suitability of the research methodology. The theoretical and practical implications of the study are presented. Directions for further research are also suggested.

SUMMARY

The original problem statement was to identify the critical success factors necessary to both create and maintain a successful alliance. This research found that both conditions and process contribute to alliance success. The conditions are shaped by the organization's culture, and these initially drive the process. The process then impact back on the conditions in an iterative manner. The conditions and processes need to be aligned with the stakeholders who influence and evaluate success, and with the true requirements for success.

CHAPTER 2: BUSINESS COLLABORATION

This chapter provides an overview of business collaboration, from the initial historical economic basis to the current situation in the Alberta Oil and Gas Industry. In this study the terms collaborative and cooperative are considered synonyms and are defined as: “work or act together to the same end”¹. Although the specific purpose of a cooperative agreement is unique to each individual situation, the literature search has identified several common motives and drivers.

General motives for collaboration and common forms of business relationships are discussed in order to place the alliance configuration in context and provide an overall theoretical framework. The alliance structure is then further considered from a more pragmatic perspective together with its specific business drivers. Following an overview of the capital project environment, the reasons for collaboration and the specific drivers for this situation are further explored, and the current collaborative relationship structures are presented. The chapter concludes with a short introduction to the Oil and Gas Industry and a description of the type of alliances commonly found.

THE REASON FOR COLLABORATION

The specific purpose of the existence of collaboration agreements is distinct to each individual situation, and will be discussed in detail later. However, the consequent development of these agreements is based on historical economic rationales: from the

¹ “Collaborative.” *The Concise Oxford Dictionary Ninth Edition*.

division of labour due to specialization and efficiency concerns², to the downsizing and mass redundancies of the late 1980s.

In the present day context, the premise for collaboration is discussed below.

FUNCTION OF THE FIRM³

The firm can be viewed as a simple system which converts purchased inputs into marketable outputs, according to its underlying production function. The transformation process consists of many distinct activities, and the firm may choose to perform each such activity in one of the following ways:

1. Internal - accomplishing the activity within the firm.
2. External - procuring it through market transactions.
3. Acquisition - purchasing another firm with the necessary capabilities.
4. Collaboration - through a cooperative agreement with another firm.

In many industries and for many purposes, alternatives 1, 2 and occasionally 3 are used, with each firm rationalizing a “make or buy” decision based on an analysis of the costs involved, including the less obvious transaction and internalization costs, such as for

² Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 1776 Reprint, with an introduction by M. Blaug, (Richard D. Irwin Inc.: 1963).

³ P. Mariti and R. H. Smiley, “Co-operative Agreements and the Organization of Industry”. *The Journal of Industrial Economics* vol. 31, No. 4, 437-450, June 1983.

A number of reasons exist which may induce a firm to enter into a co-operative agreement, including the desire to accomplish any of the following:⁵

- | | | | |
|----|--------------------------------|---|--|
| 1. | Technology Transfer | - | a unidirectional transfer in exchange for consideration. |
| 2. | Technological Complementarity | - | bi-directional sharing of technology. |
| 3. | Marketing Agreements | - | marketing and distribution of products. |
| 4. | Economies of Scale | - | production and/or distribution efficiencies. |
| 5. | Reduction in Transaction Costs | - | avoidance of the cost of repeated transactions. |
| 6. | Risk Sharing | - | dispersal of exposure to loss. |

⁴ Laurie Hunter, Phil Beamont and Diane Sinclair, "A 'Partnership' Route to Human Resource Management," *Journal of Management Studies* 33.2 March 1996 pp 235-257.

⁵ P. Mariti and R. H. Smiley, "Co-operative Agreements and the Organization of Industry". *The Journal of Industrial Economics* vol. 31, No. 4, 437-450, June 1983.

Not all the above categories are mutually exclusive, many cooperative agreements will have more than one motivating factor; all alliances inherently encompass risk sharing.

TYPES OF INTER-FIRM RELATIONSHIPS

The structure of any business relationship will depend on the motivational factors involved together with specific environmental factors. The configuration will usually comprise a grouping between firms providing either complementary or comparable goods and/or services, and can be classified as either vertical, for example complementary arrangements between buyers and suppliers, or horizontal, such as arrangements between companies producing the same or similar goods.

Many different types of business relationship exist, with different levels of investment by the companies involved and varying degrees of collaboration and control. This is illustrated in Figure 2.1, which presents a modified version of Maynard's⁶ chart.

⁶ Roberta Maynard, "Striking the Right Match," *The Nation's Business* vol. 84, issue 5, May 1996.

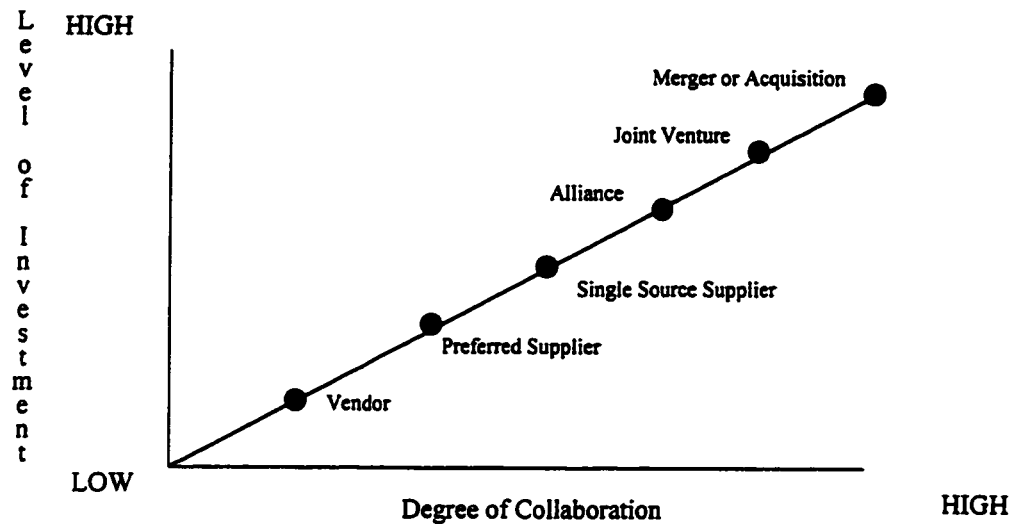


Figure 2.1. Types of Business Relationships.

Vendor	-	A party selling goods or services
Preferred Supplier	-	A vendor favoured by the buyer; possibly as the result of a rating system.
Single Source Supplier	-	A vendor with sole supply rights to the buyer for a specified item.
Alliance	-	Any long term agreement resulting in added value for both parties.
Joint Venture	-	A agreement in which two independent firms establish a third separate business entity.
Merger or Acquisition	-	The acquisition of another company, through purchase or gaining majority control; can be a supplier or customer (vertical integration) or a competitor (horizontal integration).

Although strict interpretation of the definition of “alliance” will include the forms of a joint venture, a bidding consortia (a joint venture set up for a specific project) or even a supply agreement, these relationships have been expressly excluded from this study. In this research “alliance” is interpreted as⁷ “a relationship resulting from an affinity in nature, qualities etc.”, and may be operationalized as a “relationship that is strategic or tactical, and that is entered into for mutual benefit by two or more parties having compatible or complementary business interests or goals”⁸.

Now that alliances have been introduced as one form of inter-firm collaboration, their specific structure and drivers can be considered.

ALLIANCE STRUCTURES

An alliance may be used to achieve tactical or strategic objectives, and the following definitions can be stated:

- Strategic Alliance - an alliance which seeks to improve or dramatically change a company’s competitive position⁹.

- Tactical Alliance - a transactional arrangement designed to increase a company’s profit through improving a product, project or process.

⁷ “Alliance.” *The Concise Oxford Dictionary Ninth Edition*.

⁸ Lorraine Segil, *Intelligent Business Alliances*, (Random House, 1996).

⁹ Godfrey Devlin and Mark Bleackley, “Strategic Alliances - Guidelines for Success,” *Long Range Planning* vol. 21 October 1988.

In some alliances, one partner may consider the alliance as strategic, whilst the other regards it as tactical. From a business orientation, the decision to collaborate using an alliance structure can be viewed from a more pragmatic perspective. The alliance configuration will normally be selected when it is the most appropriate option to achieve particular business goals, and is therefore dependent on individual circumstances. The specific goals will determine whether the alliance is strategic or tactical.

BUSINESS DRIVERS FOR ALLIANCES

The primary reason for entering into an alliance is to improve profitability, and the previously stated motives for collaboration are all applicable. Profit can be increased through sharing or reducing costs, and/or increasing market share, and in practical terms, the likely drivers for selecting the alliance structure can be classified as follows. Note that often alliances will have multiple motives and the motives may, and indeed often are, different for each partner.

Increase Efficiency

The effectiveness of performing an activity can be increased through vertical alliances. Buyer/Supplier type collaboration, where both parties expertise is combined can result in duplication within the work being eliminated, and the simplification of processes. Many processes are not wholly within one parties domain, alliances allow these processes to be optimized¹⁰. Long term alliances facilitate the continuous improvement of procedures. Efficiency improvements can be found in many types of operations, including both production and distribution. In addition ongoing alliances will benefit from the

¹⁰ C. Brent Austin, Steve Dole, Walt Chmilowski, Gregg Vernon, J. Harman Heidt, Richard Lewis, John Thompson, Mike Vinson and Ty Watson, "Alliances in the Oil Field," *Oilfield Review*, Summer 1995.

acceleration of the learning process normally necessary for each new contract and client team.

Reduce Transaction Costs

Most business transactions involve the creation and management of an exchange relationship. This is usually achieved through the use of contractual arrangements, and is subject to costs involving setting up and applying the agreement¹¹. These costs include bidding costs, negotiation costs, administering costs and in some cases arbitration or litigation costs. The cost of repeated transactions can be avoided by using a long term alliance agreement.

Risk Reduction

A risk reduction motive may include risk mitigation or risk sharing approaches. Risk mitigation entails decreasing the likelihood of the risk occurring or its impact. Risk sharing involves dispersing the exposure to loss, that is the consequences of an adverse risk occurring are shared. Alliances can be an excellent vehicle for either or both of these risk reduction techniques.

Access to Resources

The use of alliances can assist a firm in gaining important resources. Companies may align themselves in order to share resources, such as capital, people, technology or

¹¹ Stewart Macaulay, "Non-Contractual Relations in Business: a Preliminary Study," *American Sociological Review* vol. 28, 55-70, February 1963.

knowledge¹². With the current rapid pace of technological development timing is often critical and costs are increased¹³. Gaining access to resources enables alliances to substantially accelerate schedules.

Globalization

Competing in the global arena, is also dependent on speed and cost. Global alliances can be an essential tool to defray fixed costs,¹⁴ to obtain valuable local knowledge and overcome “the national protection offered to indigenous suppliers”¹⁵. Many firms are recognising that alliances are necessary to compete on the international stage: an Ernst and Young survey found that “companies are relying upon alliances as the prime method of implementing global business strategies”¹⁶, as Ohmae¹⁷ states “Globalization mandates alliances, makes them absolutely essential to strategy”

Some objectives, such as improving production efficiency, or sharing new product development costs, may result in both a reduction in costs, and an increase in market share, providing an opportunity to improve profit in tandem.

¹² Murray R Millson, S. P. Raj, and David Wilemon, “Strategic Partnering for Developing New Products,” *Research-Technology Management*, vol. 39 issue 3, May-June 1996.

¹³ Godfrey Devlin and Mark Bleackley, “Strategic Alliances - Guidelines for Success,” *Long Range Planning* vol. 21 October 1988.

¹⁴ Kenichi Ohmae, “The Global Logic of Strategic Alliances,” *Harvard Business Review* March-April 1989.

¹⁵ Godfrey Devlin and Mark Bleackley, “Strategic Alliances - Guidelines for Success,” *Long Range Planning* vol. 21 October 1988.

¹⁶ Larraine Segil, *Intelligent Business Alliances*, (Random House, 1996).

¹⁷ Kenichi Ohmae, “The Global Logic of Strategic Alliances,” *Harvard Business Review* March-April 1989.

Now that a general structure of alliances has been introduced, together with the business drivers, their specific implementation in the capital project environment will be discussed.

COLLABORATION IN THE CAPITAL PROJECT ENVIRONMENT

By virtue of every project being unique, the project environment is different. For some industries and firms, particularly in engineering and construction, undertakings are routinely organized by project and many characteristics, especially those relating to the technical issues, are common to most projects. Other attributes prevalent, but not exclusive to the project environment, include: numerous and diverse stakeholders; cross-functional teams; activities organized as a series of interrelated tasks; and competing objectives, between functions, between projects and between the project and the parent organization.

A capital project can generally be divided into four major phases as shown in Figure 2.2. The conceptualization and operation phases are usually carried out by the facility owner, and the design and implementation phases are usually contracted out to one or more specialist organizations. The contracting strategy employed has a large impact on the cost and performance of the project, and the reader is referred to other work¹⁸ for a detailed discussion of these issues.

¹⁸ Peter Dozzi, Francis Hartman, Neil Tidsbury and Rafi Ashrafi, "More Stable Owner-Contractor Relationships," *Journal of Construction Engineering and Management* vol. 122, no 1, mar 1996.

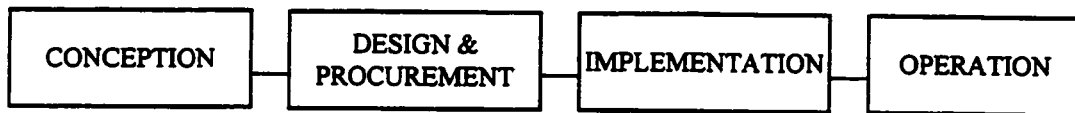


Figure 2.2: Phases of a Capital Project.

SPECIFIC ALLIANCE DRIVERS IN THE PROJECT ENVIRONMENT

Although the same motives for entering into collaborative arrangements apply, as do the business drivers for alliances, the actuators can be more precisely stated for this environment.

Reduce Disputes

Projects using traditional contracting methods, particularly lump sum, have a significant chance of incurring extra costs due to claims and disputes, which often result in lawsuits. Currently in North America, construction litigation is a growth industry. The traditional contracting approach is adversarial in nature and characterized by a lack of trust and perceived opportunistic behaviour¹⁹. As the high cost of litigation is common knowledge in industry, there have been attempts to reduce its occurrence, such as the introduction of Alternative Dispute Resolution (ADR) amongst other techniques, which uses mediation and arbitration techniques. Although this method can claim some success it is effectively treating the symptom and not the cause. An increasing trend is to facilitate co-operation between the contracting parties by using a collaborative approach.

¹⁹ Mari Sako, *Prices, Quality and Trust: Inter-Firm Relations in Britain and Japan*, (Cambridge University Press, 1992).

Life Cycle Costs

The total cost of a product or project, including all associated processes, can be optimized by considering the complete life cycle costs, that is the operating costs in addition to the capital cost and any decommissioning costs that may be incurred. Total cost management is usually achieved by utilizing value engineering and constructability techniques. Value engineering is defined by the American Association of Cost Engineers (AACE) International as “a multi-discipline, systematic, and proactive function that is targeted at the design itself. The objective is to use value engineering to develop a facility or item design that will yield the least life-cycle cost or provide the greatest value while also meeting all functional, safety, quality, operability, maintainability, durability and other criteria established for it”. The Construction Industry Institute (CII) defines constructability as “the optimum use of construction use of construction knowledge and experience in planning, engineering and field operations to achieve overall objectives”²⁰. The optimum benefit of using both value engineering and constructability methodologies to minimize overall cost necessitates the consideration of all phases of the project life cycle whilst operating within any individual phase. As the major project phases are generally accomplished by specialist contractors the opportunities to derive the greatest benefit are limited. Collaborative relationships can promote the bringing together of these specialist parties at any, or all, phases of the project.

CO-OPERATIVE STRUCTURES IN THE PROJECT ENVIRONMENT

The literature search and the investigation indicate that, collaborative relationships in industry have generally been implemented, or perceived to be implemented as one of the following. These descriptions reflect how collaboration is currently implemented; the effectiveness of these approaches will be discussed later. Through it should be noted here

²⁰ Stephen O. Revay and George F. Jergeas, “Value for Money an Integrated Approach,” *Revay Report* vol. 15 no. 1 February 1996 (Revay and Associates Ltd.).

that the collaboration could probably yield much greater benefit if the focus was on a synergistic method of executing projects, together with a united project performance criteria for the participants, rather than the observed emphasis.

Project Partnering

This is a concept where the parties involved agree to work in a non-adversarial manner to execute the project. It usually involves the participants attending a partnering workshop at the start of the project, teambuilding exercises and the joint creation of a partnering or project charter. In general it provides a quick fix method primarily focused on reducing litigation costs. The main motive is therefore to reduce transaction costs. It has been extensively used in North America, where contracting relationships are notoriously adversarial, and favourable results have been reported²¹. It is usually used with lump sum bidding, and as a consequence loses the opportunity to improve life cycle costs.

Project Alliance

This alliance type usually occurs when multiple parties get together in order to execute a single project. Both the length of alliance and the strategic significance to the companies involved is dependent on size and complexity of the project. The companies may be complementary or competing, but need each other's resources to execute the project, thus access to resources is the primary motive. A secondary motive to increase efficiency may also be present, again depending on the project. Alliancing usually involves a complex partner selection process where price, though included, is not the primary criterion. Also some form of incentive based contract is often employed.

²¹ Charles Cowan, Clifford Gray and Erik Larson, "Project Partnering," *Project Management Journal* vol. xxii No. 4 December 1992.

Supplier Alliance

This type of alliance is usually designed to operate as a long term arrangement primarily geared to reducing transaction costs, and may be tactical or strategic depending on the scope of supply. The supplier will normally give a favourable or discounted rate to a client who promises further work. This arrangement is used both for equipment supply and for the provision of engineering and construction services. Increasing efficiency can also be a motive, and joint teams may be used to implement concurrent engineering processes.

This research is limited to alliances, and therefore Project Partnering will not be considered further. The implementation of Project and Supplier Alliances in the Oil and Gas Industry will now be examined.

THE OIL AND GAS INDUSTRY

The last decade saw harsh market conditions in the oil and gas industry. Oil prices were historically low²² and operating companies saw their profits falling due to a decline in reserves and increased operating costs²³. These circumstances resulted in a two-fold effect. First, short term cost cutting measures were required, which resulted in many companies downsizing and reducing their staff numbers²⁴ considerably. Furthermore, longer term cost-effectiveness programs were initiated. As a result of this, firms have

²² Susannah Cardy, "Signing on the Dotted Line," *Petroleum Review* Sept. 1994.

²³ C. J. Phillips, C. G. Stewart, J. C. Barnette, A. E. Copoulos and Bruce Henderson, "Strategic Alliances in the Wireline Services Industry," *Society of Petroleum Engineers - Proceedings Drilling Conference* (Dallas, Texas) 1994.

²⁴ "Operator/E&C Relationship Explored in Europe," *Oil and Gas Journal* vol. 94 no. 18 Apr. 29 1996 pp63-64.

consolidated their core skills and are now relying on outsourcing to undertake major project components²⁵. Recently many companies have started to use alliances and other collaborative mechanisms to help achieve their goals²⁶. One of the primary needs is to reduce the cost of developing a field, and companies have found that the increase in efficiency and continuous improvement afforded through co-operative arrangements can have a major impact²⁷.

ALLIANCES IN THE ALBERTA OIL AND GAS INDUSTRY

The petroleum industry in Alberta, in 1997, is in the middle of a boom situation following the bust in the late 1980's. Ever aware of the cyclic nature of the business, owner organizations are concerned with minimizing the cost of developing and upgrading facilities. As such owners will use whichever contracting strategy promises delivery of the best project for the cheapest amount. Currently alliances are in vogue and many organizations mandate their use through business plans and supply strategies. The most common forms are of the supplier and project type.

²⁵ Naz H. Gazi, W. E Hottman, Jerry L Logan, and R. C. Verrett, "Alliances and Partnering: a New Relationship Between Oil/Gas Producing Companies and Service Companies," *Society of Petroleum Engineers - Proceedings of the 9th Middle East Oil Show & Conference* vol. 1 1995.

²⁶ Gregory Bruce and Richard Shermer, "Strategic Partnerships, Alliances Used to Find Ways to Cut Costs," *Oil and Gas Journal* vol. 91, no. 45, p71 Nov 8th 1993.

²⁷ C. Brent Austin, Steve Dole, Walt Chmilowski, Gregg Vernon, J. Harman Heidt, Richard Lewis, John Thompson, Mike Vinson and Ty Watson, "Alliances in the Oil Field," *Oilfield Review*, Summer 1995.

Supplier Alliances

These alliances are generally between an equipment supplier and an owner, or between an engineering (or EPC) company and an owner or between a construction company and an owner. Although they may consider themselves a multi-party alliance, the usual arrangement is in fact the layering of all the owner's separate alliances as shown in Figure 2.3. These alliances are usually designed to operate as an ongoing arrangement covering a particular scope of work. They are popular since the downsizing of the 1980's left many owner organizations without the capacity to performing certain aspects of the work, which they are now forced to outsource. The supplier will normally give a favourable or discounted rate to a client who promises further work. This arrangement is used both for equipment supply and for the provision of engineering and construction services. Although the arrangement has the capability of providing more than just a way of reducing the learning cycle and saving on transaction costs, this potential is rarely tapped. The opportunity to increase efficiency is mainly limited to standardizing procedures between the parties, and concurrent engineering design practices are not normally implemented. Although the levels of trust and communication appear higher than the traditional arrangement, it is evident that the owners still assert their superiority. In effect these arrangements are no more than evergreen contracts, with the advantage that if the owner provides advance information to the contractor on future developments then both of their needs can be better planned for.

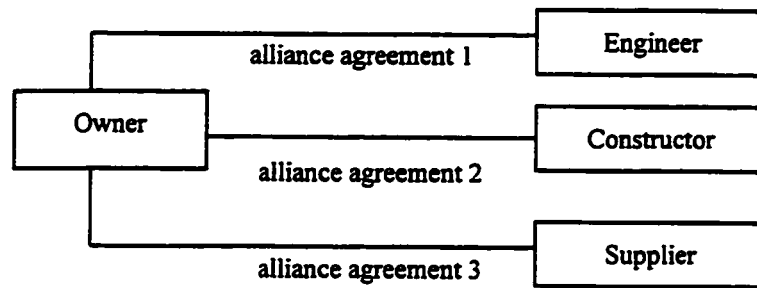


Figure 2.3: Multi-party Layered Alliance.

Project Alliances

These are commonly used on large scale projects, where no company has access to the requisite resources to carry out the project exclusively. The collaboration may be between competing (e.g. engineering) companies and/or complementary companies (e.g. the specialist trade constructors) depending on the project scope and resource requirements. An example alliance is shown in Figure 2.4. In some cases increasing efficiency is also a primary motive and the complementary companies are involved from the initial stages of the project. Indeed in some examples a cascading process is used and further suppliers are enrolled in the alliance on a continuing basis as the design progresses. These alliances are much more likely to use formal concurrent engineering processes such as fully integrated teams, value engineering and constructability programs, and also operate some form of gainsharing or risk reward incentive scheme. This type of alliance shows much more promise in delivering outstanding performance, such as the 30% reduction in capital cost and delivery of oil six months early achieved by BP's Andrew Field development²⁸.

²⁸ Terry Knott, *No Business as Usual*, (The British Petroleum Company PLC.: 1996).

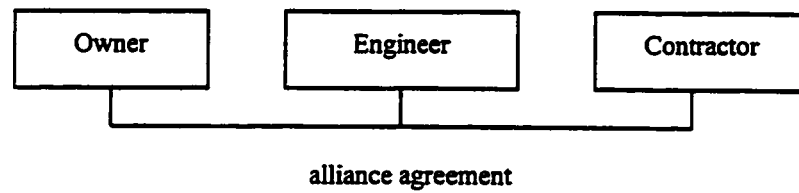


Figure 2.4: Multi-party single Alliance.

The structure and reasons for collaboration have been introduced, and examples of alliances - supplier and project - used in the capital project environment presented. Now the literature, both within the capital project environment and within other industries, will be reviewed in order to identify any features of, and factors which contribute to, a successful alliance.

CHAPTER 3: LITERATURE REVIEW

This chapter presents the literature review of business collaboration, in particular information related to alliances and critical success factors. The sources and purposes of the literature review are described. This is followed by a description of the identified characteristics of collaborative relationships. The human centered issues perceived as important are then discussed in detail, followed by the operational related ones. Finally based on the above and previous research, several Critical Success Factors are proposed.

PURPOSE OF LITERATURE REVIEW

A comprehensive review of the related literature was conducted. The last five years of relevant material referenced by the University's CD-ROM management and engineering databases have been examined. Several books concerning alliances and partnering used outside the project environment have also been reviewed, as well as published results from alliances in the non-project environment. These secondary data sources have assisted in exploring the overall subject area and in developing conceptual frameworks.

Despite the abundance of articles and books on the topic of business relationships, little rigorous or independent research has been conducted concerning project based alliances. The areas which have been academically investigated are ordinarily outside the project environment, for example distribution networks or manufacturer / supplier relationships. Whereas the work concentrating on projects are primarily descriptions based on the experience of involved practitioners, or focus purely on the partnering aspect.

