

THE JUSTIFICATION AND IMPLEMENTATION OF PROJECT ALLIANCES - REFLECTIONS FROM THE WANDOO B DEVELOPMENT

Marcus Jeffries, Rod Gameson, Swee Eng Chen, The University of Newcastle, of New South Wales, Australia and Tom Elliott, Bovis-Lendlease, New South Wales, Australia

Abstract

The last decades have seen notable changes in the structure of organisations as well as in the management methods used in leading and directing these evolving organisational bodies. Unpredictable social, economical, technical and political aspects of a globalising society have encouraged organisations to consider forming business alliances as a risk management strategy. This has created a need for organisations to find new ways in which to compete in the continually evolving construction industry. Project alliances have been identified as a successful management strategy that is used to change current construction culture to one that promotes a win-win situation. Project alliances are a relatively new experience within the Australian construction industry with the Wandoo B Development project one of the first major projects to experience alliancing completed in 1997. This paper case studies the Wandoo Alliance by identifying and exploring the elements that influence the implementation of project alliances and justifying the reasons for its formation.

Keywords: Australia, Case Study, Implementation, Project Alliances, Wandoo B Development

Introduction

Notable changes in organisational structure as well as the management methods used in leading and directing these evolving organisational bodies have occurred in recent years. The top 1000 firms in 1995 drew 6% of revenues from alliances, which is a fourfold increase in alliance contracting from 1987 (Houlder, 1995). Unpredictable social, economical, technical and political aspects of a globalising society have forced organisations in many industrial sectors to look into forming business alliances. This phenomenon appears to be partly in response to the increasing integration of global and regional markets, through increased international competition, advances in technology and the reduction of project opportunities in a downsizing environment (Bergquist, 1995). In turn, this has also created a need for organisations to find new ways in which to compete in the continually evolving Construction Industry.

The final report of the Royal Commission into Productivity in the Building Industry in New South Wales (NSW), Australia (1992) indicated the need for change, not only to a more cooperative approach to build mutual trust, respect and good faith, but also from one of disputation and conflict to one creating harmonious relationships. Business alliances are one such management strategy that is being used to change the present construction culture to one that creates and promotes a win-win situation.

One of the most dynamic features of modern corporate development has been the growth of alliances (Dóz and Hammel, 1998). These alliances are proving to be the prevailing sign of the flexible organisation and are a direct response to the changing corporate environment (De la Sierra, 1995). According to the Economist Intelligence Unit (EIU) (1997) alliances of all kinds will rank as one of the most significant management tools by the year 2010. This constant evolution of alliances has led to the need to investigate how alliances are managed and why they are formed.

The 1995 Australian Bureau of Statistics shows that the construction industry as a whole accounts to 6.3% of Gross Domestic Product (GDP). In 1996 the Construction Industry directly employed 7% of the nation's workforce and exerted a considerable influence over the rest of the economy (Kwok et al, 1996). In order for the industry to survive, it has to address new and challenging market conditions, which are typified by increased competition, higher risk and technical and commercial demand for higher quality outcomes. This has meant that the Construction Industry has had to explore new and unique ways to perform effective and efficient projects. Roger Giles QC, noted in the 1992 Royal

Commission into Productivity in the Building Industry in NSW, that there was a need for the Construction Industry to develop and change into a 'win-win' environment if it were to meet its future objectives.

The objective of this paper is to explore two key issues which are relevant to project alliances:

1. Why are Project Alliances being used?
2. How are Project Alliances being implemented?

Project Alliances

Evolution

Alliancing is one of the oldest forms of business collaboration. The first alliance contracts were used in ancient Egypt when merchants cooperated in their commercial activities (Lynch, 1989). In the closing years of the 20th Century we are seeing capitalism stronger than ever in the global marketplace (Howarth et al, 1995), and emerging in new forms that are more entrepreneurial in nature, more daring and more competitive. Lynch (1989) states that these factors are the driving force behind the re-emergence of the cooperative business alliance as a vital business form.

As other industries experimented with the collaborative approach, strategic alliancing began evolving to accommodate specific industry needs. Thompson (1998) states that the 'project alliancing' model evolved in the United Kingdom (UK) construction industry in the early 1990's, during which time 'Partnering' was developed in the United States (US) construction industry. The construction emphasis shifted from the 1980's area of quality assurance and total quality management to the 1990's direction of project delivery strategies (Thompson, 1998).

The Australian Construction Industry has not yet witnessed many project alliances. The first project alliance in Australia was the Wandoo Project (Thompson, 1998); the East Spar Alliance followed shortly in mid 1994. These alliances encompass major construction projects that require a wide range of specialist expertise and productivity gains. Because of the low profit margins on such projects and the construction process, the Wandoo Project needed to incorporate a new management approach to enable successful project delivery.

What are project alliances?

Manivong and Chaaya (2000) define Alliances as a project delivery method where several participants join together to share risks and outcomes on a project. Project alliances are described by Kwok et al (1996) as "...a cooperative arrangement between two or more organisations that forms part of their overall strategy, and contributes to achieving their major goals and objectives for a particular project".