Although not directly applicable, these secondary data sources are still informative, and were used to identify the salient themes within alliances, and specifically to:

- provide a basic understanding of the topic;
- concentrate the research problem;
- select and develop an appropriate method of inquiry (see chapter 4);
- identify preliminary critical success factors;
- develop a theoretical framework for alliances (see chapter 2);
- focus the interview questions;
- support a priori coding for analysis (see chapter 5).

The review of the literature distinguished two general areas of business relationships.

- The human centred behavioural aspects, embodying the conduct and interaction of individuals and groups.
- The physical aspects, imposing structure and control such as procedures and contracts.

In this study, these concepts are respectively labelled anthropocentric and mechanistic. A review of the literature focusing on the essential elements of business collaboration highlighted several common themes: Generally, the basis of the relationship is discussed anthropocentrically, and the effective implementation of the alliance focuses on mechanistic methods. Although not specifically stated, it appears the mechanistic methods are used to promote certain behaviours, which in turn (are expected to) lead to the desired results.

CHARACTERISTICS OF COLLABORATIVE RELATIONSHIPS

Based on theory from literature and personal case experience, Ellison¹ emphasizes the sharing and mutuality aspects of the relationship, together with a transformational culture.

- Trust based relationship: Sharing of information.
- Clarity of goals and expected results.
- Creation of higher goals and expected results: Sharing and mutual profitability.
- Demonstrated willingness to work together: Commitment to change.
- Desire and willingness to experiment: Problem solving.

Five factors were considered necessary to develop a partnering relationship:

1. Needs Analysis.
2. Partnering Structure and Scope.
3. Relationship with other Stakeholders.
4. Shared Risk/Reward.
5. Continuous Improvement.

A partnering workshop and partnering agreement, with the focus on teambuilding and appropriate teamwork behaviours was suggested as the appropriate facilitation method.

¹ David S. Ellison and David W. Miller, "Beyond ADR: Working Toward Synergistic Strategic Partnership," *Journal of Management in Engineering* vol. 11, no 6, Nov/Dec 1995.

Using personal experience of several cases, Harback², not only links trust and communication but also specifies their necessity at multiple levels.

- Commitment must come from the top.
- Equality for all stakeholders: Win win situation.
- Trust is the basic foundation: Provides the means to open communication lines at multiple levels.
- Mutual goals requires focusing on the common denominator.
- Continuous evaluation is required.
- Timely responsiveness in resolving issues.
- Celebration: Have fun and celebrate success.

Again a partnering workshop and charter focusing on teambuilding was endorsed, and in addition to teambuilding the joint development of partnership goals was recommended.

The discussion on the basis of partnership by Miles³ echoes the previous features and also introduces the elements of conflict resolution, stakeholders and equality.

- Commitment - top management and at all levels.
- Equity - of stakeholders.
- Communications - open and honest at all levels.
- Trust - sharing of information and no fear or hidden agendas.
- Continuous real time measurements and evaluation of project goals.
- Timely responsiveness to issues.

² Herbert F. Harback, Donald L. Basham and Robert E. Buhts, "Partnering Paradigm," *Journal of Management in Engineering* Jan/Feb 1994.

³ Robert S. Miles, "Twenty-First Century Partnering and the Role of ADR," *Journal of Management in Engineering* vol. 12, no 3, May/Jun 1996.

- Issue resolution system.

Specific mechanisms for effective implementation, including accountability, incentives, and the fair allocation of risks to those who can control them are provided, and a team chartering process is again advocated.

The approach endorsed by Cowan, Grey & Larson⁴ emphasizes increased communication, shared risk, and collaborative problem solving.

- Selecting a partner: Top management commitment.
- Team building: Workshops to plan the partnering process and establish a project charter.
- Joint evaluation of project progress: Project objectives and the partnering process.
- Problem resolution: Guidelines in place.
- Continuous improvement: Joint effort and use of incentives schemes which share savings.
- Persistent leadership: Support of all levels of management.
- Jointly review accomplishments and disappointments: accompanied by a celebration.

The main components essential to a successful relationship as listed by Gazi et al⁵:

- co-operation;

⁴ Charles Cowan, Clifford Gray and Erik Larson, "Project Partnering," *Project Management Journal* vol. xxii No. 4 December 1992.

⁵ Naz H. Gazi, W. E Hottman, Jerry L Logan, and R. C. Verrett, "Alliances and Partnering: a New Relationship Between Oil/Gas Producing Companies and Service Companies," *Society of Petroleum Engineers - Proceedings of the 9th Middle East Oil Show & Conference* vol. 1 1995.

- communication;
- continuous improvement;
- trust and openness.

Although stating that “Relationships are the glue that holds an alliance together” Bruce⁶ presents a more pragmatic approach to the factors most critical to the success of a strategic alliance or partnership.

- Alignment of purpose.
- Joint senior management.
- Commitment.
- Mutual trust.
- Clear roles and responsibilities.

The anthropocentric influence is still however appreciated: “Common to all the above is an even more fundamental and more important success factor - people skills”. The concept of core competencies is also expressed: “To maintain long-term competitive advantage through strategic alliances, a company must remain focused on its unique set of core strengths”.

Again the relationship aspect is stressed by Kanter & Yatsko⁷, who also include the rationale for their suggestions, together with a focus on sustainability. The importance of inter-functional teamwork is emphasized, together with the notions of a specific integrator role and empowerment. The implied requirement of common organizational structures was also referred to.

⁶ Gregory Bruce and Richard Shermer, “Strategic Partnerships, Alliances Used to Find Ways to Cut Costs,” *Oil & Gas Journal*, vol. 91, no. 45, p71 Nov 8th 1993.

⁷ Rosabeth Moss Kanter and Pamela A. Yatsko, “People First,” *CIO* vol. 8 iss. 1 October 1st 1994.

- **Shared strategy and approach:** Discuss openly to ensure partners continue to move in compatible directions.
- **Long term commitment:** Partners that make a long term commitment are more likely to act in ways that ensure success, and companies will not share information freely if they do not believe their partners are as committed as they are.
- **A common vocabulary:** For technical terms and organizational structures and systems.
- **Cross functional teamwork:** Inter-functional as well as inter-firm, and close interpersonal ties at many levels.
- **Integrator roles:** Co-ordination and cohesion managers
- **Empowerment of representatives.**

A mechanistic implementation of strategic alliances is proposed by Gora⁸, who also includes termination.

- **Identifying core competencies.**
- **Establishing strategic alliance objectives;** a companies objectives determine the types of appropriate alliance partners.
- **Environmental Assessment.**
- **Finding partners.**
- **Selecting partners.**
- **Planning the alliance;** should address requirements, contributions, controls, risk sharing, resource sharing, incentives and scheduling.
- **Controls:** Legal structures and financial arrangements, both parties should agree on how risks and rewards will be shared.

⁸ Jean C. Gora, "The Basics of Life Insurance Industry Strategic Alliances," *Journal of the American Society of CLU & CHFC* vol. 50 iss 2 March 1996.

- Alliance dissolution.

Best practices were identified in a seven year longitudinal study of 50 strategic alliances by Slowinski⁹. A detailed procedure based on choosing a partner, negotiating the alliance, and managing towards collaboration is presented. The salient points here are the affiliation between sustainability and interdependence, and the importance of expectations in conflict management.

The basic foundation of a good relationship is the choice of the right partner:

- the partner selection process should identify organizations whose needs, skills, and resources are completely complementary;
- the prospective partner should be financially stable and well managed;
- competency in co-operative management (though previous partnering experience) is a major advantage.

Each arrangement is different and depends on each partner's needs:

- all successful agreements involve the willingness of each side to openly describe its requirements;
- both sides must be convinced that their key needs are being satisfied and that the agreement is fair;
- ultimately, the best assurance that a relationship will be long and mutually beneficial is when both parties are convinced that they really need each other to achieve their goals.

⁹ Gene Slowinski, Gerard Seelig and Frank Hull "Managing "Technology-Based Strategic Alliances Between Large and Small Firms," SAM Advanced Management Journal vol. 61 iss 2 Spring 1996.

Managing the relationship then becomes the focus:

- setting goals and milestones should be a joint activity involving operating managers from both firms;
- personal relationships that develop between key managers are central to the success of the relationship;
- managing conflict, conflict occurs in every alliance and can be seen as a breakdown or a breakthrough for the relationship, managers should be trained in conflict resolution;
- one of the main causes of conflicts is different sets of expectations.

More prescriptive guidelines for success are proposed by Devlin¹⁰, who focuses on the role of senior management, and introduces the concepts of strategic alignment and learning from the partner.

It is essential before deciding to form an alliance it is analyzed in the light of the company's overall corporate objectives and other strategic alternatives. Senior management should ask:

- Does an alliance improve our chances of success?
- Should it be part of our strategy?
- Or, is it only a stop-gap?

An in-depth search for the right partner must be undertaken, and the feasibility of the alliance must be looked at from the perspective of potential partners:

- What will the partners strategic position be as a result of the alliance?

¹⁰ Godfrey Devlin and Mark Bleackley, "Strategic Alliances - Guidelines for Success," *Long Range Planning* vol. 21 October 1988.

- Why should the partner wish to enter such an alliance?
- What weaknesses of the partner are likely to be strengthened by the alliance?

Alliances do not manage themselves. The assembling of two organizations, together with their different cultures, management styles and policies must be planned. An effective organization structure with supporting systems will be most helpful.

Senior management must ensure the following:

- maintaining a high profile, give alliance high priority
- monitoring the alliance, regular progress reviews
- accountability and responsibility, roles and responsibilities
- improve the information retrieval process, learn from the partner
- bring sufficient resources to the alliance, contribute equally
- fast track employees and positive personnel policy, high quality staff.

In a research study involving interviews with 143 managers, Gulati¹¹ discovered the importance of change and the need for active management. The distinctness of the alliance, and the need to use appropriate mechanisms, whilst maintaining good communication with the parents was also perceived.

- Active management of alliances: Modifications when necessary.
- Periodic reassessments of alliances by parent firms: Formal systems of performance measures.

¹¹ Ranjay Gulati, Tarun Khanna and Nitrin Nohria, "Unilateral Commitments and the Importance of Process in Alliances," *Sloan Management Review*, spring 1994.

- Open communication and flow of information between partners and the alliance.
- Individual connections: Close personal ties and trust.
- Appropriate performance metrics: Not parents standard.

The need for active management is also echoed by Lewis¹² (ch7): “alliances require ongoing mutual adjustments”.

In a quantitative survey of 125 computer dealers Mohr and Spekman¹³ established the relationship between successful alliances and many of the various features discussed earlier.

PARTNERSHIP ATTRIBUTES

- Co-ordination: Co-ordinated actions directed at mutual objectives, results in less duplication of efforts and reduced costs.
- Commitment: Willingness to exert effort on the behalf of the relationship, and to modify existing systems indicates a future orientation.
- Trust: Belief that ones word is reliable and that a party will full it's obligation, acting predictably and fairly.
- Interdependence: Parties must recognize shared interdependence.

¹² Jordan D. Lewis, *Partnerships For Profit Structuring and Managing Strategic Alliances*, The Free Press 1990.

¹³ Jakki Mohr and Robert Spekeman, “Perfecting Partnerships”, *Marketing Management*, vol. 4, no. 4. Winter/Spring 1996.

COMMUNICATION BEHAVIOURS

- **Participation:** Joint participation in planning and goal setting establishes mutual expectations and specifies co-operative efforts (roles and responsibilities); important to use any input that is requested.
- **Communication Quality:** Timeliness, accuracy, adequacy and completeness of information exchanged; honest and open lines of communication are essential.
- **Information Sharing:** The extent to which critical, often proprietary information is communicated between trading partners.

CONFLICT RESOLUTION TECHNIQUES

Conflict always exists, but it can be functional or dysfunctional, and the impact of conflict resolution can be productive or disruptive¹⁴.

- **Joint problem solving:** Positive impact on relationship success.
- **Severe methods:** Harsh words or domination can decrease the success of the partnership; does not uncover basis source of conflict.
- **Avoiding the issue:** Detrimental to the success of the partnership; does not uncover basis of conflict
- **Arbitration:** Solution is unlikely to change partner's attitudes and beliefs; internal resolution is more likely to bring about longer-term success.

¹⁴ Jakki Mohr and Robert Spekeman, "Characteristics of Partnership Success: Partnership Attributes, Communication Behavior, and Conflict Resolution Techniques," *Strategic Management Journal* vol. 15, 135-152 (1994).

In his extensive work on inter-firm relationships Sako¹⁵ identifies several characteristics common in successful collaboration. Although the characteristics are mainly stated in mechanistic terms, the fundamental themes of trust, communication, commitment and interdependence are emphatically reflected. Note that the last three items indicate contractual trust, goodwill trust, and competence trust respectively, which are discussed later in this chapter.

- Only a few suppliers are used
- Bidding is not necessary
- Prices determined after contractor selected
- Relationship expected to continue beyond length of current contract
- Contracts contain procedures but substantive issues decided case by case
- Contracts may be oral
- Case by case resolution of problems
- Technology transfer and training for supplier not always charged for by customer
- Extensive multiple channels of communication between all levels, frequent contact on business and social level
- Wide sharing of risk, involving principle of fairness
- Supplier often commences work based on oral communication
- Sole sourcing by customer, combined with high transactional dependence by supplier
- Little or no checking or inspection of the suppliers work by customer.

¹⁵ Mari Sako, *Prices, Quality and Trust: Inter-Firm Relations in Britain and Japan*, (Cambridge University Press, 1992).

ANTHROPOCENTRIC ISSUES

The human-orientated approach, is endorsed by many pre-eminent researchers and practitioners working in this area, even to the extent of equating business relationships to personal ones, and using marriage as an analogy¹⁶. A similar conviction is restated in this call to consider the anthropocentric aspects of collaboration¹⁷:

“We need to know much more than we do about what makes effective corporate relationships work. We must recognize and accept the inescapable subtleties and difficulties of inter-company relationships. We must focus not on contractual or equity-related issues but on the quality of the people at the interface between organizations. Finally we must understand that success requires frequent, rapport-building meetings at least at three organizational levels: top management, staff, and line management at the working level”.

The central themes of trust, communication, commitment and interdependence appear to underpin all the relationship success criteria, and even these themes seem to be interrelated. In fact the more one attempts to delineate the success factors, the more interconnected they appear. This inter-relatedness is illustrated in the following points.

¹⁶ Rosabeth Moss Kanter, “Collaborative Advantage: The Art of Alliances,” *Harvard Business Review*, July-August 1994.

¹⁷ Kenichi Ohmae, “The Global Logic of Strategic Alliances,” *Harvard Business Review* March-April 1989.

COMMUNICATION AND TRUST

Felts¹⁸ notes that the organizational literature shows interpersonal trust as the basis of successful communication, and expands this in stating:

“the crucial structural element of a trusting relationship is one of a high degree of mutuality, or reciprocity in the relationship...this is the critical basis of communication competence”.

Note he also cautions that communication failure is related to hierarchy and power within organizations.

This mutuality affects co-operation, as Gambetta¹⁹ comments:

“the problem is essentially one of communication: even if people have perfectly adequate motives for co-operation they still need to know about each other’s motives and to trust each another, or at least the effectiveness of their motives. It is necessary not only to trust before acting co-operatively, but also to believe that one is trusted by others. This lack of belief should not be confused with the lack of motive for co-operation”

¹⁸ Arthur A. Felts, “Organizational Communication: a Critical Perspective,” *Administration and Society*, vol. 23. No.4, Feb 1992.

¹⁹ Diego Gambetta, “Can We Trust Trust?,” in *Trust Making and Breaking Cooperative Relationships*, ed. Diego Gambetta (Basil Blackwell, 1988).

A survey of managers in 143 organizations²⁰ investigating trust in employee/employer relationships found a reciprocal relationship between communication and trust, and identified four factors which determine trust:

- open communication;
- participation in the decision making;
- sharing of critical information;
- true sharing of perceptions and feelings.

The report also advised that other studies found a lack of trust is more negative than a presence of trust is positive.

TRUST AND COLLABORATION

In his study of inter-firm relations in Japan & Britain Sako²¹ delineates business relationships by trust, and distinguishes between the traditional adversarial type and the more collaborative type of relationships. These transactional relationships are categorized as either Arms Length Contractual Relation (ACR), where all aspects and eventualities are provided for explicitly in the contract, or the Obligational Contractual Relation (OCR), which is nurtured via social relations and mutual trust. He further states that trust is integral to the ACR and OCR concept, and distinguishes between the types of trust which exists in transactional relations.

²⁰ Jitendra Mishra and Molly A. Morrissey, "Trust in Employee/Employer Relationships: a Survey of West Michigan Managers," *Public Personnel Management* vol. 19 no. 4 winter 1990.

²¹ Mari Sako, *Prices, Quality and Trust: Inter-Firm Relations in Britain and Japan*, (Cambridge University Press, 1992).

- Contractual trust is mutual expectation of upholding written or oral agreements.
- Competence trust is confidence in a trading party's technical and managerial competence to perform a task.
- Goodwill Trust ... "refers to mutual expectations of open commitment to each other. Commitment may be defined as the willingness to do more than is formally expected."

Sako also identifies this goodwill trust as characterizing true collaborative relationships, and relates it to sustainability through commitment and mutuality: Goodwill trust is nurtured through long term relationships as mutual obligations cannot be developed instantaneously.

TRUST AND PROBLEM SOLVING

A classic study relating trust and problem solving²² found that high trust groups solve problems more effectively than those with low trust. A model of trusting behaviour based on information, influence and control was developed. The model proposed that one who does not trust others will provide poor information, reject the suggestions of others, but expect them to accept his/hers. Persons who do trust one another will conform to the opposite set of behaviours. An experiment was conducted to test the model in a managerial problem solving setting and found that in low trust groups interpersonal relationships interfere with and distort perceptions of the problem. In contrast, high trust groups have less socially generated uncertainty and solve problems more effectively.

²² Dale E. Zand, "Trust and Managerial Problem Solving," *Administrative Science Quarterly*, vol. 17 1972, pp 229-239.

CULTURE: LEADERSHIP AND EMPOWERMENT

Gottlieb²³ recognizes leaders as major contributors to the formation and maintenance of an organization's culture, and refers to the distinction between transformational leaders, those who guide change, and transactional leaders, those who maintain the status quo. He further comments that transformational leaders empower organizational members, and empowered employees have an increased sense of reciprocity with leaders

CULTURE: LEADERSHIP AND RISK PROPENSITY

Research on personality characteristics, leadership behaviour and influence tactics on champions of technological innovation²⁴ notes that "Analyses indicate that champions manifest the personality characteristics of risk taking propensity and innovativeness, which are empirically related to entrepreneurship and theoretically associated with transformational leadership".

MECHANISTIC ISSUES

Not only do all the anthropocentric factors appear related to one another, they also seem to underpin the physical aspects.

²³ Jonathan Z. Gottlieb and Jyotsna Sanzgiri, "Towards an Ethical Dimension of Decision Making in Organizations," *Journal of Business Ethics*, vol. 15, 1996.

²⁴ Jane M. Howell and Christopher A. Higgins, "Champions of Technological Innovation," *Administrative Science Quarterly*, 35, (1990), pp. 317-341

ALLIANCE SUCCESS MEASURES

A necessary prerequisite for success is a thorough understanding and agreement by key management people of both companies on the objectives and ground rules for the alliance²⁵. These key success indicators may be both parties achieving strategic objectives and earning a return equal or greater than their cost of capital over the life of the partnership²⁶. Alliances that both partners ultimately deem successful, are likely to involve the creating of new value together, rather than mere exchange²⁷. Sometimes the definition of success is, to a certain degree, obscured because both parties require something slightly different from the relationship²⁸.

Although a common measure of alliance health is its longevity, this is inadequate as it in no way gauges the benefits or detriments of the alliance in regards to the partners' expectations of performance. The challenge of any alliance is to demonstrate continuing value for money in terms of project cost and performance. Various success indicators can be developed, but it is likely to require both financial data, and some kind of perception measure of the satisfaction of the partners.

²⁵ Gene Slowinski, Gerard Seelig and Frank Hull "Managing "Technology-Based Strategic Alliances Between Large and Small Firms," *SAM Advanced Management Journal* vol. 61 iss 2 Spring 1996.

²⁶ Joel Bleeke and David Ernst, "Is Your Strategic Alliance Really a Sale?," *Harvard Business Review*, January-February 1995.

²⁷ Rosabeth Moss Kanter, "Collaborative Advantage: The Art of Alliances," *Harvard Business Review*, July-August 1994.

²⁸ Jakki Mohr and Robert Spekeman, "Perfecting Partnerships", *Marketing Management*, vol. 4, no. 4. Winter/Spring 1996.

Partnering Metrics

Using the experience of 700 projects completed using a partnering approach in 46 US State Departments of Transportation, a method to measure the success of single project partnering is proposed²⁹.

- Determine the purpose of the measuring program.
- Identify the specific attributes to measure.
- Develop the measurement methodology (what when where who etc.).
- Establish benchmarks (using historical averages).
- Measure and compile.
- Analyze results and draw conclusions.

A list of possible measurement attributes is also provided³⁰:

- project cost and cost growth
- contingency budget and expenditures
- value engineering proposed and accepted
- project administration budget and expenditures
- claims made and paid
- claims administration legal budget and expenditures
- planned and actual time of completion
- interpersonal attitudes (many attributes)
- safety incidents
- time and lives lost because of accidents
- quality of performance

²⁹ Kenneth R. Baker, "Measuring the Benefits of Partnering," *PM Network*, June 1996.

³⁰ Kenneth R. Baker, "Measuring the Benefits of Construction Partnering," *TR News*, 183, March-April 1996.

CONTRACTUAL ISSUES

The existence and type of contract has a significant impact of performance. One dimension of contract is its degree of completeness: Some contracts are planned extensively and include provisions for all foreseeable circumstances, whilst others are vague or non-existent.

A Construction Industry Institute (CII) research project to study the impact of contract types and clauses on project performance³¹, describes the purpose of the contract document: "The contract document defines the scope of the work, the commercial terms and conditions, and allocates risk, that is assigns responsibility in the event that foreseen adverse conditions occur". The level of completeness then can be linked to the risk allocation clauses contained in the contract. The principle guideline in determining whether a risk should be transferred is whether the receiving party has both the competence to fairly assess the risk and the expertise necessary to control or minimize it³². Controllable risks should lie with the party who is in control, and a risk which cannot be controlled should be allocated to the party best able to protect against or absorb the risk³³.

The CII study found this guiding principle was often violated as: "The prevalent owner practice was to use the contract language to minimize exposure, by shifting risk to the contractor. However, incongruities regarding the interpretation of risk allocation clauses

³¹ The Construction Industry Institute - Contracts Task Force, "Impact of Various Construction Contract Types and Clauses on Project Performance" *CII Publication 5-1*, July 1986.

³² Kangari, Roozbeh, "Risk Management Perceptions and Trends of U.S. Construction," *Journal of Construction Engineering and Management*, vol. 121, no 4, Dec 1995.

³³ Abdulaziz A. Bubshait and Soliman A Almohawis, "Evaluating the General Conditions of a Construction Contract", *International Journal of Project Management* 12 (3), 1994.

were frequent and could lead to disputes". Consequently traditional contracts are characterized by a high degree of completeness.

The effect of contractual completeness is demonstrated by a research study into contractual and non-contractual relations in business³⁴, based on interviews with 68 businessmen and lawyers primarily representing the manufacturing sector.

Contract is defined as containing two distinct elements:

1. rational planning of the transaction, with careful provision for as many future contingencies as can be foreseen.
2. the existence or use of actual or potential legal sanctions to induce performance or to compensate for non-performance.

The study found that important or unusual transactions were handled by detailed contracts, and routine transactions were handled by standardized terms and conditions.

Relatively non-contractual practices - a low degree of contractual completeness - was found to be common in the following circumstances.

- Though the parties fail to cover all foreseeable contingencies, they will exercise care to see that both parties understand the primary obligation on each side.
- When defaults occur they are not likely to be disastrous because of techniques of risk avoidance or risk spreading.

³⁴ Stewart Macaulay, "Non-Contractual Relations in Business: a Preliminary Study," *American Sociological Review* vol. 28, 55-70, February 1963.

- Contract and contract law often though unnecessary because of many effective non-legal sanctions.
- Detailed negotiated contracts can get in the way of creating good exchange relationships: by introducing time delays, turning a co-operative venture into an antagonistic one, and resulting in performance only to the letter of the contract.
- Adjustment of exchange relationships and dispute settlement by litigation, or the threat of it, also has many costs. The anticipated gain may fail to outweigh the costs.

Conversely, relatively contractual practices - a high degree of contractual completeness - was found to exist when it was thought that planning and potential legal sanction would have more advantages than disadvantages.

- A detailed contract can be useful within an organization as a communication device.
- Where there is a likelihood that significant problems will arise.
- Where, in case of default, the degree of injury is thought to be potentially great.

Other significant variables that influence the degree that contract is used were also noted.

- The relative bargaining power or skill of the two business units; bargaining power may shift as an exchange relationship is first created and then continues.
 - The influence of third parties, e.g. governments or financiers.
-

An incomplete contract may be beneficial in promoting discussion negotiation other ways. A study of subcontracting in France noted that the incompleteness of contracts forced the parties to engage in ongoing discussion to achieve resolutions as the courts were of no use³⁵. This link between contractual incompleteness and negotiation was also found in a study of Japanese contractual relationships³⁶. Note the similarities to the OCR Model previously mentioned³⁷.

- Negotiation usually starts with the client stating his or her budget, and the construction firm then working within the stated sum.
- Lawyers form no part of contract negotiation, and arbitration or litigation is the measure of last resort.
- Claims are rare; the contract is more likely to be adjusted and the problem resolved by negotiation.

³⁵ Edward H. Lorenz, "Neither Friend Nor Strangers: Informal Networks of Subcontracting in French Industry," in *Trust Making and Breaking Cooperative Relationships*, ed. Diego Gambetta (Basil Blackwell, 1988).

³⁶ Geoff Haley, "Lessons to be Learned from the Japanese Construction Industry," *International Journal of Project Management*, 12 (3) 1994.

³⁷ Mari Sako, *Prices, Quality and Trust: Inter-Firm Relations in Britain and Japan*, (Cambridge University Press, 1992).

Negotiation should not be confused with coercion, as Gambetta³⁸ comments:

“coercion is widely practiced as a means to ensure co-operation...but it falls short of being an adequate alternative to trust...for while it may enforce ‘co-operation’ in specific acts, it also increases the probability of treacherous ones: betrayal, defection, and the classic stab in the back.”

INCENTIVES

An incentive scenario can be easily crafted to reward the contractor with a premium over market price for meeting or outperforming targets. Conversely the same scenario provides a penalty if performance lags³⁹.

Traditional contracts usually include a penalty or liquidated damages clause, but research suggests that traditional negative incentive clauses, penalty and liquidated damages, generally hamper project performance. Conversely positive incentive clauses, such as those based on cost, quality or safety, may enhance project performance⁴⁰. This may be because positive incentives encourage positive actions, behaviours and relationships,

³⁸ Diego Gambetta, “Can We Trust Trust?,” in *Trust Making and Breaking Cooperative Relationships*, ed. Diego Gambetta (Basil Blackwell, 1988).

³⁹ Naz H. Gazi, W. E Hottman, Jerry L Logan, and R. C. Verrett, “Alliances and Partnering: a New Relationship Between Oil/Gas Producing Companies and Service Companies,” *Society of Petroleum Engineers - Proceedings of the 9th Middle East Oil Show & Conference* vol. 1 1995.

⁴⁰ The Construction Industry Institute - Contracts Task Force, “Impact of Various Construction Contract Types and Clauses on Project Performance” *CII Publication 5-1*, July 1986.

therefore efforts are directed to achieve project objectives. Whereas negative incentives can result in defensive performance as the focus is shifted towards avoiding penalties⁴¹.

RISK REWARD CONTRACTING

Modern incentive, or risk reward sharing, contracts are designed to align objectives by providing a mechanism to encourage the parties to work together to achieve best possible performance. This gainsharing mechanism works by sharing the additional profits gained when targets are outperformed. Conversely the contracting parties share in the financial risk if target performance is not achieved, although this is often capped at some pre-set limit.

Risk reward contracting is being guided by BP's pioneering work in the North Sea, which is motivated by the Cost Reduction Initiative for the New Era (CRINE) program. CRINE is an industry wide endeavour in the United Kingdom Continental Shelf oil and gas fields, the primary objectives of which are to reduce capital costs by at least thirty percent, and to halve operating costs⁴².

BP Hyde Project:

"BP led the way with the southern North Sea gas field Hyde, where a capped risk and reward alliance was formed with contractors. Conditions of satisfaction were defined and financial rewards were tied firmly to the final cost of the project. The contractors were

⁴¹ The Construction Industry Institute - Contracts Task Force, "Incentive Plans: Design and Application Considerations," *CII Publication 5-2*, Nov 1988.

⁴² Mike Curtis, "The Vision and Management of Crine," *OTC 7848 - Offshore Technology Conference* (27th annual), Houston, Texas, Usa, 1-5 may 1995.

brought in at the earliest stage both to foster trust and to incorporate the requirements of the different parties in the initial design. The cost-savings amounted to 20% of the original budget. Any profit on the 370M (GBP) contract will be split 60:40 between the contractors and BP. The contractors also share the risk, although this is capped at 410M (GBP).⁴³

BP Andrew Project:

“Each alliance contractor entered into an individual commercial contract with BP, on either a cost reimbursable with fixed overhead and profit or on a lump sum basis. Included in each companies cost estimate was a profit element linked to a risk and reward scheme. This gainshare mechanism would either enhance, secure or reduce the contractors’ profits, depending whether the target was beaten or not. The gainshare principle was tied to the alliance performing collectively to beat the target cost: companies would either win or lose together; success or failure is a joint responsibility. The gainshare mechanism allowed any savings to be split 46% to 54% between BP together with its partners, and the contractors. Conversely any overruns would be also be borne in the same way, but the joint exposure was capped at 50M (GBP). Any further overrun would be carried by the oil companies. The final project cost was 30% below target and first oil was delivered six months ahead of schedule”⁴⁴.

PERFORMANCE BASED CONTRACTS

Evolving contracting philosophy appears to moving towards developing ways to align the contacting parties not only in the execution phase but across the entire life cycle of the project - from conception to decommissioning. This will be achieved by linking

⁴³ Susannah Cardy, “Signing on the Dotted Line,” *Petroleum Review* Sept. 1994.

⁴⁴ Terry Knott, *No Business as Usual*, (The British Petroleum Company PLC.: 1996).

contractual profit with downstream performance, by devising an equitable method of sharing in the risk and reward of project performance, capital expenditure, operating expenditure and revenue.

Life of Facility Approach

BP again explored this approach on the Cleeton gas field, where payment for the design, construction and installation of a new facility is partly based upon operability⁴⁵.

Functional Specifications

Risk reward contracting appears closely linked with the use of performance based contracts, and functional specifications. The area of specifications is also undergoing change by designating for equipment. Instead of stipulating how equipment - or projects - should be built functional requirements are provided, allowing the contractor more freedom to innovate and ensure that the equipment will be fit for purpose.

⁴⁵ Susannah Cardy, "Signing on the Dotted Line," *Petroleum Review* Sept. 1994.

CHARACTERISTICS OF SUCCESSFUL ALLIANCES

Based on the literature review, and previous research at The University of Calgary⁴⁶, several characteristics of successful alliances are proposed as a basis for this study.

ANTHROPOCENTRIC

Communication:	effective, open, communication across all levels.
Communication Quality:	timely, accurate and relevant information transmission.
Participation:	joint planning and goal setting, encouraging and using partners advice.
Information Sharing:	providing necessary confidential or organizational information, no hidden agendas.
Conflict Resolution:	active addressing of issues and joint problem solving.
Trust:	belief that partner is fair, honest, and competent and belief that partner considers them to be the same.
Commitment:	willingness to exert effort and change current systems, which indicates expected continuance of alliance.
Interpersonal Ties:	professional, and to some extent social links across the organizations.
Culture:	development of a unique alliance culture, that is not rooted in any one partner's culture, and which encourages creativity, empowerment, propensity to take risk and fun.

⁴⁶ Hartman, Francis. "S.M.A.R.T. Project Management". *Construction and Engineering Leadership Conference* May 15-16, 1997, Calgary, Alberta.

MECHANISTIC

The guidelines which bolster the above characteristics are believed to relate to.

Stretch Targets:	challenging and - hopefully - achievable goals.
Evaluation:	regular performance monitoring, using appropriate metrics.
Relatively Incomplete Contract	
Risk Reward Sharing	
Performance / Functional Specifications	
Target Based Teaming:	inter-firm, Intra-firm and Inter-level workshops integrated with project target setting, evaluation, and problem solving.
Partner Selection:	based on strategic alignment and anthropocentric skill set.

Although it is unlikely there is a generic formula for success, it seems probable that there are certain factors that must necessarily be present as they indicate a healthy relationship. Intuitively it seems feasible these conditions act in a similar manner to Herzberg's maintenance or hygiene factors, where if present they will not guarantee success, but if absent suggest that the alliance is highly likely to fail. The results of the present study may provide evidence to support this.

CHAPTER 4: RESEARCH METHODOLOGY

This chapter describes the methods used to conduct the research. Determination of the procedures and activities required to undertake the research is an essential part of the study, upon which the legitimacy and relevance of the results depend. There are numerous research methods in use, and these can differ both in a procedural and a philosophical way. Although many researchers select their methods based on disciplinary prescriptions, training and academic socialization¹, an appropriate method should be consciously selected in order to ensure the integrity of the work. The following discussion relates entirely to the subject matter of the thesis, which is within the realm of the human world. Some of the arguments and perspectives presented are not intended to be transferred to issues relating to the purely physical world.

This chapter presents the justification for the research approach selected, followed by a discussion of the reasoning for that choice. The epistemological and ontological issues are explored in the context of research strategy. After this a discussion of potential overall approaches to research design is presented. Then the specific research design used in this study is provided. Finally the specific procedures employed are considered in detail.

METHODOLOGY FOR PROJECT MANAGEMENT RESEARCH

For this study ‘Sustainable Alliances: Creating and Maintaining a Successful Relationship’, a qualitative approach was believed to be most appropriate. First, an exploratory study seems most suitable for identifying critical factors for alliance success.

¹ Michael Quinn Patton, *Qualitative Evaluation and Research Methods*, 2nd ed. (Sage 1990).

Second, based on the initial literature review, it appears the human aspects would play a significant and complex role and these could best be investigated in context.

In general contextual research techniques appear particularly appropriate for conducting project management research, regardless of ontological view:

- From a positivist perspective as very little academic research has been previously conducted initial exploratory work is required before any hypothesis testing research is undertaken.
- From a phenomenological perspective the constructed reality of the project participants can be examined.
- From a pragmatic position the unique and temporary nature of projects, coupled with a profusion of human relationship issues, suggests that research should be performed whilst maintaining situational context.

OVERALL METHODOLOGY CONSIDERATIONS

The research methods selected can be separated into two parts, the research strategy and the research design. The research strategy is determined by the ontological and epistemological views of the researcher, and thus describes the overall philosophical perspective. The ontology questions concern the form and nature of reality and epistemological considerations relate to the origin of knowledge and the role of reason and experience. The research design defines the procedural approach and the specific techniques to be used. Usually research procedures and techniques are considered

inherent to a particular ideological position. Pragmatists² advocate that this does not need to be the case and procedures should be utilized in response to particular situations. The researcher advocates that the research question should drive the methodology and not vice versa, but believes it is also important to understand the ideological standpoints in order to make an informed decision. This forces one to consider all the issues and in doing so respond more fully to the situation.

RESEARCH STRATEGY

The philosophical issues surrounding research methodology are commonly referred to as the paradigm debate and are explored in many books and journals. The main competing paradigms are converged here into two general approaches, positivist and phenomenological, and their salient differences are considered below. For an expanded discussion of competing paradigms the reader is referred to Guba & Lincoln³.

Positivism

This paradigm is based on the world-view that reality is fixed and there are absolute 'truths' to be discovered. The intention is then to detect these facts through the specifying of a hypothesis followed by empirical testing, which results in knowledge. The purpose of inquiry in this paradigm is the explanation, and consequently the

² Ibid.

³ Egon G. Guba and Yvonna S. Lincoln, "Competing Paradigms in Qualitative Research," in *Handbook of Qualitative Research*, eds. N. K. Denzin and Y. S. Lincoln (Sage Publications, 1994).

prediction and control of, phenomena⁴. The methods used require objectivity and are usually experimental and quantitative⁵.

The term 'positivism' is used here generally to comprise all philosophies where knowledge is derived from empiricism (sense experience) and rationalism (reason), such as the scientific method, and includes logical positivism and postpositivism.

Phenomenological

This paradigm is based on the view that there is no fixed truth; reality is constructed by individuals, and the world exists as one perceives it. Perspective may be set by sensory apparatus or bound by culture, history, class or gender⁶. In effect, knowledge is relative and subjective. The issue of objectivity is therefore disregarded as the relativist approach requires that 'beauty be judged through the beholder's eye'. Thus both participant and researcher subjectivity is integral to the study. The purpose of research is for understanding, and the methods used are generally hermeneutic⁷.

The term 'phenomenology' is used here to mean the interpretation of that which appears real to the mind (conscious) regardless of whether it really exists. It is the study of experiences and the ways we put them together to develop a world view, and assumes that there is a 'structure and essence' to shared experiences that can be determined. A

⁴ Ibid.

⁵ Ibid.

⁶ Simon Blackburn,. *The Oxford Dictionary of Philosophy*, (Oxford University Press 1994).

⁷ Egon G. Guba and Yvonna S. Lincoln, "Competing Paradigms in Qualitative Research," in *Handbook of Qualitative Research*, eds. N. K. Denzin and Y. S. Lincoln (Sage Publications, 1994).

fundamental principle involves the need to bracket out (epoché) the content of experience, that is everything one has internalized from experience and culture.

RESEARCH DESIGN: PROCEDURAL APPROACH

A numerically based procedural approach is termed quantitative and non-numerical approaches, that is those focusing on characteristics, are termed qualitative. Although some techniques from both quantitative and qualitative methods can be used within either paradigm, the inherent nature of each approach is usually more appropriate for the positivist and phenomenological paradigms respectively. The ontological and epistemological frameworks should be considered whilst comparing the approaches.

Quantitative Approach

Quantitative methods are often defined as ‘hard’ science, and involve the verification (positivism) or falsification (postpositivism) of a priori hypotheses⁸ using statistical methods and mathematical models. Using the ‘scientific method’, they are more deductive orientated and the theory and variables must be pre-determined (operationalized) before collecting data.

Qualitative Approach

Qualitative Methods are often defined as ‘soft’ science, and use interpretative techniques to establish cause and effect. Qualitative methods are more inductive orientated, and

⁸ Ibid.

allow the ‘theory’, that is the main dimensions and their interrelationships, to emerge from the data⁹.

In comparing the two approaches, a quantitative investigation attempts to control the conditions of the study by manipulating external influences, whereas “the point of using qualitative methods is to understand naturally occurring phenomena in their naturally occurring states”¹⁰. Hence whilst quantitative methods aim to predict and control (variables), qualitative methods aim to provide deep understanding and must necessarily maintain the situational context.

RESEARCH DESIGN: TECHNIQUES AND METHODS

Both quantitative and qualitative approaches have specific methods for conducting a study. Procedures and techniques are available for specifying both the data collection process, including any instruments to be used, and for the subsequent analysis of the data. The issues of population, sampling, validity, reliability and generalizability are treated in different ways according to the inquiry paradigm, the research approach and the particular techniques selected. Considering the underlying approach of controlling the conditions in a quantitative study a great emphasis is understandably placed on these issues. It naturally follows, taking into account the fundamental differences between the two approaches, that the methods to assess validity and reliability cannot be directly applied to qualitative work¹¹. The principles are still important and will be addressed in later sections.

⁹ Michael Quinn Patton, *Qualitative Evaluation and Research Methods*, 2nd ed. (Sage 1990).

¹⁰ Ibid.

¹¹ Nigel King, “The Qualitative Research Interview,” In *Qualitative Methods in Organizational Research*, eds. Catherine Cassell and Gillian Symon (Sage Publications, 1994).

Exploratory Studies

Many researchers in the positivist paradigm accept the use of qualitative techniques when used for exploratory studies, that is instances where the issue is so new or so vague so as to resist operationalizing or hypothesizing. A common method of investigating such a problem is the two stage design where exploration becomes a preliminary stage, with the objectives to define the problem and develop the research design¹².

Triangulation

In the positivist paradigm triangulation is often used to support the integrity of a study. The use of multiple measures and multiple methods is intended to increase both internal validity and reliability, thus ensuring that a 'real' truth or proof is arrived at.

PROPOSED RESEARCH DESIGN

The original design, as described in Appendix A: Proposed Research Design, was based on an exploratory study, and although the techniques specified were considered mainly qualitative, the investigation was firmly rooted within the positivist tradition. The design involved the use of a survey within multiple cases. The survey instrument was initially designed around a structured open response interview and comprised a detailed schedule of specific questions in a set order. As is now appreciated, this type of design cannot be considered as a true qualitative interview as it does not allow for the deeper exploration

¹² Donald R. Cooper and C. William Emory, *Business Research Methods*, 5th Edition, (Richard D. Irwin 1995).

of meaning and context¹³. In addition a quantitative survey instrument was also to be administered for triangulation purposes. This instrument would take the form of a closed response survey utilizing a Likert scale. The questions would be designed to measure the constructs identified during the literature search which were perceived to be important. Although no specific hypothesis was stated at this time the intention was to identify correlation and causal effect between these constructs and compare this to the open ended responses to gain deeper meaning.

ACTUAL RESEARCH DESIGN

As was evident from the fairly early stages of this study, the proposed research design was not suitable either for the research problem or the researcher. During the literature review a more complete understanding of the research problem developed, together with broadening the researcher's intellectual perspective. As the work progressed the research process itself naturally evolved. This is probably in response to an improved understanding of the research process which allowed the true nature of qualitative inquiry to emerge. The research interviews were actually conducted with much less structure imposed than the design intended resulting in a more natural conversation, though still within the boundaries of the subject area.

Initially a survey, as shown in Appendix B, was generated from the literature search. It used a five point Likert scale with multiple questions as indicators to measure several key concepts. As a result of the evolving research methodology developing the survey was discarded. Since the data was being gathered in a more qualitative way the interviews generated a far more detailed amount of information from fewer participants, resulting in a lack of statistical significance required for quantitative analysis. Additionally, the

¹³ Nigel King, "The Qualitative Research Interview," In *Qualitative Methods in Organizational Research*, eds. Catherine Cassell and Gillian Symon (Sage Publications, 1994).

change in paradigm view altered the belief that meaningful results could be produced in this manner.

The final research design as implemented is a 'modified grounded theory' study, which uses a case study approach to build theory. A type of stakeholder analysis¹⁴ was also used to select intra-case participants.

GROUNDING THEORY METHOD

Grounded theory involves identifying and verifying constructs and their relationships from the data. Use of this methodology can fit into either inquiry paradigm. Either in the positivist tradition as an exploratory study, or as a comprehensive study from the phenomenological view. In contrast to most approaches to qualitative studies, the grounded theory method appears to be designed from within the positivistic tradition; consequently the developers pay considerable attention to the issues of reliability and validity. The grounded theory method also differs from other methods of qualitative research in its attention on theory development¹⁵ The method emphasizes joint collection, coding and analysis of data¹⁶, and it is precisely this inherent flexibility which enables researchers to actually build theories from the data¹⁷.

¹⁴ John G. Burgoyne, "Stakeholder Analysis," In *Qualitative Methods in Organizational Research*, eds. Catherine Cassell and Gillian Symon (Sage Publications, 1994).

¹⁵ Anselm Strauss and Juliet Corbin, "Grounded Theory Methodology," in *Handbook of Qualitative Research*, eds. N. K. Denzin and Y. S. Lincoln (Sage Publications, 1994).

¹⁶ Anselm Strauss and Juliet Corbin, *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, (Sage Publications 1990).

¹⁷ Kathleen M. Eisenhardt, "Building Theories from Case Study Research," *Academy of Management Review* vol. 14, no.41 (1989), pp. 532-550.

Figure 4.1: Research Methodology shows how The grounded theory method fits into the methodological framework previously discussed. The method is contextual in that it views a integral situation, and exploratory in that it allows the theory to emerge from the data. As a result of the inclusion and emphasis on theory confirmation, the method is considered as primarily inherent to the (post)positivist approach. Although similar to the standard two stage design (exploration followed by confirmation), it differs in that the process is not sequential but parallel.

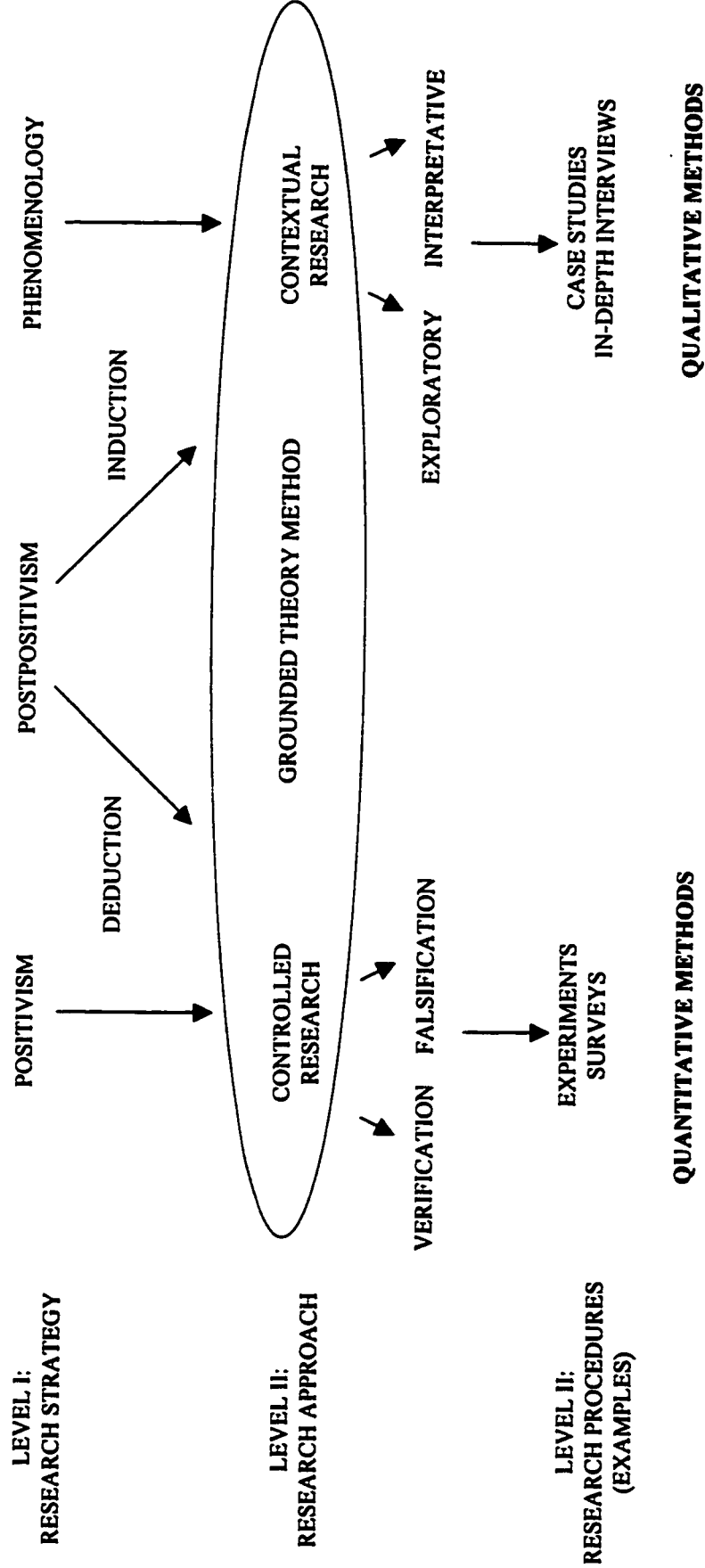


Figure 4.1: Research Methodology.

CASE STUDIES

A case study is fundamentally the detailed examination of a single entity or event. It can be the study of any item or instance; an individual, an organization, a relationship or an occurrence. An intrinsic case study is performed to understand a particular case for its own merits, whereas an instrumental case study is intended to advance a wider explanation¹⁸. As some form of comparative analysis is usually required to generate theory¹⁹, a collective case study, that is the joint study of several cases, can be used to research a particular issue²⁰. The case study may utilize diverse methods of data collection and analysis, and often in organizational research a combination of methods is used²¹.

RESEARCH PROCEDURE

Where possible the research procedure is described in terms of traditional conventions, that is standard positivist terminology in order to make the work more accessible to other researchers. Where these conventions do not apply to qualitative inquiry the distinctions are elucidated.

¹⁸ Robert E. Stake, "Case Studies," in *Handbook of Qualitative Research*, eds. N. K. Denzin and Y. S. Lincoln (Sage Publications, 1994).

¹⁹ Brian Leavy, "The Craft of Case-Based Qualitative Research," *IBAR - Irish Business and Administrative Research*, vol. 15, (1994), pp 105-118.

²⁰ Robert E. Stake, "Case Studies," in *Handbook of Qualitative Research*, eds. N. K. Denzin and Y. S. Lincoln (Sage Publications, 1994).

²¹ Jean F. Hartley, "Case Studies in Organizational Research," In *Qualitative Methods in Organizational Research*, eds. Catherine Cassell and Gillian Symon (Sage Publications, 1994).

The research question states the objectives of the study²², and provides direction. The research question for this study is “what are the critical factors for creating and sustaining a successful relationship in an alliance”, and the inquiry is bounded by this question.

MODIFIED GROUNDED THEORY

The grounded theory approach is modified by developing a conceptual framework before collecting and analyzing the data. In addition constructs, also referred to as codes or categories, in advance of analyzing the data. The technical literature was used to generate the a priori specification of constructs. A listing of behaviours representing these constructs was identified and used to produce the open-ended interview schedule, attached as Appendix C. The a priori specification of constructs is valuable as it allows more accurate measurement of constructs, which will provided better empirical grounding if justified²³.

An additional broader questionnaire schedule, attached as Appendix D, was also developed in order to solicit a more unconstrained response to the general research question. This preliminary interview schedule was used at the commencement of the first interview with each respondent.

POPULATION

The population from which the cases were selected is the oil and gas industrial sector in Alberta, Canada. This population was specified on the basis of the current high alliance

²² Donald R. Cooper and C. William Emory, *Business Research Methods*, 5th Edition, (Richard D. Irwin 1995).

²³ Kathleen M. Eisenhardt, “Building Theories from Case Study Research,” *Academy of Management Review* vol. 14, no.41 (1989), pp. 532-550.

activity in the sector, coupled with relative ease of access in both geographical terms and willingness to participate. Additionally the specification of a homogeneous population will enhance external validity, although it is the transferability, or extrapolation - generalizing whilst maintaining context - of results which is more important²⁴.

CASE SELECTION

A case is defined here as an instance of a two party alliance. The individual cases were chosen through a theoretical sampling plan, where selection is based on a case's potential contribution to theory through its peculiarities²⁵. The sampling is purposeful as compared to random²⁶, as the analysis is not required to be statistically robust. The initial design will use four cases as this is considered as the minimum adequate for theory generation²⁷. The cases were selected on the basis of interest, diversity and accessibility.

RESPONDENT SELECTION

The initial contact point was usually identified through a personal referral, and each contact was used to identify further ones. The preliminary interview schedule included a of stakeholder analysis where the initial contact - and each subsequent one- was asked to identify all the other parties who had either an interest in, or an impact on, the alliance.

²⁴ Michael Quinn Patton, *Qualitative Evaluation and Research Methods*, 2nd ed. (Sage 1990).

²⁵ Anselm Strauss and Juliet Corbin, *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, (Sage Publications 1990).

²⁶ Michael Quinn Patton, *Qualitative Evaluation and Research Methods*, 2nd ed. (Sage 1990).

²⁷ Kathleen M. Eisenhardt, "Building Theories from Case Study Research," *Academy of Management Review* vol. 14, no.41 (1989), pp. 532-550.

In this way the alliance stakeholders were identified. The identifying respondent was often used to make the initial contact with the following stakeholders, thus facilitating access. Basically this kind of stakeholder analysis is similar to a snowball sample, where instead of locating others with similar characteristics the identifying feature is their influence on the particular case.

An advantage of stakeholder analysis is that the phenomenon is investigated from diverse perspectives (individual or group based), and triangulation of data collection is integral to the process, thus enhancing internal validity.

CLOSURE: THEORETICAL SATURATION

Sampling of cases and respondents should continue until theoretical saturation is reached, that is, no new concepts emerge from the data and theories are validated²⁸. In practice, theoretical saturation may not be achieved due to time and cost limitations²⁹. The final number of respondents selected is a balance between an attempt to adequately cover all the stakeholder perspectives and pragmatic considerations.

²⁸ Anselm Strauss and Juliet Corbin, *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, (Sage Publications 1990).

²⁹ Kathleen M. Eisenhardt, "Building Theories from Case Study Research," *Academy of Management Review* vol. 14, no.41 (1989), pp. 532-550.

CHAPTER 5: METHOD OF ANALYSIS

This chapter presents the methods used to analyze the data. A synopsis of qualitative data analysis is provided, together with an overview of the use of computerized analysis packages. The primary and supplementary data used in this research are defined in detail, followed by a description of the process.

QUALITATIVE DATA ANALYSIS (QDA)

Qualitative research is not hypothesis testing research in the traditional sense (quantitative or hypothetic-deductive H-D research strategy), where concepts are operationalised, and experiments conducted and statistical analyses performed on the measurements, all of which is designed to objectively test specific relationships. In contrast qualitative research involves constructing explanations by developing a theory explaining the data through observing distinct categories together with their patterns and relationships. In grounded methodology the testing of hypothesis specifically refers to “a return to the material in order to explore this possible relationship by a thorough analysis of textual data”.¹

Qualitative data includes text based documents such as interview transcripts, video, documents, audio, pictorial etc., and most qualitative research projects involve large amounts of data. The handling of such data can be greatly enhanced through the use of a computerized system.

¹ U. Kelle, “Theory Building in Qualitative Research and Computer Programs for the Management of Textual Data,” *Sociological Research Online*, vol. 2, no. 2, <<http://www.socresonline.org.uk/socresonline/2/2/1.html>>

COMPUTER ASSISTED QUALITATIVE DATA ANALYSIS SOFTWARE (CAQDAS)

The approach to a computerized data handling system is diverse. It may merely provide a means for storage and retrieval, or may also comprise various data manipulation functions to support analysis. Indeed some software packages claim to assist in theory generation through "...data management methods that support insight and discovery, encourage recognition and development of categories".²

The benefits of using such a system include time and data organizational efficiencies and analysis facilitation. In addition, many of the packages maintain records of the data manipulation operations, and an audit trail is established, thereby supporting the validity of the work and any resulting conclusions. It is important to note that to maintain the integrity of qualitative based research, computerization can only assist in a mechanistic manner: the interpretation still relies on the skills of the researcher.

The facilities provided by a CAQDAS package may include:

- Data Storage
- Data Retrieval
- Coding
- Indexing
- Memoing
- Data Linking

² Thomas J. Richards and Lyn Richards "Using Computers in Qualitative Research," in *Handbook of Qualitative Research*, eds. N. K. Denzin and Y. S. Lincoln (Sage Publications, 1994)

The QDA software packages currently available support the above functions to varying degrees, depending on the philosophy and features of each particular program.

QDA software may be concerned either with the relationships between categories and data, such as in Code and Retrieve packages or the relationships between the categories themselves in the case of Theory Building packages.³ Theory Building software promotes conceptual level thinking as well as textual level thinking. The software aids in allowing the theory to emerge from the data through “a set of facilities for manipulating the indexing database in various ways in processes of category creation designed to help the researcher define and explore research ideas”.⁴

Although QDA developers claim generic applicability to qualitative methodology, the influence of the grounded theory method⁵ is generally acknowledged.⁶

For the purposes of this research, which is based on a ‘modified’ grounded theory method and involves the textual and conceptual analysis of interview transcripts plus other documents, a theory building CAQDAS package seemed most appropriate. Two such packages were explored in detail, ATLAS/ti and NUDIST. Both perform all the expected functions, and ATLAS/ti was selected for the analysis on the basis of user preference.

³ Nigel G. Fielding and Raymond M. Lee eds., *Using Computers in Qualitative Research* (Sage London 1991)

⁴ Tom Richards and Lyn Richards “The NUDIST Qualitative Data Analysis System,” *Qualitative Sociology*, vol. 14, no. 4, (1991)

⁵ Anselm Strauss and Juliet Corbin, *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, (Sage Publications 1990).

⁶ Thomas Muhr “Atlas/ti - a Prototype for the Support of Text Interpretation,” *Qualitative Sociology*, vol. 14, no. 4, (1991)

RESEARCH DATA

This study is based on three types of data: primary data, supplementary data, and information obtained through the literature review. The following section describes each of these data sources.

PRIMARY DATA

The primary data is interview transcripts that were collected through semi-structured interviews and comprised three detailed alliance case studies plus one additional interview from another alliance. The total data consists of nineteen hours of audio taped material. This data was all transcribed verbatim, taking approximately eight hours per hour of dialogue (total 152 hours of transcription), yielding nine interview transcripts. Table 5.1 provides detail of the magnitude of this data.

RESPONDENT	PAGES	WORDS
Interview # 2	21	7486
Interview # 3	42	21371
Interview # 4	27	12239
Interview # 5	38	17008
Interview # 6	20	18973
Interview # 7	31	13756
Interview # 8	39	19246
Interview # 9	20	8830
Interview # 10	24	9164
TOTAL:	262	128073

Table 5.1: Primary Data

The data (in Microsoft Word version 6) was prepared as input suitable for the selected computer assisted qualitative data analysis software (CAQDAS) package, ATLAS/ti, by converting to ANSI text prior to entry and analysis. To maintain confidentiality, and comply with ethical guidelines, the raw data is not appended to this thesis. In addition the identity of the individual respondents and the participating companies will not be divulged.

SUPPLEMENTARY DATA

This data was used for additional information and reference, but was not included in the coding and computer assisted analysis process.

- Interview notes
- The transcription of a pre-test interview (Interview # 1: 24 pages, 8896 words)
- Notes taken at a full day seminar on alliances, which included two senior executive level speakers, from two of the participating companies (22 pages).
- Additional material supplied by the respondents, including
 - A project development plan
 - A design basis memorandum
 - A project execution plan
 - A conference article co-authored by the alliance managers of one of the cases
 - An alliance evaluation score-sheet
 - An alliance continuous improvement survey
 - Copies of an alliance managers presentation to senior management
 - Minutes of a completed project debriefing meeting
 - Summary of output metrics for the performance of all the projects conducted
 - A team survey
 - A team rules of conduct

ANALYSIS PROCESS

The analysis process commenced with transcribing and preparing the primary data as this allows the researcher to become immersed in the data and very familiar with its content.

At this point the literature review was re-examined, so as to facilitate a comparative analysis of the data.

DATA CODING

The initial coding was based on the data content, and not solely focused on the direct research problem. The codes, or concepts, generated were derived in one of three ways:

- a priori codes - based on the categories pre-identified during the lit search;
- in vivo* codes - actual words used by respondents (e.g. Interface);
- a posteriori codes - empirical, and perceived in the data; (e.g. Value).

The complete list of codes used for the analysis is included as Appendix E.

Each transcript was carefully reviewed and any section (quotation) relating to a particular concept (code) was linked to the code. The interview questions did provide some structure to the responses, but were mainly used to make certain all the required topics were covered. To ensure all related responses were incorporated during coding each transcript was always considered in its entirety and not as sections responding to particular questions.

All the coded data is very interesting and being a qualitative study the data is not only rich in detail but also voluminous. To avoid being side-tracked (too much), the data were then re-examined in the specific context of the research problem. This was done by first examining the research topic:

“Sustainable Alliances: Critical Factors for Creating and Maintaining a Successful Relationship”

The fundamental research problem involves the identification of the critical success factors (CSFs) necessary to both create and maintain an effective inter-firm collaboration.

The identification of these CSFs requires that several research questions be addressed:

1. What is an alliance?
2. What is success - within the context of an alliance?
3. How is success achieved?
4. Who influences success - actual and perceived?

The concepts were then analyzed in further detail to identify their properties, including (sub)components, dimensions, and other related concepts or codes. Although presented sequentially, the whole analysis process is iterative with constant interaction between process and results.

This review assisted in determining how best to approach the research questions, and identify the categories which seemed to address the principal issues.

DETAILED DATA EXAMINATION

The alliances studied are introduced by means of concise within case analyses presented in chapter 6. These provide a descriptive overview of each case together with any special features or characteristics which may elucidate subsequent discoveries. These case descriptions also intended address the research question “what is an alliance?”.

The cross-case analysis was primarily conducted using a variable-orientated strategy, where the approach is on finding themes that cut across cases,⁷ and identifying the contributing variables and their relationships. Analysis is supported through the use of appropriate data displays that are “focused enough to permit viewing of a data set in one location and are systematically arranged to answer the research questions”.⁸ To facilitate this ATLAS/ti generated outputs of quotations relating to selected codes were compiled into tabular form and structured according to attributes and/or context. Once trends were identified then representative quotes, for inclusion in the analysis chapter, were selected on the basis of clarity and expressiveness.

ANALYSIS PROCEDURE

The procedure for analyzing the data transcripts is shown in Figure 5.1. The data to be coded is transcribed and entered into the CAQDAS tool. Although the analysis steps are shown sequentially, the feedback loops are intended to illustrate the iterative nature of the process.

⁷ A. Michael Huberman and Matthew B. Miles, “Data Management and Analysis Methods,” in *Handbook of Qualitative Research*, eds. N. K. Denzin and Y. S. Lincoln (Sage Publications, 1994)

⁸ Ibid.

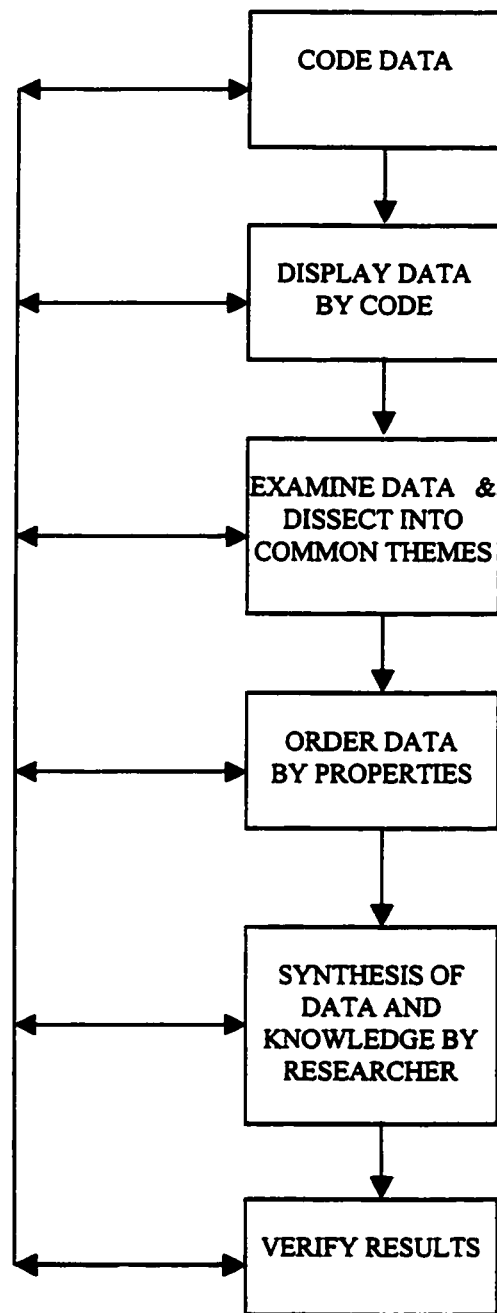


Figure5.1: Analysis Procedure

Example of Analysis

The code table in Appendix F shows the dissected data coded under 'Success', and is provided as an example to illustrate the analysis procedure. The first step is to review all the interview transcripts and attach this code to any quotation relating to success. Following this, the coded quotations are tabulated and examined in further detail for underlying variables, that is any common features, trends, or properties. In this case two distinct components were identified:

- Each quotation seemed to be related to either an outcome, an action, a status or refer to the involvement of a stakeholder group. These components were given the general title 'mode' as they were perceived as being operating components.
- The features of each quotation perceived when its essential meaning is examined were termed 'properties'. These properties were usually, but not always, other codes. Often a property may contain other features within its main property. These sub-properties are enclosed in parenthesis in the properties column of Appendix F.

Reordering the table by each features - in this example by 'mode' - assists in further observation of any emerging patterns. Theory is generated through the synthesis of the (sub)properties and the mode, together with the researchers knowledge, from both the literature review and previous experience. It is an iterative process, as when any initial pattern, theory or model is proposed, the data is returned to in order to see if it supports, rejects or modifies the proposal, which is verified, rejected, limited or extended as appropriate.

The following chapter uses this and other code tables, in the manner illustrated, to answer the specific research questions.

CHAPTER 6: DISCUSSION OF RESULTS

This chapter presents the results of qualitative analysis of the transcript data. The analysis itself was iterative and interrelated. For clarity of presentation the chapter is organized around the research questions described earlier. The chapter provides case descriptions of each alliance. An examination of the meaning of success within the alliance context is presented, together with the identification of the required determinants for success and a comparison with those factors found in literature. The individuals and groups which influence and evaluate success are also considered. A model, based on the identified success determinants, is proposed. The component parts of the overall model are also presented.

WHAT IS AN ALLIANCE?

The framework developed in chapter two presented different manifestations of alliances as they are currently implemented in industry. The alliances investigated in this research were all in the oil and gas industrial sector, and were all located in Alberta, Canada. Three of the alliances were of the supplier type, and one was project based. Interestingly, all of these alliances employed a similar alliance management structure, based on a tri-level arrangement, although there are differences in the specific implementation, and titles used.

At the highest level there is an alliance steering committee, composed of senior executive representatives - sponsors - from the participating companies. At the next level are the alliance managers (alliance co-ordinator / alliance co-manager / alliance project manager) from the participating companies, whose function is to manage the relationship and co-ordinate the projects executed under the alliance agreement. Below them are the project managers for the individual projects.

In the case of alliance #1, the owner's project managers are centrally appointed and provide technical co-ordination across the projects. In alliance #2 however, the owner's project managers are not central and belong to individual business teams. In alliance #3 the alliance steering committee covers both the interrelated projects.

The four alliances investigated are summarized in Tables 6.1 and 6.2. More detailed descriptions, outlining the main points, are provided in Appendix G.

RESPONDENT IDENTIFICATION

In the following discussion all quotations are referenced by respondent number followed by quotation number, for example (2:39) is quotation 39 said by respondent 2. The list below shows the associated alliance for each respondent.

Alliance #1: Respondents 2 & 3

Alliance #2: Respondents 5, 6, 8 & 9

Alliance #3: Respondents 3 & 7

Alliance #4: Respondent 4

ALLIANCE #1 SUMMARY	
Alliance Type:	Supplier
Participants:	Owner 1 (Owner Organization) Contractor (EPC Company)
INTERVIEWEES	
Owner Project Engineer:	Project Manager for all projects carried out by the alliance
Contractor President:	Alliance Sponsor
ALLIANCE OVERVIEW	
<p>This is a multi-project alliance, covering all the engineering requirements for the owner regarding smaller (a precise \$ figure was not available) projects relating to processing facilities.</p> <p>The alliance is a supplier type alliance with its primary focus on saving transaction costs and adding value through continuous improvement.</p> <p>The alliance agreement is on-going, and has been in existence for over five years (at time of conducting interviews). Both respondents considered the alliance as successful.</p>	
ALLIANCE #2 SUMMARY	
Alliance Type:	Supplier
Participants:	Owner 2 (Owner Organization) Contractor (EPC Company)
INTERVIEWEES	
Alliance Co-ordinator:	Alliance Manager (Centrally appointed)
Contractor President:	Alliance Sponsor
Contractor Alliance Mgr:	Also acts as a Project Manager
Owner Facilities Engineer:	Responsible for a project on behalf of a business team
Owner Operations Staff:	Works in the field on EH&S issues
ALLIANCE OVERVIEW	
<p>This is a multi-project alliance, covering the facilities engineering, procurement and construction (EPCM) of conventional oil and gas work in Western Canada, including pipelines, well-tie ins and plant equipment.</p> <p>Again the alliance is a supplier type alliance, however its primary focus does not appear to be specifically defined, other than as a generic cost saving initiative.</p> <p>The alliance agreement is on-going, and has been in existence for only fifteen months (at time of conducting interviews). Over 140 projects have been performed during this time. Although the projects delivered under the alliance were mostly perceived as successful, all the respondents expressed some kind of dissatisfaction or frustration with the present alliance arrangement.</p>	

Table 6.1: Summary of Alliances #1 and #2

ALLIANCE #3 SUMMARY		
Alliance Type:	Project	
Participants:	Owner	(Owner Organization)
	Engineering Contractor	(Joint Venture of two parties)
INTERVIEWEES		
Owner Engineering Management:	Alliance Co-manager (Engineering)	
Contractor Engineering Management:	Alliance Co-manager (Engineering)	
ALLIANCE OVERVIEW		
<p>This is a single project alliance to construct a new mine, adjacent to the owner's existing plant. Two construction companies are also in the alliance, as well as a process automation company. As the project progresses other key vendors may be included as full alliance participants, "based on their ability to influence the final outcome of the project". The project is in the basic engineering phase and is currently developing a class 2 (10% accuracy) estimate. The owner has not yet given approval for the project to go ahead (at time of conducting interviews).</p> <p>Both respondents were extremely enthusiastic and highly motivated. They considered the alliance as successful so far and seemed to believe the final outcome would ultimately be successful. There also appeared to be recognition that success was not automatic, and would require an effective collaborative effort to be achieved.</p> <p>There is a concurrent companion project to this one, both projects are interdependent in that "one really cannot deliver without the other", and are being executed by different alliance participant companies. There may be a divergence of opinion between the alliance participant companies and the owner, as to where the actual boundary between the alliances lies, if indeed it exists at all.</p>		
ALLIANCE #4 SUMMARY		
Alliance Type:	Supplier	
Participants:	Owner	(Owner Organization)
	Contractor	(EPC Company)
INTERVIEWEES		
Contractor:	Alliance Co-manager	
ALLIANCE OVERVIEW		
<p>This is a multi-project alliance, covering all the engineering, procurement and construction (EPCM) for the owner's heavy oil work in East Central Alberta. It includes pipelines, steam generators, pads. The work covers new capital, maintenance repairs, expansions and revamps. Again the alliance is a supplier type alliance with its primary focus on saving transaction costs and reducing contractor familiarization (learning curve) time. The alliance agreement is on-going, and has been in existence for over five years (at time of conducting interviews). The respondent considered the alliance as successful.</p>		

Table 6.2: Summary of Alliances #3 and #4

The question ‘what is an alliance?’ is best answered by comparing alliances with the traditional arrangement. In a traditional arrangement, contractors may be pre-selected but the contract is usually competitively bid. In an alliance an extensive contractor selection process is performed and the contract is not normally awarded primarily on the basis of cost. In a traditional arrangement the contract includes a fixed termination point, in a supplier alliance the contract is ongoing. Although the contract may include review points, the participant’s perception is that the agreement is indefinite. In a traditional arrangement the contractor’s profit is normally a fixed amount or percentage. In a project alliance the contractor’s profit is normally linked to the outcome, either as a joint venture or through risk reward sharing. Synthesizing these items results in a definition of an alliance as: ‘a contractual arrangement where common gains are valued higher than individual ones’. In other words, shared benefit is actively advanced and opportunistic behaviour is theoretically avoided.

Now that a conceptual understanding of ‘what an alliance is’ exists for the cases studied, the question ‘what is success ?’ can be considered.

WHAT IS SUCCESS?

Taking an overall view of alliance success, in the context of identifying the critical success factors (CSFs), all quotations relating to success were examined. These quotations were identified in three ways. First any quotation explicitly mentioning success or it’s antithesis failure was included in the analysis, together with quotations referring to termination or ending of the alliance. Second, any responses to a question posed regarding success, termination, or failure were reviewed. Third, comments the researcher interpreted from the context of the discussion as relating to alliance outcomes were analyzed. After being tabulated these quotations were analyzed and dissected into their component parts and properties.

Close examination of the quotations, searching for common attributes, identified three central themes. Each quotation related success to either a result, an influencing determinant or an involvement. When the quotations are grouped by theme, they are seen to address the three questions driving the research.

Result:	What is success?
Influencing Determinant:	How is success achieved?
Involvement:	Who influences success?

These three questions will now be addressed in sequence. Focusing on the first research question, the data showed a successful result as relating to one of three outcomes.

Satisfaction: “our main indicator of success would be another job from the same customer”(4:14), Performance: “Success would be, being my best in my [sic] class in terms of putting that kind of project in.”(5:8), and Value: “when you have an alliance you are constantly being questioned by senior management. Gee are you sure that’s the right alliance? What value are these guys bringing? How do you know they are not being complacent?”(2:108).

Success, Performance and Value were examined in further detail and the common features discerned. These are displayed below in Table 6.3.

CONCEPT	FEATURES	COMMENTS
Satisfaction	Stakeholders	client includes operations and central office
	Alignment	projects with business needs
Performance	project based	goals were usually set
	parameters	(\$,t, Q, & S)
Value	Continuous Improvement	not complacent
	Evaluation	need to prove it

Table 6.3: Features of Success.

Satisfaction is primarily related to meeting the expectations of stakeholders, which includes aligning the projects with the business needs.

Performance is project based, with detailed goals and parameters, including the standard time, cost, quality and safety.

Value appears to be principally concerned with alliance performance, as opposed to single projects. It has a longer term focus, and related concepts are continuous improvement and evaluation.

Performance is meeting the project parameters, whereas Value is concerned with the longer term cost competitiveness of alliances as a means of delivering projects. As both of these issues need to be addressed to ensure satisfaction, and ultimately success, they can consequently be considered conceptual properties of Satisfaction as shown in Figure 6.1.

Strongly related to success, is its conceptual antonym, failure and in the context of alliances, the concept of termination. The data was then coded and analyzed for Failure

and Termination providing a more complete understanding. Table 6.4, below, presents the properties associated with the Success, Failure and Termination.

SUCCESS	FAILURE	TERMINATION
Satisfaction	Satisfaction	Open Ended Contracts
Value	Value	Business Environment
Performance	Performance	Performance
	Compatibility	Value
	Business Environment	

Table 6.4: Comparison of Important Characteristics for Success, Failure and Termination of Alliances.

Much less data was provided relating to the negative concepts of failure and circumstances for alliance termination compared to the large volume of information regarding success.

It should also be noted that Alliance #3 (the project alliance), did not provide any data regarding the results of success, and failure and termination. Their contribution concentrated on the process and conditions leading to success.

Only two characteristics are common to all three concepts: Performance and Value. Satisfaction is not listed as a reason for termination - perhaps this is because Performance and Value are two of its key component parts.

Business Environment, which most frequently refers to workload, is only used in the negative context. This means that a lack of work availability would cause an alliance to fail or be terminated, but an appropriate business environment is not considered as one of the determinants for a successful alliance.

Lack of compatibility was given as a reason for the failure of a previous alliance.

The main point here seems to be the strong focus on and alignment between the concepts, regarding the Satisfaction, Performance and Value attributes. Performance must satisfy the success criteria for projects; Value must satisfy the success criteria for alliances.

These elements must be aligned with each other and with the corporate objectives, so that ultimately: “delivering results will be the foundation of success, delivering projects based on the needs of the business”(5:3).

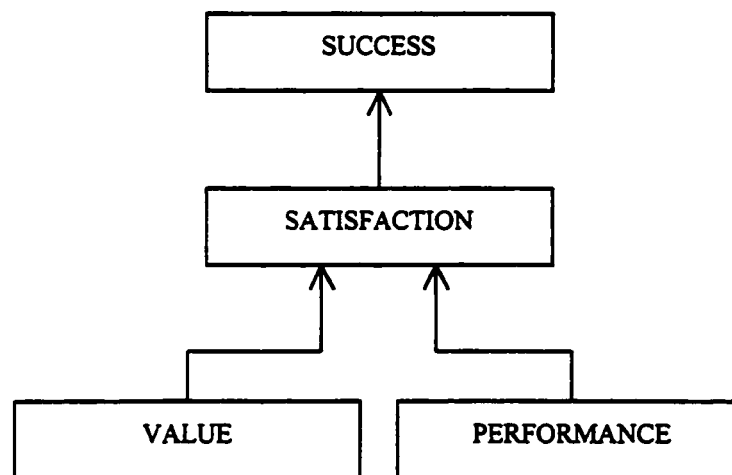


Figure 6.1: Components of Success.

These components of success provide a conceptual understanding of what success means to the respondents in the alliances studied, as illustrated above. The means of achieving this outcome can now be considered.

HOW IS SUCCESS ACHIEVED?

As proposed earlier, success is defined in terms of results (outcomes) and achieved through determinants. These determinants can be seen to act in one of two ways to effect

the outcome, either as an necessary action or as a required state. The determinants have been categorized as either conditions or processes which influence the result.

Condition:	(have to have)	a mode or state of being
Process:	(have to do)	a series of actions, changes or functions which effect a result

In effect, the conditions act as a gateway allowing a process to perform/function effectively. It is a causal condition in that it does not directly produce a result, but it allows another factor to do so.

Note that this is an iterative process and any one specific result may be a condition or process for another particular result. For example trust may be a required condition for success, but it may also be the result of another set of determinants including open communication etc.

Classifying the determinants is important because, as certain things must be in place before success will occur, then the initial effort should be focused on developing the causal conditions necessary for the desired outcome. Understanding the interrelationship is also important as the conditions, "Trust" for example, cannot be abandoned once the alliance is established.

Figure 6.2 shows the links between the conditions, processes and results. Many of these elements are interdependent and operate interactively.

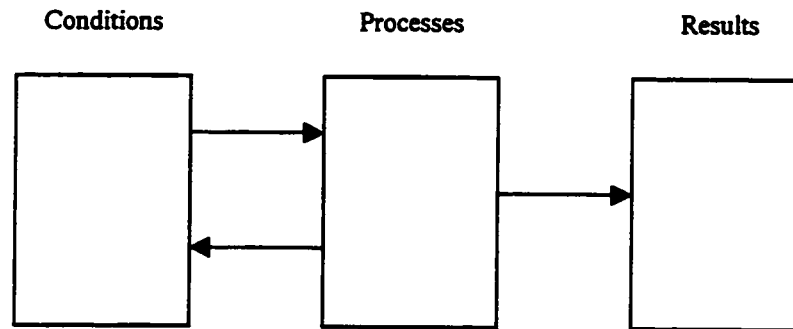


Figure 6.2: Links Between Conditions, Processes and Results.

The determinants of successful alliances (success factors) found in the literature review are shown in Table 6.5, and the determinants discovered by this research are presented in Table 6.6. The literature success factors had been classified into two sets, anthropocentric and mechanistic. The research success factors also bifurcate into conditions and process, which correspond reasonably well with those previously identified.

ANTHROPOCENTRIC	MECHANISTIC
Communication	Stretch Targets
Communication Quality	Evaluation
Participation	Relatively Incomplete Contract
Information Sharing	Risk Reward Sharing
Conflict Resolution	Performance Specifications
Trust	Target Based Teaming
Commitment	Partner Selection
Interpersonal Ties	
Culture	

Table 6.5: Success Factors Identified in the Literature.

CONDITION	PROCESS
Trust	Facilitation
OHT Relationship	Evaluation
Alignment	Working Methods
Culture	Goals
Participation	Partnering (Relationship Development)
Commitment	
Challenging	

Table 6.6: Success Factors Identified in the Data.

Each success factor from Table 6.6 will be reviewed in detail and contrasted with the literature findings. The analysis comprises the tabulation and dissection of the coded data, followed by interpretation and synthesis. The conditions will be considered first, followed by the processes.

CONDITIONS

Organizational culture is a system of shared meaning, the key characteristics are the values which drive the way in which the organization operates¹. This shapes how people behave and how things are done. In terms of the identified success factors of alliances, the stated conditions in Table 6.6 can all be considered components of the organizational culture as they are intellectual understandings which subsequently fashion behaviour. The processes themselves are not considered part of the culture, but as the culture defines how things are done it influences the processes selected and the specific way in which the process is implemented.

¹ Stephen P. Robbins, *Essentials of Organizational Behaviour* 5th ed. (New Jersey: Prentice Hall, 1997).

Trust

Trust is the reliance on the character or behaviour of a person or thing, and implies a confident expectation of a certain outcome. The literature clearly highlights the importance of trust in alliance relationships (see chapter 3). The respondents also emphasized trust as a key factor. However in reviewing the statements around trust it became clear that unconditional trust is not required. For instance, one respondent stated: “And does [owner] trust your judgement? Yeah I would say probably 90%.”(2:80), clearly linking trust with competence (judgement) and boundaries (90%). The data’s main features are competence and price, and very closely affiliated to competence are the components of boundaries and monitoring. Competence is the belief that the contractor has the capability to do the work: “An alliance is a partnership, where functions are not repeated. There isn’t duplication of function, there isn’t duplication of bodies. An alliance is a trusting relationship, where a client group, looks to that contractor to perform those functions without having to do any sort of check up on them, any looking over the shoulder, any duplication between them.”(6:30). The boundary is the limit within which the competence applies. In one case the boundaries of where the contractor’s expertise is trusted is clearly defined: “they have spelled out when they want us to talk to their specialists so for certain deviations we have to get the concurrence of certain specialists”(2:81). Lack of trust, or mistrust, is evident when close monitoring or checking of work is performed: “Yeah. You need, I hate to say it, you need a baby-sitter, to ensure you get what you need”(9:52). For instance demonstrating the link between trust and knowledge, one respondent stated: “Trust is usually because you know what people do, if you don’t know what they do then how can you trust them.”(2:26). This invariably leads to duplication of the work, consequently increases cost, and also may increase mistrust. One of the antonyms of trust is suspicion, and there is strong evidence of the existence of this within the operations and field staff, and also in regard to pricing

issues: "I guess that was probably the biggest issue - the lack of trust, or fear that we were going to get taken."(7:11).

The literature review in chapter 3 presented a model of three components of trust²: contractual, competence and goodwill. This study found no evidence of goodwill trust, indicating the alliances investigated are within the Arms Length Contractual Relation (ACR) portion of Sako's model. There is no evidence to indicate the existence of contractual trust, which is defined as the mutual expectation of upholding agreements³. The context here seems to be that "trust implies depth and assurance of feeling that is often based on inconclusive evidence"⁴, therefore contractual trust would not be accounted for due to its enforceable nature. In other words, as agreements can be imposed by force reliance is placed in the legal system and not in the partner, thus the necessity for trust is supplanted by contract usage.

The research suggests a model of inter-partner trust for existing alliances in Alberta's oil and gas industry would comprise two components.

cost trust:	expectation of a fair and equitable exchange of value.
competence trust	confidence in a party's capability to perform a task or acceptance of a parties expertise.

Elaborating this model of inter-partner trust required further examination of the limits which bound it. The refined model is presented in Figure 6.3. The contract serves to set the lower boundary of trust, below that boundary, trust is not necessary because performance and pricing agreements are defined and enforceable. However this boundary

² Mari Sako, *Prices, Quality and Trust Inter-Firm Relations in Britain and Japan*, (Cambridge University Press 1992).

³ Ibid.

⁴ *The American Heritage Dictionary of the English Language*, Third Edition copyright (c) 1992 by Houghton Mifflin Company

also serves to limit opportunities as the contract will ensure delivery of precisely what is specified and no more. The section below on Challenging provides further detailed analysis.

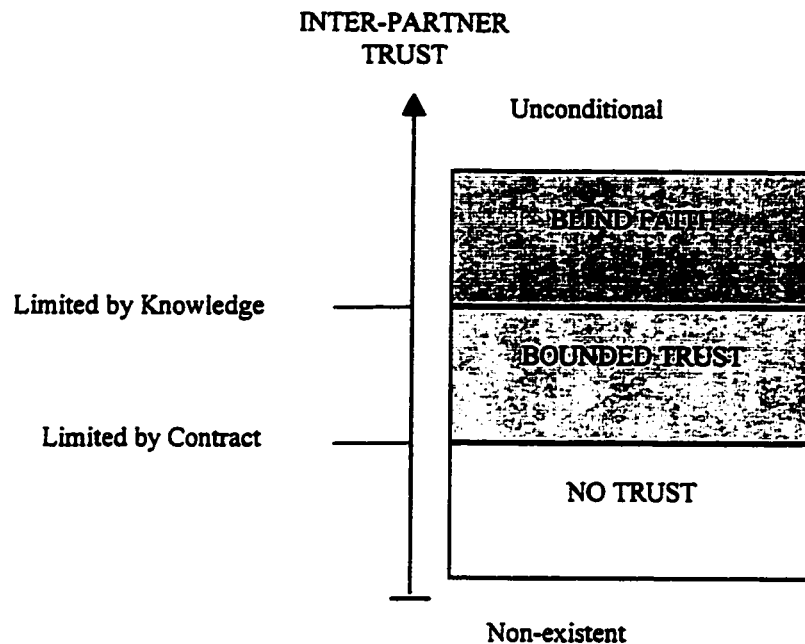


Figure 6.3: Bounded Trust.

It is obvious that trust is necessary to secure an open honest trusting relationship, but it is not necessary to trust an alliance partner unconditionally. It is only necessary to trust the partner completely within the sphere of the partner's scope of work and influence on results. The boundaries will be set by knowledge of the partner's behaviour, and need to reflect the partner's expertise. If trust is placed in the partner at a level higher than existing knowledge warrants, then this is in fact blind faith not trust. Alliances seem to determine this boundary over time, through the experience of working together. This limits the early opportunities in a supplier alliance, and is certainly not desirable for a project alliance which has limited duration.

Open Honest Trusting Relationship

This condition refers to the expression 'open, honest, trusting (OHT) relationship' and includes 'trusting relationship', 'open relationship', 'honest relationship', and all relationship focused items incorporating these elements. The expression is commonly used by the respondents whilst discussing the health of the alliance. These quotes pertain to the state of the relationship between the parties and most commonly ascribe to interfacing and experience. The citations indicate that a good working relationship is synonymous with an open, honest, trusting one, and that it is developed by working with people over a period of time: "as we start having successful projects, the open, honest, trusting relationship develops"(6:3), "it only comes from having projects where you have a chance to interface with people. And we've spent a lot of work in some of the [owner] business units and you can tell, one on one there's an open honest trusting relationship."(2:24).

Again the underlying theme appears to concern competence trust: "And as we work with these people, executing projects, the relationships develop, and as we get to know each other, and the working capabilities,"(6:3).

Analysis of quotations on Interactions confirms that it is the continual one on one interfacing at the working level which builds relationships. Co-location appears to enhance and accelerate the development of the relationship, but formal teambuilding appears not to make any significant contribution. It seems to be the actual working together, the informal teambuilding that occurs during the course of performing the work, that builds the relationship not simulated situations: "Anyway that whole subject, open, honest, trusting in my mind boils down to one on one relationships. So to say that [owner] trusts [contractor], I'd say no it's the people we deal with that trust us 'cos we

earned the trust in one on one meetings and thrashing out problems and that sort of thing.”(2:28).

Although the data refers to open honest trusting relationships there is virtually no distinct reference to honesty. The components of the relationship are explicitly stated as trust and openness, and many links are made between them. This is interpreted as indicating honesty is implicit in the relationship, but both trust and openness are interdependent and specifically required: “The biggest thing of course for such an alliance in my mind is the element of trust, to have an open working relationship.”(1:2).

Commitment

Commitment is the state of being pledged to a particular action, and as such it is possible to be committed to a course of action without (fully) agreeing with it. However the data indicates that willing participants are an essential property of commitment: “the real driver of the alliance is the people that work on the alliance and to make this thing happen they have to want to work on an alliance.”(4:29), “the critical part is having key people enrolled”(7:77). Individuals need to be internally, that is personally, committed.

Committed individuals will likely affect the other cultural conditions as their behaviour will be primarily co-operative: “if you get willing parties in an arrangement, they tend to work at the problems rather than escalate the issues deliberately trying to cause conflict”(4:117). These examples illustrate how the data is interpreted as ‘people commit; not companies’.

The participants in Alliance #3 exhibit a high degree of drive and enthusiasm which was interpreted as indicating strong personal commitment. This alliance involved a lot of interfacing together with the use of goals as a means of obtaining individual buy-in.

Goals may be necessary to ensure commitment in order that individuals know and believe in exactly what they are committing to: “The power is in the people doing everything they can to achieve a goal that they firmly believe in. That’s the key.”(7:78). This indicates there is a need for strong internal leadership, but not necessarily at the top management level.

Leadership is identified as another critical factor. Strong leadership is required when the alliance concept is being promoted and commitment is sought. In the literature, top management support is often cited as a critical success factor. In contrast two of the successful alliances here (#3 and #4) were centrally driven from the alliance manager and engineering manager level. Alliance #2 was attempting to obtain the working level commitment from within the client organization through promotion by the contractor without strong management support. This is not a successful strategy as resistance to the alliance is particularly strong in this case “These people, rather than recognizing the value that the alliance is adding to [owner], have us as a threat to their long term positions and so have reacted very negatively to the alliance.”(6:23).

Participation

Participation is the inclusion of individuals or groups in a particular process. The analyzed data shows that within alliances participation is as much an inter-divisional problem as it is an inter-company one. In this specific environment, capital projects in the oil and gas industry, the inclusion of field staff, particularly operations, has been an issue. This is being addressed by including operations people as part of the team in some of the alliances, but is dependent on the attitude of the individuals assigned: “...we worked very hard with our operating staff, they’re the ones that get the most surprises it seems. And a way around that is we try to get them to participate as a member of our project team... That sometimes works well depending on the operating individual we get,...and sometimes it doesn't work well...”(1:53).

As well as who is included, participation also includes the level of involvement they have. All processes inherently involve decision making, and may use different levels of participation. Based on a model for managing decisions in project teams⁵, and frequently observed by the researcher, four distinct decision styles are prevalent.

- autonomous: individual, independent decisions
- consultative: information is sought but not necessarily incorporated
- agreement: collective acceptance of individual decisions
- consensual: mutual decisions are made

Extrapolating this to include who participates as well as in what manner, the degree of collaboration is can be determined. As the included participants increase from intra-divisional through inter-divisional to inter-company the degree of collaboration required is higher. The degree of collaboration possible is also limited by the type of participative decision making used as shown above. Thus as the level of involvement increases from autonomous through to consensual the degree of collaboration also increases.

A consensual decision is not necessarily one that everyone considers optimal but one that everyone can willingly commit to.

Arguably participation in decision making is situational, depending on the decision being made, and is ultimately owner driven as they fund the projects: “if decisions cannot be made through [consensus] process, then the business teams will have the ultimate say on a project, because it is basically their money”(5:61). Not only may this introduce power and conflict issues, but it may also lead to sub-optimal solutions if the most

⁵ James P. Lewis, *The Project Managers Desk Reference* (Irwin 1995), citing N. R. Maier and L. R. Hoffman, “Acceptance and Quality of Solutions as Related to Leader’s Attitude Toward Disagreement in Group Problem Solving,” *Journal of Applied Behavioral Science* 1965, pp. 646-669.

knowledgeable person or group does not have an active role in the process. If a consensual decision cannot be reached in a timely manner it is probably an indication of a relationship problem such as a lack of competence trust.

A problem faced by alliance # 2 is the divergence of acceptance by the business teams and how that affects the way of working: "Some of the business teams are very dictatorial in approach, they are very definite about what they want and how they want it, whereas other business teams are willing to sit down and plan an execution strategy and reach mutual decisions"(6:109).

It appears that trust and participation are closely linked, and the level parties are allowed to participate at is a reflection of the degree of trust present. Thus the existence of an open, honest, trusting relationship is a pre-requisite for effective collaboration.

Challenging

In this study Challenging is defined as confronting or non-acceptance of traditional, standard, or usual methods of working. It includes suggesting new or different approaches, and the identification of opportunities. It applies to all levels: individual, team or company.

The analysis of Challenging shows Openness is the most important criterion, and includes two components: communication openness and intellectual openness. Communication openness refers to the candid disclosure of information and ideas. Intellectual openness refers to an unprejudiced mind which is receptive to new ideas. In the case of Challenging, which entails suggesting new or different approaches, both communication and intellectual openness are necessary. Partner's must communicate ideas openly, and receive ideas with an open mind.

This a marked change from the traditional arrangement, where the power relationship, as ordained by the contract, ensures that the contractor will provide exactly what the owner specifies: “if we went with the old method bid, evaluate, award, get ourselves a contractor, that contractor’s primary goal is to please his clients, so consequently you get whatever the client wants, you may not put forward cost saving opportunities or whatever.”(1:79). Changing this requires the owner to be willing to receive the contractor’s suggestions: “And they have to want you to open up, and they have to be open to challenging and things like that.”(2:17). The importance of long term relationship is again noted in this process: “and because of five years of relationship with people, you’ll begin to open up to those people.”(2:17).

In cases where the owner is not open to challenging, it is likely to also be related to a competence trust issue, where the owner does not recognize the contractor’s expertise, and consequently will not accept alternative proposals.

An issue which affects challenging in terms of the contractor willingness to propose ideas is that of risk, and correspondingly, liability. Traditionally contractors are much more risk averse than owner organizations, to encourage creativity owners must not penalize in the event of failure: “You can’t punish somebody for suggesting an idea for cost savings that blows up in your face, otherwise people won’t take those stances.”(3:66). It must be understood that doing things differently is not a sanction to cut corners. Being creative does not absolve a contractor from following a proper engineering design process in order to maintain technical integrity and comply with professional requirements.

Alignment

Alignment is defined as “bring into agreement with”⁶. Alignment cannot exist in isolation. It is a condition in terms of it being a required state of being, but similarly to culture it is a higher level condition as it requires constituent elements. Alignment is always understood in reference to the elements in the relationship.

Alignment is not a factor identified by the literature review, but appears in the data as contributing to success. The alignment of components may be implicitly stated as in these examples: “delivering projects based on the needs of the business”(5:3), and “success is the whole team cares about the same things”(2:32). Conversely alignment can also be interpreted as all interrelated conditions and processes must be congruent, together with the parties involved. For example, the effectiveness of an open honest trusting relationship will be commensurate with degree of trust and openness exhibited, which in turn are interdependent with each other. The researcher’s explication is that because of the high degree of interrelation amongst the various factors, alignment is particularly critical. The aligning of conditions, processes and parties is necessary to achieve success.

SUMMARY OF CONDITIONS

The preceding section presented the conditions required to achieve alliance success. At the higher level Culture comprises these conditions, and both intuitively and empirically these conditions are interrelated. Trust is the foundation of the Open, Honest, Trusting Relationship, which in turn is essential for a Challenging mindset. Commitment is the driver which motivates the participants, and Participation is the vehicle to overcome resistance.

The conditions are very similar to the anthropocentric characteristics identified in the literature review. However the literature considers these factors on an organizational level, whereas the data shows that they need to be addressed on a individual and divisional basis. Cross functional or inter-departmental teams need to be managed as alliances, and the cultural conditions need to be built on the individual level.

Trust is related to knowledge and experience, and comes from personal interdependencies created through the process of working together. Trust is fundamental to an effective working relationship, that is, one which is open and honest. But it is important to recognize that the trust need only concern the extent of the work being performed and is not required to be unconditional. Rapid high performance requires that trust development is accelerated to reach the appropriate boundaries through careful selection of alliance partner and intense, early one on one working. This high level of interfacing is likely to be best achieved by co-locating the team members. Alliance #3 appears to be a good example of accelerated relationship development, which may also be in part due to using stretch goals to shape culture. The interpretation of this is that the alliance leaders got the entire team (participation) to buy in (commitment) to success by working differently (challenging).

Several factors identified in the literature review do not appear in the data, including communication, information sharing, conflict resolution and interpersonal ties. This can be explained in a number of ways.

Although communication was often cited in the literature as being crucial to success it does not appear with any direct link to alliance success in the data. This is likely not because it is unimportant, but rather that it is inherent within many of the other

⁶ "Alignment" *The Concise Oxford English Dictionary Ninth Edition*.

conditions. In particular interfacing, which is essentially communication, is the foundation of trust development.

Information sharing is related to openness, which is part of the open, honest, trusting relationship.

Conflict resolution is thought not to be an issue because if the cultural conditions are right then any problems are innately taken care of. That is, if the parties' operate using collaborative behaviours as defined by the appropriate cultural conditions then conflict will be functional and the parties will work together to develop a solution. Conversely, an adversarial approach promotes dysfunctional conflict, and consequently formal resolution procedures are required.

Interpersonal ties in terms of social relationships do not factor in the data, but again continual interfacing on a working basis is crucial. Personal relationships may develop due to this but they are not required.

PROPOSED MODEL OF CULTURAL CONDITIONS

Culture comprises the above conditions and intuitively and empirically these conditions are interrelated. Trust is the foundation of the Open, Honest, Trusting Relationship, which in turn is essential for a Challenging mindset. Commitment is the driver which motivates the participants, and Participation is the vehicle to overcome resistance. Figure 6.4 below shows these relationships graphically.

Culture drives the initial primary conditions of Trust and Openness, which form the basis of the relationship. The Open, Honest, Trusting Relationship shapes the operating conditions of Participation and Challenging, which in turn feedback and modify the

Culture. Ultimately the conditions will always align with the Culture, and will react to a change in Culture.

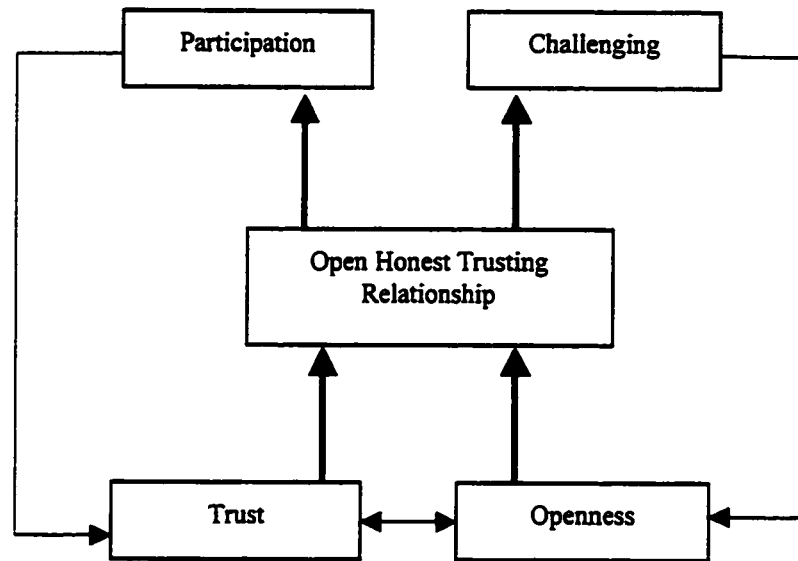


Figure 6.4: Alignment of Cultural Conditions.

PROCESSES

As suggested earlier, success is achieved through determinants which act as either conditions or processes. The conditions were presented in the above sections, and now the processes will be considered.

As stated previously, performance and value are constituent to satisfaction and accordingly the processes to effectuate success place heavy emphasis on goals and evaluation.

Goals

Goals are used in these alliances for either individual projects or on an alliance basis, and each usage has distinct purposes.

Project Goals

The analysis of Project Goals shows that typical project objectives covering cost, safety, schedule and quality aspects are adopted.

The example: “as a project arises we set very clear project objectives. We set up KPIs [Key Performance Indicators] for the cost performance, schedule performance, quality, then we can measure how each project does”(6:44), demonstrates how setting project objectives generally follows the process of:

- Determine Project Mission
- Define Key Performance Indicators, KPIs (or Critical Success Factors, CSFs)
- Develop Appropriate Metrics

Note that respondents often incorrectly interchange KPIs and CSFs.

These parameters define the performance of the project, not the completed facility but the project implementation.

Another feature regarding goals is Alignment, which is concerned with the agreement of distinct but related objectives. In this study Alignment has many facets, as illustrated below, but always incorporates the key theme of shared or common purpose.

- Extension of the project life cycle into the operations and productions phase and the use of common success measures:

“We need to get, what is our common vision and goal. It’s going to incorporate all the operations and production requirements and go beyond project start up. We kind of said that we, in a project sense need to also be tied to the fact that this plant needs to operate successfully, well after final commissioning and start up.”(3:91).

- Coherence between vision goals and metrics:

“we’ve developed a mission statement, and it’s basically around ...providing cost effective, timely, quality, and safe projects to the business teams. And then we have in our measurement system, or our KPIs, we have metrics that tie back to that, to that vision statement.”(5:33).

- Accord between individuals:

“I think there is a bit of an alignment between my package of behaviours and [counterparts]. We value many of the same things and we think similarly, trying to achieve similar goals on a project. That helps us build that relationship.”(8:62).

Alliance Goals

The data shows that the use of goals at the alliance level is inconsistent across the cases. Note that Alliance #4 is unique as the project goals are the alliance goals. The alliances perceived as very successful by their participants (#1 and #3) have explicitly defined

goals for alliance performance. Alliance #2, which is not perceived as successful by its participants, has no specific goals. It does have generic non quantifiable objectives, but this appears insufficient.

Many objectives regarding alliance performance centre around continuous improvement (CI) and reducing the cost of delivering projects over time. There is a concern over the lack of specified targets as consequently performance cannot be gauged: “The general objectives are that we improve performance by reducing total capital cost, reduce life cycle time we develop the relationship. All of these things are exactly the kind of objectives we need, but they’re not quantified and they’re not measured. So we have no way of ascertaining if we are achieving.”(6:39).

Alignment is also a topic within alliance goals.

- Connection between corporate and alliance goals:

“we have certain corporate goals on safety as well as on cost, and those goals are have to come down to the alliance level.”(1:77).

- Alignment of alliance participants:

“By going into an alliance we’re not giving up control. You’re aligning people so everyone has the same goals rather than setting yourself up for a game of where they’ve got one set of goals and you’ve got a different set of goals and it’s only by fluke that they ever meet”(7:10).

Evaluation

The analysis showed that evaluation is generally conducted on both a project and an alliance basis.

Project Evaluation

Project evaluation is principally involved in assuring the desired project performance. In accordance with usual project management practices two types of project evaluation are evident in these alliances.

- Monitoring: conducting regular progress measurements.
- Reviews: assessments carried out at project completion.

The data also shows that almost all the evaluations are based on results. The problem is that as this is an after-the-fact assessment, it is too late to change the outcome. Even with frequent monitoring, changes can only be effected for the subsequent period. A better method would be to monitor the process so that changes can affect the immediate results. One alliance implements process monitoring: “as opposed to the results we look at what I call the lead project indicators, some of those things are like: ‘do we know the scope?; do we have orderly development?; do all the players on the team know what the expectations are?; do we have post job assessments?; do we do certain processes in the job?’. The results are the results but we measure the results, but more importantly we try to tabulate the processes.”(2:8).

Alliance Evaluation

Alliance evaluation is primarily concerned with demonstrating success through the cost competitive delivery of projects. As the alliances, with the exception of #4, are ongoing, alliance performance is monitored on an ongoing basis. The strong dissatisfaction expressed with the current methods seems due to a lack of goals and performance targets with which to measure against, and the complication of benchmarking across projects. Inherent in the project environment, is the difficulty of comparing results due to the unique nature of each project. One means to surmount this would be to measure process and by developing standard process indicators comparisons can be made.

Value appears to focus on the cost effective and competitive method of delivering projects, whereas Performance relates to the achievement of project goals. Basically, satisfaction and consequently success, refers to project performance and alliance value. The evaluation system needs to address this in terms of aligning stakeholders, goals, metrics and monitoring. Lead indicators need to be developed for project and alliance process and standardization across business teams is required.

Facilitation

The primary approach to facilitate a successful alliance involves assigning key personnel to enabling roles. Enabling roles are those which promote the working methods adopted (see below), and the individuals assigned include:

- Strong performers from the contractors:

“When the alliance was first set up, I believe [contractor] wanted to ensure, do everything they could to make the alliance a success as it was a

big piece of their business at the time, so they'd chosen to identify key the personnel in their organization, which were strong performers to help make the alliance a success."(1:40).

- Experienced project co-ordinators from the owner:

"What [owner] have done, they made a commitment to have experienced project coordinators from [owner] come into the alliance offices, much like myself and another individual to help make every project as successful as possible by giving guidelines, guidance, facilitate, coordinating of communication."(1:41)

- Operations and Field Staff integrated with design:

"I also had two operations people in there for 6 or 8 weeks, working side by side with the [contractor] design engineers designing the facility."(8:23)

Working Methods

This is the actual process of performing the work, and includes:

- Doing things differently, fit for purpose approach by challenging the old designs and methods:

"I mean a lot of the success is so highly dependent on the people on the floor, the engineering teams, the construction guys, doing things differently. If you always just do things the way you've always done them, how can you expect a tremendously different result."(3:40).

- Standardized Best practices, with the authority and responsibility held by the partner with the appropriate expertise:

“We use our same basic company procedures in this office as [Home office], so as for as project execution is concerned it’s the same.”(4:31)

- Integrated team, multi-discipline participation to implement programs such as value engineering, constructability, operability, and reliability:

“Yes, we’ve established a constructability process that ensures that construction has access to all the designs as they come up. No matter how many procedures there are it really depends on people working together.”(3:79)

Partnering

Partnering was referred to by a couple of respondents whilst discussing success. It appears to be the process of relationship development, and relies heavily on trust communication and teamwork: “It’s all about teamwork and communication, and partnering, and developing trust, and if there’s not a mind set around that, and individually you don’t promote that, then it will fail”(5:14). Although this seems to belong within the cultural conditions, if it is interpreted as a process of partnering, then the need to actively work at the relationship is established. The previous section, particularly regarding the development of open, honest, trusting relationships should be referred to for further information.

SUMMARY OF PROCESSES

The preceding section presented the processes necessary to achieve alliance success. The conditions are very similar to the mechanistic characteristics identified in the literature review, however several processes identified in the literature review do not appear in the data. These processes partner selection, relatively incomplete contract, and risk reward sharing.

Partner selection was not cited in the research, this is probably due to the participants all focusing on the implementation stage and considering the best way of executing alliances to ensure success. Obviously Partner selection is a crucial factor in determining an alliance's outcome.

The use of a contract is likely also not seen as contributing to success for similar reasons. Although some participants did cite the contract it seemed to be considered something generated by lawyers and contract administrators for their own purposes, which should be ignored in the best interests of the alliance. This is probably a reflection of the respondents used and a more diverse set of respondents, especially those in a contractual or commercial administration role, will likely place higher emphasis on the contractual arrangements.

Risk reward sharing was currently not implemented in any of the alliances studied. There was a definite expectation that a gainsharing scheme would be introduced by alliance #3, which seems to have a considerable impact in aligning the parties. Also, that the parties all expected such a scheme to be introduced and were prepared to continue work in the meantime demonstrates the high level of trust in that alliance.

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PROPOSED MODEL OF PROCESS

The data highlighted the importance of demonstrating success, the need for measurable goals and a desire for benchmarking. This was interpreted as requiring the evaluation system to align stakeholders, goals, metrics and monitoring. Figure 6.5 presents the relationship amongst the process found in the data. Distinct evaluation systems of goals, metrics and monitoring exists for the alliance and at the project level. These systems need to be aligned with each other and with the stakeholders' requirements. The stakeholder requirements are predominately value based for the alliance and performance based for the projects.

Project goals must be aligned with project metrics and the project monitoring process. Alliance goals must be aligned with alliance metrics and the alliance monitoring process. Project performance is determined on a single project basis. Alliance value is determined on a multiple project basis and included benchmarking for continuous Improvement evaluation. Stakeholders need to be satisfied on both alliance and project basis, project goals must be aligned with alliance goals to ensure this.

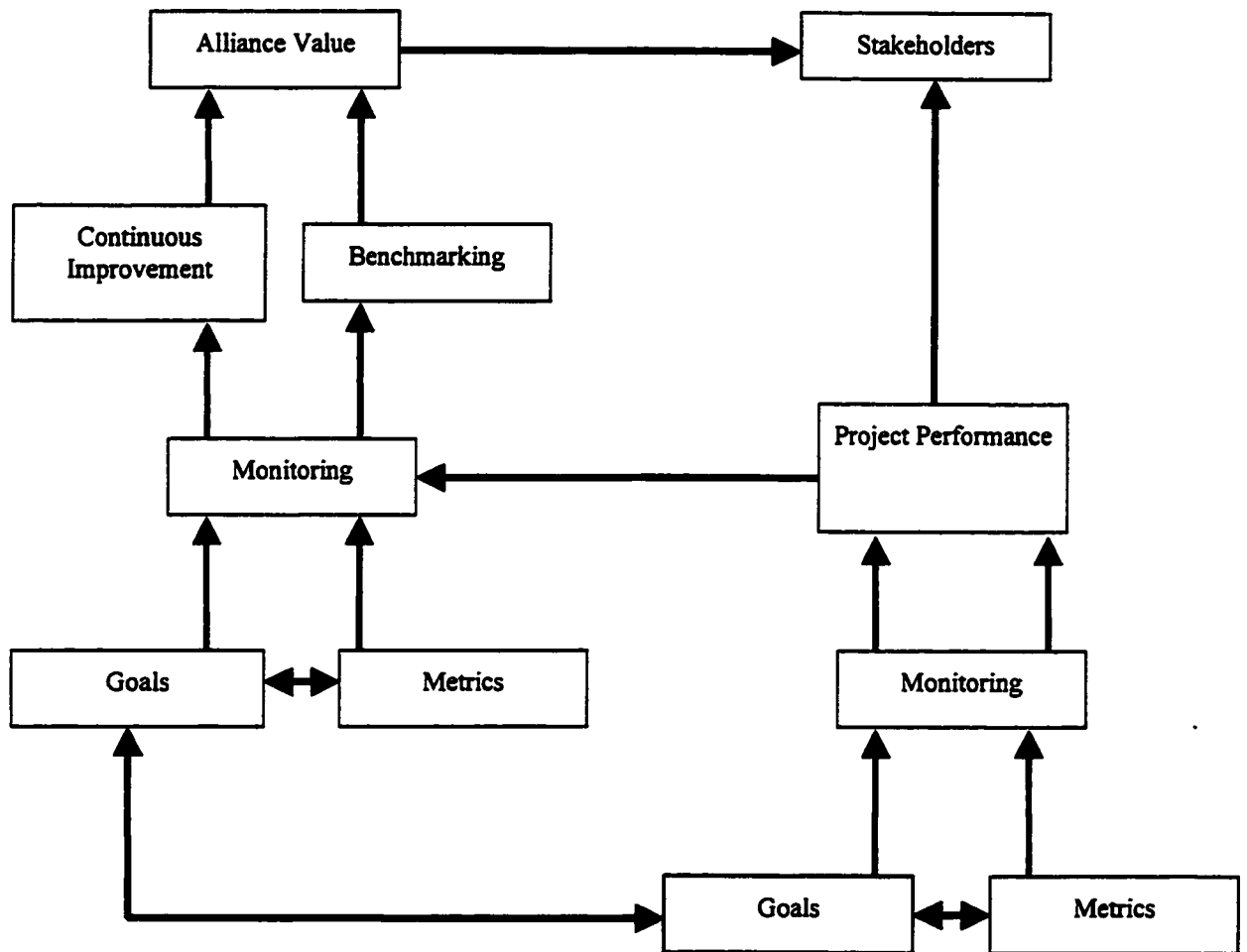


Figure 6.5: Alignment of Evaluation Process.

CONCLUSION

Success is shown as determined by both the cultural conditions and the processes performed. These conditions and processes are all interrelated as shown in Figure 6.6. The Culture of an organization shapes its fundamental behavioral traits. These traits form the basis of the partner relationship, and drive the interaction and managerial styles used, and consequently the way of operating. The level of functioning at one factor can limit, or enhance, the level of functioning at another. In the initial stages of alliance formation the cultural conditions will dominate. During normal operation the processes may appear dominant, but they continue to be influenced by the conditions. This co-dependence indicates the importance of actively maintaining the relationship through a partnering process.

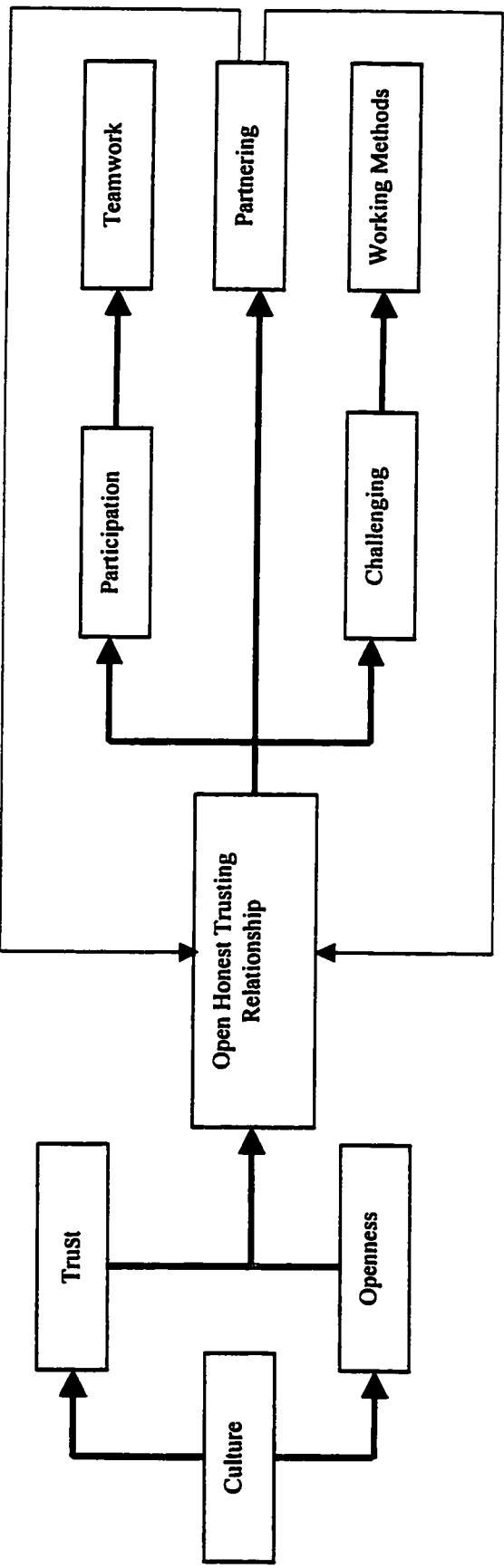


Figure 6.6: Condition and Process Alignment.

WHO INFLUENCES SUCCESS?

As relates to success, the data shows that stakeholders involved in influencing success, the influencers, are emphatically stated as being the 'doers', the working level people.

Not surprisingly there are some within group biases, such as an operations person stating the major influence, "we would, the line people would be the people"(9:21). Or an alliance co-manager saying it was "the alliance leader"(4:28). But the working level people are clearly considered the primary influence on success.

Notwithstanding the above comment, all the other quotations, do not differentiate between organizations or functions. This is very much in contrast with the perceptions of who the stakeholders are, see Figure 6.7, which are all identified by function and not by level. The data identifies the primary stakeholders as being the financial groups which fund the projects and operational groups which use the projects: "Project development and operations. Our two clients, our two stakeholders."(1:80), "The two main types of customers will be the operations guys and the business guys over at [Owner] centre."(4:17). In the case of alliance #2, these functions are both carried out within single business teams, but for the other supplier alliances these functions are separate divisions within the owner organization.

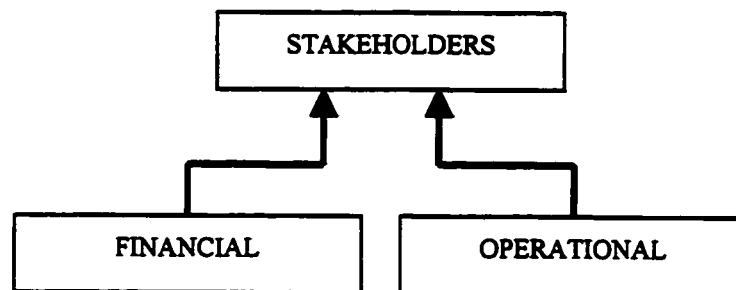


Figure 6.7: Primary Client Stakeholders.

The data suggested a large resistance from the field staff, in particular the operations department. These alliances have all involved or coincided with change, from a new way of delivering projects through to extensive organizational change. The data indicates that the resistance is not independent of the change: "And the faults are within [owner], when they downsized they, they downsized in a - what I consider an incorrect manner, they removed a lot of their engineers and their technical people, and they kept a lot of very senior operations people who are sort of embedded in these business teams. These people, rather than recognizing the value that the alliance is adding to [owner], have us as a threat to their long term positions and so have reacted very negatively to the alliance."(6:23).

A common means of dealing with resistance to change is to involve people through participation in the process.⁷ It is too late for involvement in the preceding organizational change, however as the symptom (resistance to the alliance) is continuing, this issue still needs to be addressed. There is currently inclusion of operations personnel, but their level of involvement is not known. The alliances need not only to actively include field staff in the project process, but must also involve them at the highest level possible.

SUMMARY OF ALLIANCE SUCCESS

In conclusion, the data supports a model of alliance success based on the alignment of determinants. Furthermore, the essential determinants, or critical success factors, can be classified as either conditions or processes. The conditions, shaped by the organization's culture, will drive the process and as a result affect the final outcome as shown in Figure 6.6. Consequently, during alliance operation all these elements must be aligned with the desired result for it to be realized. Figure 6.8 presents an overview model showing the connections between what is success, how success is achieved, and who influences success.

⁷ Stephen P. Robbins, *Essentials of Organizational Behaviour* 5th ed. (New Jersey: Prentice Hall, 1997).

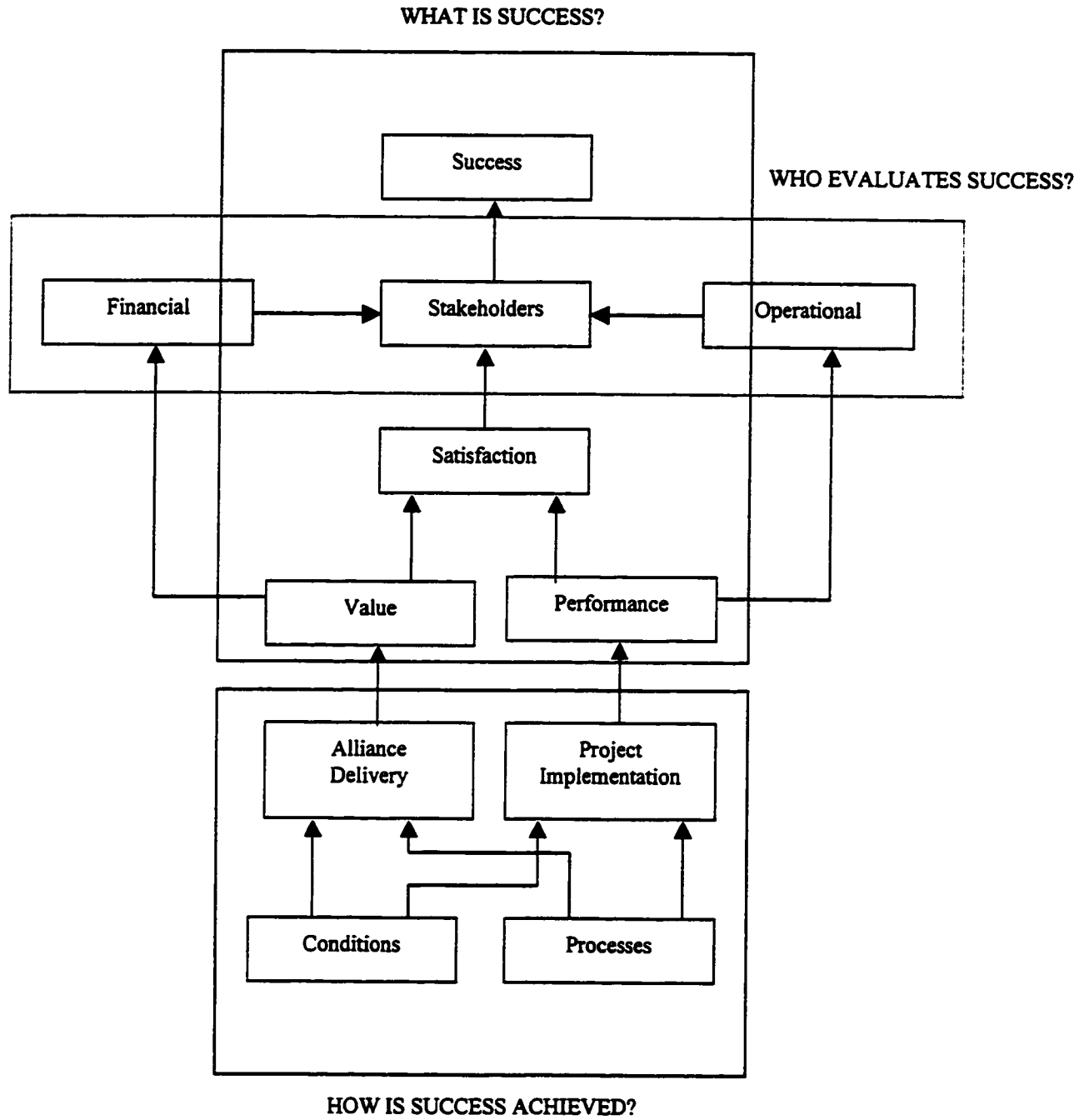


Figure 6.8: Model of Alliance Success.

The model consolidates and summarizes the previous models shown in Figures 6.1, 6.4, 6.5, 6.6 and 6.7. The model shows the three important questions as three distinct sections:

1. What is success?
2. Who evaluates success?
3. How is success achieved?

The components of these sections need to be aligned with each other as previously described, and with the other sections as shown. The conditions and the process determine the project implementation and the alliance delivery, which satisfy the success requirements of the stakeholders. The operations group are primarily concerned with project performance. The financial group are primarily concerned with alliance value. Both these groups need to remain satisfied for the alliance to be considered successful.

CHAPTER 7: CONCLUSION

This chapter summarizes the research findings by answering the research questions and addressing the original problem statement. The limitations of the study are discussed, together with the suitability of the research methodology. The theoretical and practical implications of the study are presented, and suggestions for further research are provided.

The fundamental research problem involves the identification of the critical success factors necessary to both create and maintain a successful alliance. This was addressed through four primary research questions, each of which is now answered in turn.

WHAT IS AN ALLIANCE?

The primary features of a traditional contractual relationship compared to the alliance arrangements observed in this study is listed in Table 7.1. The essence of an alliance is the existence of an element of interdependence beyond that found in the traditional arrangement. Success of the partners is inter-linked, and motivates relationship development and collaborative working. A supplier alliance involves a time interdependency due to its ongoing nature. A project alliance includes a cost interdependency due to its linked profit. The traditional arrangement has no special interdependence and consequently no such motivating factor exists.

	Traditional Arrangement	Supplier Alliance	Project Alliance
Contractor Selection Process	Minimal	Extensive	Extensive
Primary Selection Criterion	Price	Various But Never Price	Various But Never Price
Contract Duration	Fixed	Ongoing	Fixed
Financial Arrangement	Fixed Profit or Lump Sum	Usually Fixed Profit	Variable Profit (Risk Reward)

Table 7.1: Features of Common Contractual Relationships.

WHAT IS SUCCESS?

The definition of alliance success is essentially stakeholder satisfaction. Satisfaction is meeting the expectations of stakeholders at both an individual project level and an overall alliance level. Satisfaction comprises both Performance and Value, where Performance is meeting the project parameters, and Value is concerned with the longer term cost competitiveness of alliances as a means of delivering projects. Success requires alignment of the Satisfaction, Performance and Value attributes.

HOW IS SUCCESS ACHIEVED?

The study identified the critical success factors (CSFs) for alliances as either conditions or processes. A condition is a state of being and a process is an action. These CSFs are presented in Table 7.2.

CONDITION	PROCESS
Trust	Facilitation
OHT Relationship	Evaluation
Alignment	Working Methods
Culture	Clear and Shared Goals
Participation	Partnering (Relationship Development)
Commitment	
Challenging	

Table 7.2: Critical Success Factors for Alliances.

A model showing the alignment of these factors, Figure 6.6 was developed. The conditions drive the processes, and in turn are influenced by the processes. The processes are oriented toward achieving Performance and demonstrating Value.

WHO INFLUENCES SUCCESS?

The main stakeholder groups in an alliance are the evaluators and the influencers. The primary evaluators are the users and the financiers of the project or programme, whom the alliance needs to satisfy on the basis of operational and economic criteria respectively. The users and financiers may or may not be the same group depending on the particular organizational structure. The influencers are the working level people, including the alliance leaders, as they have the most ability to ensure a successful outcome. Obtaining the willing commitment and alignment of all of these individuals is essential.

The complete model is presented in Figure 6.8. This figure consolidates the answers to the specific research questions and presents an overall profile of alliance success.

LIMITATIONS OF THE STUDY

This is an exploratory study and as such the model presented is preliminary. Several factors may have limiting effects on the research conclusions. The generalizability is limited by the population used. This applies both in terms of specific industry, Oil and Gas, and the geographical location, Alberta, Canada. On the basis that the Oil and Gas industry is representative of the capital project environment, then the findings may be extendable. The respondents used may also limit the validity of the model. The number of interviewees is small and they are all involved with the alliances investigated on a day to day basis. Conducting further research with stakeholders from a less detailed involvement with the operation of the alliance may extend or modify the model.

The overall research methodology appears to work very well for project management research for the following reasons:

- The use of qualitative interviews allowed a large amount of data to be collected.
- The data is very deep and detailed, allowing the situational context to be understood and exhibiting the inter-connectivity of the concepts.
- The stakeholder analysis type sampling gives a diverse perspective of alliance success and allows the larger picture to be considered.

IMPLICATION OF MODEL

THEORETICAL IMPLICATIONS

This study has contributed to the knowledge by proposing a model of alliance success (Figure 6.8) based on a qualitative study of diverse stakeholders. The model comprises

the identified Critical Success Factors (CSFs) for alliance success, operationalizes these CSFs and shows how their alignment produces improved results.

In detail, the research:

- Discovered CSFs not previously recognized in the literature;
- Found CSFs established in the literature which are not supported by the data;
- Bifurcates the CSFs into conditions and processes;
- Extended the understanding of how individual CSFs function;
- Shows the inter-connectivity between CSFs;
- Developed a model for the CSF of inter-partner trust;
- Aligns the definition of success with the stakeholders' perspectives and the required CSFs.

PRACTICAL IMPLICATIONS

The model of alliance success (Figure 6.8) allows us to identify the needs of the stakeholder groups, see how they connect with the definition of success, and perceive the means to achieve that success. All of which have practical implications, particularly with regard to their alignment. All the parts of the model need to be compatible to ensure alliance success. In addition, a complementary organizational structure must be in place to ensure the influencing stakeholders are included in an appropriate manner.

The investigation and interpretation of the alliance cases synthesized the proposed model for alliance success. Some aspects of the model are current industry practice, however the complete model provides a new perspective for aligning alliance operation with success. In particular it identifies operational points where intervention can occur and shows the connection between the component parts.

Pragmatically the most significant findings are the critical factors for alliance success. The revelation that these factors divide into conditions and processes is particularly important. This categorization allows us to see how their alignment impacts alliance success, and the importance of the order in which they are applied.

The conditions must be in place to create a successful relationship as they initially influence the processes. The processes in turn feedback and re-shape the conditions, and the cycle repeats. During normal operation the processes may appear dominant, but they continue to be influenced by the conditions. This co-dependence indicates the importance of actively maintaining the relationship.

The following provides suggestions for implementing the model in industry.

- The model of condition and process alignment (Figure 6.7) shows how a successful alliance is created by the conditions which drive the processes. Success is essentially initiated from the fundamental culture of the organization, and as such the culture must be coherent with the desired outcome. Organizational culture should be (re)examined in this light to determine if the right signals are being conveyed. This applies both to the signals from the partners to the alliance and within their internal organizations.
- The Open Honest Trusting Relationship is central to success, and accelerated development of this will expedite a successful outcome. The relationship is primarily built through one on one working relationships and a means of intensifying this interfacing is suggested. This is achieved by adapting the working methods, in particular co-location of personnel, and promoting the effective participation of influencing stakeholders.

- Of practical importance is the need to continuously work at relationship development (Partnering). The maintenance of the relationship is again effected through the conditions. The organizational culture continues to drive the conditions and must respond to the success requirements of the alliance as it evolves.
- One mechanism to shape culture is the use of Stretch Targets. This facilitates obtaining the willing participation of the entire team to commitment to success by working in a challenging way.
- Another means to align the conditions and processes is the use of Risk Reward payment strategies. This works by providing a motivating influence to adopt appropriate processes and working methods, which then promote the desired conditions.
- The single most important condition identified was trust, as it induces many of the other conditions and consequently determines how effective the processes are. The model proposed for trust (Figure 6.3) comprises two particularly important features. First, the inter-partner trust is made up of a competence trust component and a cost trust component. Second, this trust is bounded by the contract at the lower level and by the knowledge of the partner at the upper level.
- For the processes to work effectively the upper limit of Trust, based on knowledge, must be commensurate with the expertise of the partner. If the limit is set lower than the expertise the processes employed will function sub-optimally. If the limit is higher than the expertise then the risk of failure will be high. As the relationship develops, there is an evolving balance between Trust and knowledge. The level of trust needs to be actively developed in order to accelerate the creation of a successful relationship.

- Knowledge of an alliance partner is gained through experience and the building of relationships. Again one on one interfacing is the best means to achieve this. Knowledge can also be gained indirectly through third parties, though one must trust that party in order to rely on their advice. The partner's competence and cost effectiveness may also be recognize through the outcomes of other projects and alliances they have been involved in. The sharing of information throughout the industry will greatly benefit the parties within the industry.

IMPLICATIONS FOR FUTURE RESEARCH

This is an area of growing importance as the number of inter-firm collaborations continues to increase. As the structure of alliances adapts to the changing business environment the proposed model should be refined to reflect any modifications. Further exploratory work on the model of bounded trust (Figure 6.3) is suggested, particularly due to its apparently crucial role.

Testing of the model should be carried out, but due to the high degree of interrelated concepts possible hypotheses will have to be limited in scope to avoid confounding affects. The practical implications could possibly be tested by conducting action research which focuses attention on conditions during alliance creation, and on processes during alliance maintenance.

Although the contractual issues were not found as significant in this study, probably limited by the function of the respondents, the legal agreement is extremely important, as it initiates the relationship between the parties. The contract document can also be a useful tool for aligning alliance partners, and communicating expectations and understandings. Further investigation of the affect of the contract on alliance relationships and success is therefore strongly recommended.

SUMMARY

The original problem statement was to identify the critical success factors necessary to both create and maintain a successful alliance. This research found that both conditions and process contribute to alliance success. The conditions are shaped by the organization's culture, and these initially drive the process. The process then impact back on the conditions in an iterative manner. The conditions and processes need to be aligned with the stakeholders who influence and evaluate success, and with the true requirements for success.

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APPENDIX A: PROPOSED RESEARCH DESIGN

CASE STUDY

As this is an exploratory study, and both primary data sources and secondary data is limited, this study will be carried out as a series of case studies. The advantages of this method is that the study should provide a good source of ideas, such as possible hypotheses and assist in the development of constructs and measurement techniques for indicators. The limitation in using this method is that there will be a restriction as to any inferences drawn.

LITERATURE SEARCH

The initial data gathering will be a thorough search of all available external secondary data sources related to the main research questions, and will include the searching of engineering and business databases (COMPENDEX, ABI /INFORM), technical and business/management journals, books, and the Internet.

As well as further educating the researcher in the subject area, the secondary data search will identify the most recent research relating to alliances and identify possible projects to be used for evaluation.

After the projects have been selected and the parties involved have agreed to participate in the study (see below), the literature search will be extended to include data specific to the projects and players. This search will include both external and internal data sources relating to all pertinent issues such as project financing, contract strategy, socio-economic, environmental, political and cultural factors.

POPULATION

The research will be conducted within the process industry, principally the oil and gas and petrochemical field, and primary data will be gathered from companies involved in construction projects in Alberta, Canada.

The potential projects and participants will be identified through either the secondary data search or using contacts provided by the NSERC/SSHRC Chair in Management of Technological Change: Project Management and the Project Management Advisory Committee (PMAC). Boundary limits of the size and complexity of the projects to be used will also be determined during the secondary data search. In order to provide a meaningful comparison The project owners will be the initial point of contact. The success of the research will depend on getting the constructive support of all the project partners, it is hoped this will be achieved by explaining the purpose of the study and its potential value to participants. Twelve projects are required for this study, four from each geographical area. If the required number of suitable projects cannot be found then the research design may require modifying.

PRIMARY DATA COLLECTION

The primary data will take the form of structured in-depth interviews. A questionnaire will be used, comprising of both open and closed questions. Where feasible direct measures of variables such as time and costs will be made and verified if possible. If specific questions require a subjective response, this data will use instruments such as the Likert scale. The observations of the interviewer will also be recorded in a structured fashion and the dialogue will be tape recorded.

Whenever possible the data will be collected in a manner so as to allow for comparisons and statistical analysis. The data collection instrument will be designed during the literature search, and will include qualitative and quantitative measurements of the same subject matter and a coding scheme for responses.

All data collection instruments will be pilot tested, and redesigned if necessary, before being utilised.

Respondents will be from all the participating partners in each project. The precise number required, together with the managerial/responsibility level required of them will be determined during the literature search.

DATA ANALYSIS

Qualitative data will be examined for trends and commonalities, and quantitative data will be tested using exploratory data analysis and multivariate analysis where appropriate.

Particular attention will be paid to defining constructs and identifying possible hypotheses and causal effects.

APPENDIX B: ALLIANCE RELATIONSHIP SURVEY

INSTRUCTIONS

Unless otherwise directed, for each statement circle the number that indicates how much you agree or disagree with the statement using the following response categories:

1	=	Strongly Disagree
2	=	Disagree
3	=	Neither Agree nor Disagree
4	=	Agree
5	=	Strongly Agree

All questions should be answered with respect to your own perspective. Please do not present a corporate or "party line" response.

One survey should be completed with respect to the relationship with each individual partner organization in the alliance.

DEMOGRAPHIC INFORMATION - TO BE KEPT CONFIDENTIAL

Name: _____

Company: _____

Job Title: _____

Partner: _____

Date: _____

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
1. The culture of the alliance is distinct from either partner organization.	1	2	3	4	5
2. Our partner seeks our advice.	1	2	3	4	5
3. We believe the projects delivered under this alliance are superior to the projects delivered by other alliances in the industry.	1	2	3	4	5
4. In terms of achieving our strategic objectives (ensuring long term business success), we are dependent on our partner.	1	2	3	4	5
5. Any contentious issues are actively addressed by the alliance partners.	1	2	3	4	5
6. No one is punished for trying new ideas, even when they fail.	1	2	3	4	5
7. We can rely on oral agreements with our partner.	1	2	3	4	5
8. We believe the projects delivered under this alliance are superior to projects we previously executed in a traditional manner.	1	2	3	4	5
9. We share confidential/proprietary information with our partner.	1	2	3	4	5
10. We believe our partner would never take unfair advantage of us.	1	2	3	4	5
11. Our top management is committed to this relationship.	1	2	3	4	5
12. We always utilize useful suggestions provided by our partner.	1	2	3	4	5
13. We believe our partner is always honest with us.	1	2	3	4	5
14. We would like to continue in an alliance with our partner.	1	2	3	4	5

		Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
15.	On a professional basis, we regularly interact with our counterpart(s) in the partner organization.	1	2	3	4	5
16.	In this alliance we share the same objectives as our partner.	1	2	3	4	5
17.	Our commitment to this relationship is strong at all levels throughout the organization.	1	2	3	4	5
18.	We believe our partner treats us fairly.	1	2	3	4	5
19.	We are involved in the project planning process on an equal basis with our partner.	1	2	3	4	5
20.	The success of the alliance is celebrated.	1	2	3	4	5
21.	We feel as though we are a unified team.	1	2	3	4	5
22.	Our partner shares confidential/proprietary information with us.	1	2	3	4	5
23.	We encourage suggestions from our partner.	1	2	3	4	5
24.	Our partner volunteers information regarding their business to us.	1	2	3	4	5
25.	The alliance team is authorized to make decisions without referring to either partner organization.	1	2	3	4	5
26.	People are encouraged to find novel approaches to the work.	1	2	3	4	5
27.	We are willing to provide the necessary resources only if our partner also contributes.	1	2	3	4	5
28.	If we wanted to we could easily switch to another partner instead of our existing one.	1	2	3	4	5
29.	Working with this alliance is enjoyable.	1	2	3	4	5

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
30. We believe our partner's decisions will be beneficial to the alliance.	1	2	3	4	5
31. Socially, we regularly interact with our counterpart(s) in the partner organization.	1	2	3	4	5
32. We are satisfied with the execution of projects under the alliance.	1	2	3	4	5
33. We believe our partner is trustworthy.	1	2	3	4	5
34. We believe our partner is competent to carry out their part of the work.	1	2	3	4	5
35. If our partner wanted to they could easily switch to another partner instead of us.	1	2	3	4	5
36. Individual contributions to the alliance are recognized.	1	2	3	4	5
37. Our partner is open in their communication with us.	1	2	3	4	5
38. Disagreement on issues often occurs with our partner.	1	2	3	4	5
39. Social interaction regularly takes place across all levels of the partner organization.	1	2	3	4	5
40. We are willing to provide the necessary resources to ensure the alliance is successful.	1	2	3	4	5
41. We volunteer information regarding our business to our partner.	1	2	3	4	5
42. We participate in determining the objectives and goals of the alliance.	1	2	3	4	5
43. We are open in our communication with our partner.	1	2	3	4	5
44. Project teams operating within this alliance are able to work autonomously.	1	2	3	4	5
45. Communication with our partner is verifiably effective.	1	2	3	4	5
46. There are no hidden agendas in this relationship.	1	2	3	4	5
47. We are satisfied with the performance of the alliance.	1	2	3	4	5
48. Communication with our partner takes place across all levels.	1	2	3	4	5
49. We believe our partner considers us trustworthy.	1	2	3	4	5
50. We believe our partner is committed to working with us.	1	2	3	4	5

		Almost Always	Mostly	Usually	Rarely	Almost Never
51.	Communication sent to our partner from us is: (1 = Almost Always 5 = Almost Never)					
	Timely.	1	2	3	4	5
	Accurate.	1	2	3	4	5
	Adequate.	1	2	3	4	5
	Complete.	1	2	3	4	5
	Credible.	1	2	3	4	5
52.	Communication sent from our partner to us is: (1 = Almost Always 5 = Almost Never)					
	Timely.	1	2	3	4	5
	Accurate.	1	2	3	4	5
	Adequate.	1	2	3	4	5
	Complete.	1	2	3	4	5
	Credible.	1	2	3	4	5
53.	If issues or conflicts exist then they are solved by: (1 = Almost Always 5 = Almost Never)					
	Ignoring the problem.	1	2	3	4	5
	Joint problem solving with consensus decision making.	1	2	3	4	5
	Owner imposed outcome.	1	2	3	4	5
	Internal Mediation.	1	2	3	4	5
	Outside Mediation or Arbitration.	1	2	3	4	5
	Other (please state):	1	2	3	4	5

		Very Important	Important	Neither Important or Unimportant	Unimportant	Very Unimportant
54.	Please indicate the importance of the drivers for entering into this alliance:					
	(1 = very important, 5 = very unimportant)					
	To gain access to technology	1	2	3	4	5
	To gain access to markets	1	2	3	4	5
	To gain access to knowledge	1	2	3	4	5
	To spread the exposure to risk	1	2	3	4	5
	To gain access to financial resources	1	2	3	4	5
	Other (please state):	1	2	3	4	5
	Other (please state):	1	2	3	4	5
55.	Please indicate the importance of the drivers used to select the team members for this alliance:					
	(1 = very important, 5 = very unimportant)					
	Individual's technical skill	1	2	3	4	5
	Individual's interpersonal skill	1	2	3	4	5
	Team's technical competence	1	2	3	4	5
	Team's interpersonal competence	1	2	3	4	5
	Teams personality composite (please state which, if any, test used i.e. Myers Briggs type):	1	2	3	4	5
	Other (please state):	1	2	3	4	5
	Other (please state):	1	2	3	4	5

APPENDIX C: INTERVIEW GUIDELINE**ALLIANCES:
CRITICAL FACTORS IN CREATING AND SUSTAINING
A SUCCESSFUL RELATIONSHIP.****INSTRUCTIONS**

All questions to be answered with respect to your own perspective. Please do not present a corporate or "party line" response.

As these questions are being asked to people at various levels within your organization - you may feel you do not have sufficient information to answer certain questions - your view is important please answer all questions to the best of your knowledge.

DEMOGRAPHIC INFORMATION - TO BE KEPT CONFIDENTIAL**INTERVIEWEE:**

Name: _____

Company: _____

Job Title: _____

Please describe the structure of this alliance, including the parties involved, the contracts, if any, used with these parties (e.g. lump sum, cost plus etc.) and the type of project covered.

Duration:

Purpose:

Membership:

Staffing:

Contract:

Total number of parties involved in alliance

_____ Owner(s)
 _____ Contractors(s)
 _____ Consultant(s)
 _____ EPC Contractors(s)
 _____ Sub-Contractor(s)
 _____ Supplier(s)
 _____ Other(s) (Please Specify)

OVERALL SUCCESS FACTORS

What is your definition of an alliance?

How will you know this alliance is successful?

Are there essential processes which will ensure success?

Are there particular outcomes that are necessary for success?

Is there a difference between these processes and outcomes for an alliance and for a project? If so what are they and how did you identify them?

Is there a difference between these processes and outcomes for a project executed under an alliance agreement and those for a traditional project? If so what are they and how did you identify them?

How consistent are these success indicators from one alliance to another?

Were there any signals at the beginning of the alliance that indicated whether it would be a success?

Have these signals changed as the alliance has evolved?

PREVIOUS EXPERIENCE (LAST 10 YEARS)

Have you got or had other long-term and collaborative relationships?

How many are on-going today?

How many were terminated and why?

How many were renewed or extended?

Have any of these regenerated in a different form?

What have you learned?

REASONS FOR ENTERING AN ALLIANCE

Was there a “trigger” which initiated the idea of forming an alliance?

What were the important issues in proposing and deciding to enter into a strategic alliance?

Were alternatives to entering an alliance considered?

If so what were they, and why were they rejected?

What are the strategic objectives of your organization?

What are the strategic objectives of this alliance?

SELECTING THE PARTNER

Please describe the process of selecting your partner?

What were the important issues in choosing your partner?

Were there any particular characteristics in your prospective partners that you were looking for, or looking to avoid?

PLANNING THE ALLIANCE

What was the process used in planning the alliance?

Who was involved?

What were the important issues?

How (on what basis) and by whom were the tactical goals set?

Was there any consideration of the risks involved?

Was any formal assessment made?

Is there any allocation of any risks e.g. through contractual or other arrangements?

Is there any sharing of any risks e.g. through contractual or other arrangements?

Is there a distinction between controllable and uncontrollable risks?

Are there any profit sharing or incentive schemes?

What are the contributions to the alliance?

Who does what?

Who provides which resources (human & financial)?

Did your organization make any internal changes (i.e. change the way it operates in any way) to facilitate alliance progress?

Are there any agreements or contracts governing the alliance?

What is the purpose of the agreement/contract?

When and what process was to generate this agreement?

When, and/or why, would this agreement be modified?

Are there any other agreements or contracts which directly or indirectly affect this alliance or the projects executed within it?

How is the alliance monitored and controlled?

What information is provided, by who and to whom?

BUILDING THE RELATIONSHIP

What is the organizational structure?

How were the team members selected?

Was there any consideration of the overall alliance team mix?

Are there any teambuilding activities?

Are these formal or informal?

What activities are carried out, and when does/did this occur?

What interpersonal ties exist between your organization and your partner?

Are these formal or informal?

At which levels within the organization?

How often does communication occur?

Is there a communication plan?

How are communication problems identified/addressed/resolved?

Are there any shared training activities?

If so what do these involve?

Is the team co-located?

What impact does this have on the relationship?

Do you think it should be?

Do any team members get placed in (seconded to) your partner's organization?

How effective is the communication within the alliance?

MAINTAINING THE RELATIONSHIP

What decision making methods are used?

How effective are they?

How are issues/conflicts dealt with?

Is there a formal resolution process?

What issues have arisen?

Is there a joint problem solving process?

How many problems do you know about?

ORGANIZATIONAL CULTURE

Does the alliance have a culture distinct from its partner organizations?

How is it different/similar, is there a reason for this, and what is the impact?

How autonomous is the alliance team with regard to the partners?

Are employees who represent your organization in the alliance sanctioned to make decisions?

How autonomous are project teams within your home organization?

How are individual and/or team performance measured and rewarded?

What measurements, standards, rewards and results have been achieved, both within the alliance and within the partner organizations?

Are individuals and/or teams encouraged to solve problems creatively, both within the alliance and within the partner organizations?

How is risk taking behaviour viewed, both within the alliance and within the partner organizations?

Are staff compensation and career paths comparable between partners?

ALLIANCE MANAGEMENT

Are regular evaluations carried out for:

The organization?

The alliance?

The project?

The team?

How often are these conducted?

Who are they carried out by?

What is measured?

How can you ensure you are getting value for money?

What specific measurements are used to indicate whether the projects executed by this alliance are successful?

Is there any data to confirm this?

What specific measurements are used to indicate whether this alliance is successful?

Is there any data to confirm this?

APPENDIX D: PRELIMINARY QUESTIONNAIRE**ALLIANCES:
CRITICAL FACTORS IN CREATING AND SUSTAINING
A SUCCESSFUL RELATIONSHIP.****DEMOGRAPHIC INFORMATION - TO BE KEPT CONFIDENTIAL****INTERVIEWEE:**

Name: _____

Company: _____

Job Title: _____

ALLIANCE TYPE

(project/strategic etc.)

STAKEHOLDER ANALYSIS

1. What will cause the alliance to be a success?
2. When will the alliance be terminated?
3. Who has a say in the first two questions?
4. Who are the biggest influences on the success of the alliance, and why?

APPENDIX E: CODE LIST

CODE	DESCRIPTION
Accountability	responsibility, obligations, duty and liability; voluntary and enforced
Advantages	benefit of using an alliance over a traditional arrangement
Alliance Goals	goals and objectives specific to alliance performance
Alliance Organization	organization of the alliance: structure, hierarchy, division of the work
Challenging	confronting, non-acceptance of traditional, standard, or usual methods of working; suggesting new or different approaches; identification of opportunities; all levels: individual, team, company
Clients	client specific issues not just as component of general stakeholder issues
Co-Location	general comments or concerns regarding co-location of individuals or teams
Commitment	bound to a policy, a course of action or another person or persons
Communication Plan/Tools	any tool used to plan or support the communication process
Communication Problems	general comments or specific examples of communication problems
Communication Process	generally related to the communication process; but not specifically to any of the other codes in the family
Compatibility	differences between the organizations; understanding and acceptance of another; ease or difficulty with which the organization's work together; also between other groups, external or internal to organization or alliance

CODE	DESCRIPTION
Confidentiality	regarding the disclosure or withholding of secret or confidential information
Conflict	the management and resolution of conflict; related to the handling of issues, concerns and disputes
Consultants	the use of external facilitators
Continuity	continuity or discontinuity of personnel and/or work
Continuous Improvement	general CI comments; ongoing efforts to increase project/alliance performance or process
Contract	anything regarding the contract, contractual issues or clauses, alliance agreements etc.
Culture	specific comments on corporate or team culture
Decision Making	comments, tools, techniques, concerns around pronouncing judgement or reaching conclusion; may or may not be consensual
Definition	how alliances are defined or perceived
Differences	general comments about the differences between projects and alliances; no value judgement implied
Disadvantages	drawback of using an alliance over a traditional arrangement
Documentation	written references or records; often used to support a decision or stance; historical evidence; also procedures
Evaluations	project or alliance monitoring, examination, and/or appraisal
Exclusivity	extent to which the alliance performs work for the client; sole provider or shared distribution of work
Execution Plan	method to accomplish the project

CODE	DESCRIPTION
Facilitation	actions designed to assist alliance performance; unilateral or bilateral; internal changes; also actions intended to deliberately promote certain desired behaviours; also inactions
Failure	unsuccessful alliances; poor performance; ineffective; insufficient
Formal Teambuilding	specific actions designed or undertaken to promote team cohesiveness
Incentives	something, such as the fear of punishment or the expectation of reward, that induces action or motivates effort*
Informal Teambuilding	spontaneous actions designed or undertaken to promote team cohesiveness
Information Sharing	the imparting or disclosing of information
Interfacing	boundary between organizations interaction between individuals, groups, organizations etc. person acting as interface
Interpersonal Ties	connections between individuals
Metrics	anything related to measurement of performance; KPIs, CSFs, quantifiable or subjective performance targets; specific measurement items used for evaluation of alliance or project; what they are & how they are measured
OHT Relationship	open, honest, trusting relationship, anything relating to this subject; often in-vivo; must be relationship focused: trusting relationship, open relationship, honest relationship
Openness	revealing or disposed to reveal one's thoughts freely and honestly; open suggests freedom from all trace of reserve or secretiveness*

CODE	DESCRIPTION
Operations	comments or concerns specific to operations personnel
Organization Effects	overall organization structure including re-organizing and downsizing issues; relates to business organization of a single company, including how these issues affect the alliance
Participation	inclusion in a process; joint activities the act of taking part or sharing in something*
Payment	general payment comments; contractual basis; areas of concern etc.; excludes risk reward schemes
Performance	achievement or fulfilment of projects/alliance
Power	power of one organization over the other; contractual power; control, authority, influence
Previous Experience	previous experience in collaborative relationships
Problem Solving	comments, tools, techniques, concerns around problems and problem solving
Project Goals	goals and objectives specific to project performance
Resistance	opposition to the alliance; either alliances in general or to specific partner
Rewards	general rewards and recognition, for individuals, teams, etc.
Risk Management	assessment and allocation and mitigation of risk issues
Risk Propensity	tendency of individuals, teams, organization to take risks; often unproven, new technology or methods of working
Risk Reward	specifically relating to risk reward schemes, gainsharing etc.
Safety	safety issues around personnel, project and final operation
Selection	selection of alliance partner

CODE	DESCRIPTION
Specifications	use of standards and specifications; performance specs, fit for purpose specs; detailed design specs; also standardization
Stakeholders	general stakeholder comments and concerns; internal and external; often in-vivo
Strategic Objectives	strategic objectives of the companies involved in the alliance; stated or perceived by self or partner; business but not specifically alliance related
Success	respondents definition of success for an alliance; plus general comments; The achievement of something desired, planned, or attempted*
Suppliers	other alliances or contracts which influence alliance operation
Team	general teamwork: individual selection group mix organization performance; team cohesion - feelings of unity, acting as single entity; integrated team & integration
Termination	anything regarding the end of the alliance
Trigger	stated, perceived or implied; precipitating event or condition that instigated alliance
Trust	comments and concerns relating specifically to trust
Value	issues regarding the value of an alliance; demonstration of value proof, complacency; measurable value; benchmarking
Working Methods	specific conduct, methods used to perform the work

* Indicates definition provided by The American Heritage(r) Dictionary of the English Language, Third Edition copyright (c) 1992 by Houghton Mifflin Company. Electronic version licensed from INSO Corporation

APPENDIX F: SUCCESS CODE TABLE

TAG	QUOTE	PROPERTIES	MODE
WHAT IS SUCCESS?			
1:4	our clients, who happen to be our operating team and our development personnel, if they're comfortable with the work	Satisfaction {stakeholders}	result
1:6	So on one hand you have to satisfy the economics and on the other hand you have to satisfy the operating needs of the complexes.	Satisfaction {stakeholders}	result
2:3	delivering what the client needs	Satisfaction	result
2:7	it's important to demonstrate that you're not getting complacent	Value	result
2:36	as an alliance grows the expectations become higher; so you're constantly trying to sharpen your skills if you know what I'm saying.	Value {CI}	result
2:108	when you have an alliance you are constantly being questioned by senior management. Gee are you sure that's the right alliance? What value are these guys bringing? How do you know they are not being complacent?	Value {evaluation} {CI}	result
4.14	our main indicator of success would be another job from the same customer, repeat business is the best indicator of success	Satisfaction	result

TAG	QUOTE	PROPERTIES	MODE
5:3	delivering results will be the foundation of success, delivering projects based on the needs of the business, so the business teams	Satisfaction {Performance} {Alignment}	result
5:8	Success would be, being my best in my class in terms of putting that kind of project in.	Performance	result
6:3	as we start having successful projects, the open, honest, trusting relationship develops. And as we work with these people, executing projects, the relationships develop, and as we get to know each other, and the working capabilities, over time it becomes a success	Performance {OHT} {interfacing} {time}	result
8:35	We completed a lot of plants earlier this spring - on time, on budget, but we really didn't push anything. We really didn't push the schedule. They were kind of left to their own devices. Right now, we're barely on time - over budget on the other projects.	Performance	result
9:23	I guess if a project came in on budget and on time, that's a success. Right, we'd have to say that's a success, and a combined effort made it a success.	Performance {participation} {team}	result
HOW IS SUCCESS ACHIEVED?			
TAG	QUOTE	PROPERTIES	MODE

TAG	QUOTE	PROPERTIES	MODE
1:2	the element of trust; an open working relationship	Trust/ OHT {open/confidential}	condition
1:10	there's that trusting arrangement	Trust	condition
2:32	success is the whole team cares about the same things	Alignment	condition
3:55	when it comes down to whether we succeed or not it's people from the draughtsman on the table to the project manager. And that's the culture we try and promote in the offices, that everybody a say and everybody has a commitment to success on the job. We are asking everybody to challenge everything, don't take the way we've always done it as being the only way, at least stretch your mind and think well is this really the most effective way	Culture {participation} {commitment} {challenging}	condition
3:56	So we try to promote that everybody has a say. So my opinion is it [success] won't happen unless the people make it happen.	Culture {participation}	condition
3:76	So the idea is to tap into that expertise via the alliance and tie everybody together towards a common goal called project success defined by risk reward	Alignment {risk reward}	condition
3:92	We need to get, what is our common vision and goal. It's going to incorporate all the operations and production requirements and go beyond project start up.	Alignment {life cycle}	condition

TAG	QUOTE	PROPERTIES	MODE
4:28	the alliance leaders, they've got to be committed. In this alliance, if you look at the different levels, you could say the corporations is [owner driving it and is [contractor] receptive to it; the next step which would be the people leading that alliance are we enthused and motivated and are we passing that on to others. That could be a critical factor if you've got leaders that didn't get on together, couldn't work together, didn't really think that an alliance was a good idea, that would crater the alliance; and then you could say the real the real driver of the alliance is the people that work on the alliance and to make this thing happen they have to want to work on an alliance.	Commitment	condition
6.3	as we start having successful projects, the open, honest, trusting relationship develops. And as we work with these people, executing projects, the relationships develop, and as we get to know each other, and the working capabilities, over time it becomes a success	OHT {performance} {interfacing} {time}	condition
7:48	They don't have the same success measures in their own mind and that's part of why there's a lot of friction going on.	Alignment {resistance}	condition
7:66	What can you ask of a person except their best effort? You can't ask for guaranteed results. It doesn't work. You can ask for their best effort; you can tell them here's the target; you can give them the tools; and they'll get you where they can get you.	Commitment	condition

TAG	QUOTE	PROPERTIES	MODE
7:74	you have to keep talking to people to try and enrol them from a broad perspective and you have to develop it as it makes sense for the project at that time	Commitment {communication}	condition
7:91	both parties are working to common set of success measures	Alignment	condition
7:96	they're not aligned to the same measures of success and that's part of the problem	Alignment	condition
7:109 7:110	Nobody wants a failure, but nobody wants it go way out there and be really successful either because it becomes a challenge for them. - Automatically, you've created a new standard in the company that everybody has to march to.	Alignment Acceptance	condition condition
1:40	believe [contractor partner] wanted to ensure, do everything they could to make the alliance a success; so they'd chosen to identify key the personnel in their organization, which were strong performers to help make the alliance a success	Facilitation {key people}	process
1:40	experienced project personnel from [owner] come into the alliance offices, to help make every project as successful as possible by giving guidelines, guidance, facilitate, coordinating of communication.	Facilitation {key people}	process

TAG	QUOTE	PROPERTIES	MODE
2:9	define what is a good job, and what are the indicators of a good job	Evaluation {metrics}	process
3:40	success is so highly dependent on the people on the floor, the engineering teams, the construction guys, doing things differently	Working methods {challenging}	process
3:52	there's different success measures, capital cost is one. If we are able to bring in the cost of the project, significantly under the capital budget, then that will be one measure of success. If we bring in the final facility that starts off on time and runs reliably, then that's definitely a measure of success. You know, if the systems are easy to maintain, that's a measure of success. If the actual operating success comes in at the target, then that's a success. So there is different levels of success, if we manage to complete the work without injuring anybody, that's a tremendous measure of success. So there's different variables to say if you are successful or not.	Evaluation {metrics}	process
3:52	The way we get there, I guess, is that it's in our court, those of the types of things that we are striving for, is to pay attention to all of those things, and actually bring it in.	Goals {working methods}	process
3:67	a very conscious effort to fit the best person for the job; ensure that you had the highest chance for success, by bringing in your best people	Facilitation {key people}	process

TAG	QUOTE	PROPERTIES	MODE
5:14	it really depends a lot on the people actually doing the work. It's all about teamwork and communication, and partnering, and developing trust, and if there's not a mind set around that, and individually you don't promote that, then it will fail	Partnership {communication} {teamwork} {trust}	process
5:26	we went through a very extensive evaluation process including, which included a lot of the key stakeholders in our company. And that was a process that went over a period of ...probably three months, two to three months. So we worked quite extensively within our company and secured buy in and ownership as we went along. So at the end of the day, you had a certain baseload of ownership built up just because of that process. It wasn't sort of one or two people going out, and saying ,this is what we want to do here, so. I think that's probably the main key to the success, the evaluation process that we used.	Ownership {acceptance}	Process
5:76	we're not there yet, but in a mature model, you would have- what I would call true partnering behaviours - everybody focused on the same goals and objectives around the project. And a lot of ownership around success	Partnership {alignment} {ownership}	Process
6:9	it's only been through the experience of working with the individual business teams - again the development of the relationship - that we have been able to determine what their requirements are, what their success criteria are etc.	Interfacing {OHT} {Satisfaction}	process

TAG	QUOTE	PROPERTIES	MODE
6:9	We should be able to put into place measurement systems which shows we are continuously improving and demonstrates the kind of value added initiatives that we come up with	Evaluation {value} {CI}	process
6:48	good measurement, tangible objectives, and really open honest communication, and open honest relationship	Evaluation {metrics} {goals}	process
6:48	A true partnership, where you trust each other and are not duplicating functions, we have to be able to communicate what our problems are, what our successes are, and work together to improve the areas where we need improving, and work together to make sure we continue to do the things that we do right	Partnership {trust} {alignment} {communication}	process
6:48	if you follow best project management practices, then you guarantee project success which will also guarantee alliance success.	Working methods	process
6:53	the degree of success of the alliance changes with each business team. With some of the business teams we are highly successful and I'm beginning to feel that's more and more a reflection of their willingness to accept the alliance concept. So our success I think is far less in itself performance perceived or otherwise as it is purely acceptance of the whole alliance concept.	Evaluation {evaluators} {performance} {acceptance}	process

TAG	QUOTE	PROPERTIES	MODE
7:61	in reality we've set for ourselves something we want to achieve on this alliance	Goals {stretch target}	process
7:64	But that does not mean that not achieving it means failure; In traditional thinking, when you set a goal and don't do it right, you've failed. What we've done is we've specifically set a stretch for us; We'll do everything we can to get to that number, but if we end up at [slightly short], that will not be considered a failure in any sense.	Goals {stretch target}	process
9:17	Accountability. if they've made a mistake they have to own up to the mistake and they have to pay for that mistake.	Accountability	process
9:17	Clear defined targets would also have to be there, they would have to be there.	Goals	process
9:17	We'd have to work as a team, we don't work as construction, operations people we have to work as a team, working together to get a combined goal done.	Team {alignment}	process
WHO INFLUENCES SUCCESS?			
TAG	QUOTE	PROPERTIES	MODE
3:40	success is so highly dependent on the people on the floor, the engineering teams, the construction guys, doing things differently	Stakeholders {doers}	involvement

TAG	QUOTE	PROPERTIES	MODE
3:55	it's the people that actually do the work	Stakeholders {doer}	involvement
3:56	So we try to promote that everybody has a say. So my opinion is it [success] won't happen unless the people make it happen.	Stakeholders {doer}	involvement
4:28	the alliance leaders, they've got to be committed. In this alliance, if you look at the different levels, you could say the corporations is [owner driving it and is [contractor] receptive to it; the next step which would be the people leading that alliance are we enthused and motivated and are we passing that on to others. That could be a critical factor if you've got leaders that didn't get on together, couldn't work together, didn't really think that an alliance was a good idea, that would crater the alliance; and then you could say the real the real driver of the alliance is the people that work on the alliance and to make this thing happen they have to want to work on an alliance.	Stakeholders {drivers} {leaders} {doer}	involvement
5:14	it really depends a lot on the people actually doing the work. It's all about teamwork and communication, and partnering, and developing trust, and if there's not a mind set around that, and individually you don't promote that, then it will fail	Stakeholders {doers}	involvement
9:21	We would, the line people would be the people.	Stakeholders {doers}	involvement

APPENDIX G: SUMMARIES OF ALLIANCES

ALLIANCE #1 SUMMARY	
Alliance Type:	Supplier
Participants:	Owner 1 (Owner Organization)
	Contractor (EPC Company)
INTERVIEWEES	
Owner Project Engineer:	Project Manager for all projects carried out by the alliance
Contractor President:	Alliance Sponsor
ALLIANCE OVERVIEW	
<p>This is a multi-project alliance, covering all the engineering requirements for the owner regarding smaller (a precise \$ figure was not available) projects relating to processing facilities of gas plants.</p> <p>The alliance is a supplier type alliance with its primary focus on saving transaction costs and adding value through continuous improvement.</p> <p>The alliance agreement is on-going, and has been in existence for over five years (at time of conducting interviews). Both respondents considered the alliance as successful.</p>	
MAIN THEMES	
<p>Organization:</p> <p>Alliance is viewed as an extension to the owner organization and plugs the gap left by the re-structuring (downsizing) of the organization brought about in response to economic conditions. In-house capability to do the work was lost and an alliance was seen as the best way to minimize the cost and time of bidding the work.</p> <p>The owner organization consists of ten business units dispersed over Western Canada, all of whom are covered by the alliance agreement. The work, and therefore contact with the business units, is determined by the number and location of the projects performed. Project identification, feasibility, analysis and front end development, is determined centrally by the owner's Business Development team, and involves the owner's project engineer and sometimes a contractor representative.</p>	

ALLIANCE #1 SUMMARY

Two owner project engineers, are responsible for managing all the projects from the owners perspective. Their role is to get consistency across the projects and to "break down any barriers". Both the owner engineers and the contractor company report up to business development and share a "common master".

Co-location:

The two owner project engineers are almost permanently based in contractor's office, together with two operating staff on a more ad hoc basis. The Owner staff have free and complete access to the contractor office and are very much considered part of the team.

Compatibility:

Owner and contractor both seem to recognize that they come from different places, with different skills (and shortcomings) and a different focus, but concentrate on the complementary aspects and work as a team. Owner recognizes that contractor has certain skills (including project management) that they do not possess and they allow contractor the freedom to use their skills and expertise; "minimum owner involvement".

Power:

Owner seems to consider the alliance as owner driven, whereas contractor views it as more equal. Contractor believes owner does not treat them like a contractor and do not "lord it over" them. Owner see contractor as a "good alliance contractor who follows the client's request". Also owner views themselves as more experienced and would "force" contractor to comply in any case.

Goals:

Well defined alliance goals and metrics are in place, in addition to project based goals.

Relationship:

Because the alliance has been in place for a long time regular interfacing - building one on one relationships - has resulted in a (relatively) open honest trusting relationship. But this is affected by changing personnel (which naturally occurs over a period of time); understandings and agreements can be documented - but often are not - and the (one on one) relationship needs to be completely rebuilt.

Accountability:

If problems occur owner and contractor work together to make projects (designs) work. But owner takes responsibility if the up front work done by them is inadequate.

ALLIANCE #2 SUMMARY	
Alliance Type:	Supplier
Participants:	Owner 2 (Owner Organization)
	Contractor (EPC Company)
INTERVIEWEES	
Alliance Co-ordinator:	Alliance Manager (Centrally appointed)
Contractor President:	Alliance Sponsor
Contractor Alliance Mgr:	Also acts as a Project Manager
Owner Facilities Engineer:	Resp. for a project on behalf of a business team
Owner Operations Staff:	Works in the field on EH&S issues
ALLIANCE OVERVIEW	
<p>This is a multi-project alliance, covering the facilities engineering, procurement and construction (EPCM) of conventional oil and gas work in Western Canada, including pipelines, well-tie ins and plant equipment. Again the alliance is a supplier type alliance, however its primary focus does not appear to be specifically defined, other than as a generic cost saving initiative.</p> <p>The alliance agreement is on-going, and has been in existence for only fifteen months (at time of conducting interviews). Over 140 projects have been performed during this time. Although the projects delivered under the alliance were mostly perceived as successful, all the respondents expressed some kind of dissatisfaction or frustration with the present alliance arrangement.</p>	
MAIN THEMES	
<p>Organization:</p> <p>As with alliance #1, the owner organization consists of business units - in this case seven - dispersed over Western Canada, all of whom are covered by the alliance agreement. Consistent with alliance #1, the work performed and contact with the business units, is determined by the number and location of the projects performed. In contrast to alliance #1, here the project development and economic evaluations are carried within the business unit.</p>	

ALLIANCE #2 SUMMARY

Within the owner the whole purpose of the alliance is to adopt a standardized approach to executing projects across the company. But at the same time they decided to outsource their facilities engineering to an alliance partner they reorganized their business into separate autonomous business teams, where each business team is free to operate however they see fit. So while the contractor is trying to introduce standardized approaches, each of the business teams actually wants to work in a different way. So it actually operates as a number of different alliances not as a single one. This causes problems in developing the relationships, identifying the success criteria, as well as executing the project in a standardized manner etc.

Although there is a central alliance co-ordinator his role appears undefined, as well as powerless due to the autonomous nature of the business teams.

Compatibility:

Bridging the culture gap seems to be an issue. The owner organization is very team based with lots of participation and consensus building, whilst contractor is much more task driven.

Relationship:

Some of the business teams have little work, therefore not much interfacing occurs and consequently no relationship is developed. The relationship between the alliance co-ordinator and contractor is very good, but almost inconsequential due to the organizational arrangement.

Rejection:

Some of the business teams embrace the alliance concept, whilst others do not

Operations staff seem to completely reject the idea of an alliance and claim not only that it brings no value, but also that it costs money compared to traditional as there is no accountability. Proving the value of the alliance (over traditional methods) seems to be a huge issue, but as there are no alliance goals set - only individual project goals - this is obviously hard to do. Operations rejection may be, at least in part, due to resentment of previous downsizing and re-structuring.

ALLIANCE #3 SUMMARY		
Alliance Type:	Project	
Participants:	Owner	(Owner Organization)
	Engineering Contractor	(Joint Venture of two Engineering Companies)
INTERVIEWEES		
Owner Engineering Management:	Alliance Co-manager (Engineering)	
Contractor Engineering Management:	Alliance Co-manager (Engineering)	
ALLIANCE OVERVIEW		
<p>This is a single project alliance to construct a new mine, adjacent to owner's existing plant. Two construction companies are also in the alliance, as well as a process automation company. As the project progresses other key vendors may be included as full alliance participants, "based on their ability to influence the final outcome of the project".</p> <p>The project is in the basic engineering phase and is currently developing a class 2 (10% accuracy) estimate. The owner has not yet given approval for the project to go ahead (at time of conducting interviews).</p> <p>Both respondents were extremely enthusiastic and highly motivated. They considered the alliance as successful so far and seemed to believe the final outcome would ultimately be successful. There also appeared to be recognition that success was not automatic, and would require an effective collaborative effort to be achieved.</p> <p>There is a concurrent companion project to this one, both projects are interdependent in that "one really cannot deliver without the other", and are being executed by different alliance participant companies. There may be a divergence of opinion between the alliance participant companies and the owner, as to where the actual boundary between the alliances lies, if indeed it exists at all.</p>		

ALLIANCE #3 SUMMARY**MAIN THEMES****Commitment:**

Senior management initially resisted the alliance concept, but it was pushed through from the working (manager) level. Some resistance still exists, especially from the operations division.

Breakthrough Performance:

The main drive of the team is to set stretch targets and "make history". The work is being performed in a completely new manner than anything previous. There is desire to abolish the previous owner/contractor power relationship and foster real collaborative relationships.

Contracts:

Currently no alliance agreement exists, and all the work is being paid reimbursable for all partners. An intent exists to implement an alliance agreement including a risk reward mechanism - the partners all trust that this will actually occur. The question as to whether there are one or two alliances may become an issue in structuring the risk reward component.

Coaching:

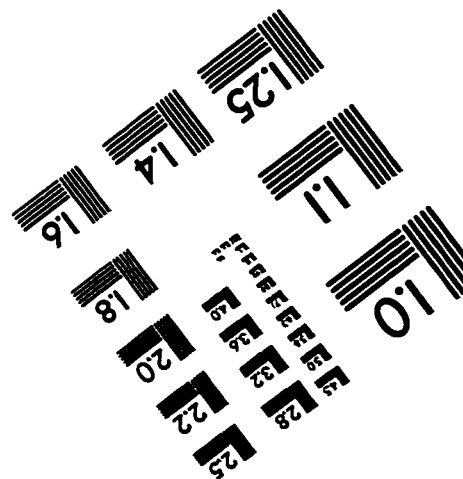
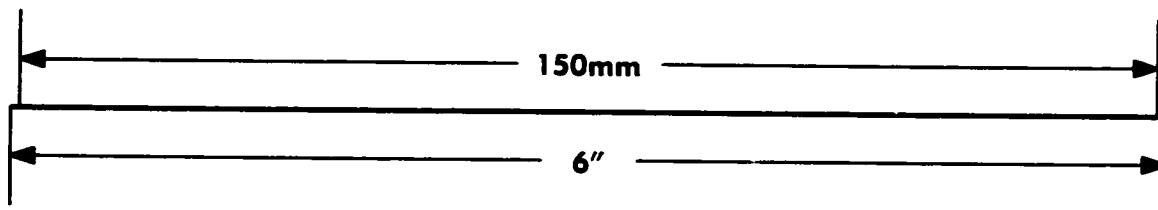
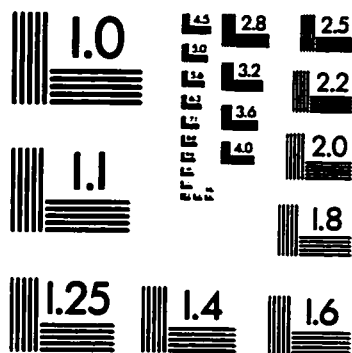
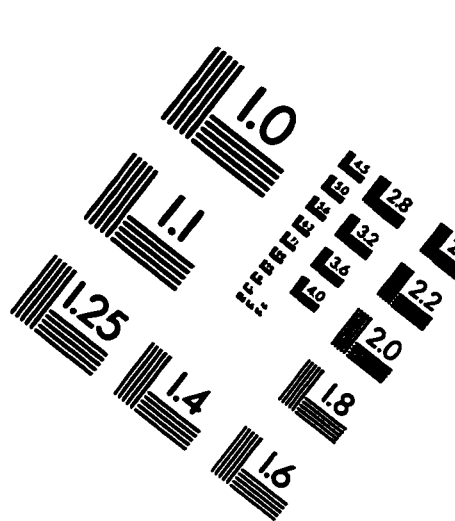
The entire team is being coached by an American consulting firm with experience in alliances and breakthrough performance.

Co-location

Most of the team is located in the Calgary project office. For logistical reasons some of the operations staff (the non full time dedicated personnel) are not.

ALLIANCE #4 SUMMARY	
Alliance Type:	Supplier
Participants:	Owner (Owner Organization)
	Contractor (EPC Company)
INTERVIEWEES	
Contractor:	Alliance Co-manager
ALLIANCE OVERVIEW	
<p>This is a multi-project alliance, covering all the engineering, procurement and construction (EPCM) for the owner's heavy oil work in East Central Alberta. It includes pipelines, steam generators, pads. The work covers new capital, maintenance repairs, expansions and revamps.</p> <p>Again the alliance is a supplier type alliance with its primary focus on saving transaction costs and reducing contractor familiarization (learning curve) time.</p> <p>The alliance agreement is on-going, and has been in existence for over five years (at time of conducting interviews). The respondent considered the alliance as successful.</p>	
MAIN THEMES	
<p>Performance:</p> <p>Key Performance Indicators are agreed and monitored on a project result basis. Internal benchmarking is performance based across projects, and external benchmarking (by owner) is cost based across contractors (in other product areas).</p> <p>Co-location:</p> <p>The contractor's staff assigned to this alliance (120 people) are all based in the owner's real estate (as of 1994) and the owner's engineers and alliance co-manager (5 people) are co-located there.</p>	

IMAGE EVALUATION
TEST TARGET (QA-3)



APPLIED IMAGE, Inc.
1653 East Main Street
Rochester, NY 14609 USA
Phone: 716/482-0300
Fax: 716/288-5989

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