According to Walker (2000), the defining features of an Alliance include selection criteria that demonstrates world class excellence and innovation, joint budget and cost/time targets, an agreed risk and reward formula and excellence in communication that allows an intense integration of alliance partners by the use of shared IT systems and information processing integration.

Why Form Project Alliances?

De la Sierra (1995) indicates that understanding why you need a partnership is the most critical step. Sorting out the 'whys' in the equation will in turn dictate the answers to key issues such as with whom you want to collaborate, how the partners will combine their strengths in an alliance and how the project will be structured and managed.

The following 'ten reasons for tapping the alliance advantage' was compiled by De la Sierra (1995) based on interviews with over 50 companies:

1. Build global market capabilities
2. Cope with escalating technology and R and D costs
3. Pre-empt competitive threats
4. Speed innovation and product introduction
5. Cope with the integration of technologies and markets
6. Build world class capabilities
7. Establish global standards
8. Jump market barriers in emerging markets and regional trading blocs
9. Cut exit costs
10. Tap opportunities from the greening of global businesses

According to Howarth et al (1995) there will be two primary motivators for choosing the alliance contracting option. The first is a perception that the organisation cannot achieve its objectives alone due to a scarcity or lack of access to resources. The second is the perception or recognition that in order to achieve certain objectives the organisation must submit to the pressure of external forces.

The following primary reasons are identified by Howarth et al (1995) as to why firms are collaborating:

1. Access to new market/customers
2. Meet customer demands for integrated products
3. Share Research and Development costs and risks
4. Access to labour expertise
5. Structure competition
6. Access to distribution channels
7. Circumvent government and trade barriers
8. Decrease design and development stages
9. Access to technologies
10. Customer-supplier links
11. Economies of Scale

Green and Lenard (1999), indicate several potential benefits for stakeholders involved in Project Alliances that include reduced exposure to litigation through open communication and issue resolution strategies, lower risk of cost overruns due to better time and cost control, improved quality as energies are focused on the ultimate goal and not misdirected to adversarial concerns, open communication and unfiltered information that allow for more efficient resolution of problems, lower administrative costs, and increased productivity because of elimination of defensive case building.

Howarth et al (1995) notes that alliances provide a mechanism for overcoming many problems that firms face today and that the end objective in the formation of strategic alliances may essentially be the attainment of goals that are impossible to achieve alone.

Manivong and Chaaya (2000) state that alliance teams perform exceptionally well and that most efficiencies are due to installing a win-win culture and trusting relationships between parties as well as innovation and intelligent risk taking. The issue of innovation is further supported by Green and Lenard (1999) who highlight that the opportunity for innovation is enhanced by open communication and elements of trust, especially in the development of value engineering changes and constructability improvements. Communication, commitment and trust are identified by Jefferies et al (2000) as critical factors in order to maintain a healthy environment to increase the probability of success.

How Is A Project Alliance Formed?

The formation of a project alliance comprises of several important stages and processes that need to be performed if the alliance is to accomplish its goals (Jarillo, 1995). This research project identified seven vital steps collated from the review of literature in relation to how alliances are formed. These include:

1. The Starting Point
2. Recognising the Opportunity
3. Creating the Plan
4. Choosing the Right Participants
5. The Alliance Understanding
6. The Alliance Contractual Arrangement
7. Commitment, Trust and Honesty

According to Durbidge and Stretton (2000) there are various stages involved when forming an alliance. During the early stages, these include an initiating process that involves the inclusion of alliances within the corporate plan and a planning process for specific alliances. The executing and controlling process involves the selection and confirmation of alliance partners and the closing process draws the forming phase to a conclusion.

Alliances offer many opportunities to both corporations and specific projects but it is important that all partnerships recognise the opportunities offered to the alliance. Bergquist (1995) has recognised and compiled the following six points, which indicate the opportunities that alliances can offer to willing corporations:

1. Alliances are often formed to yield efficiency. Partnerships allow participating organisations to do more with less. They provide high-quality products or services at lower costs than is possible working in isolation.
2. Alliances provide flexibility. Their structures and agreements can be changed to meet shifting needs and conditions.
3. Alliances offer expanded resources. Partners have easier, more convenient access to important specialized resources such as expertise, space, technology and materials.
4. Alliances often create expanded markets for their participating organisations, including wider geographic reach and/or access to new segments of an established market.
5. Alliances offer their participants a sense of interdependence. They offer both connections and community, increasing their participants' involvement with and reliance on people in other participating organisations.
6. Alliances offer an increased opportunity for personal gratification, including increased personal involvement, control, and professional fulfillment

De la Sierra (1995) notes that creating an alliance is much easier when management develops a comprehensive game plan in advance. Crafting a clear plan of action in advance can streamline the negotiations process and help to identify and resolve potential problem areas. He identifies the following elements for consideration:

1. Identify who are the planners;
2. Test for internal support for the alliance;
3. Uncover who is opposed to the deal and why;
4. Do not make premature promises with early letters of intent;
5. Map out a list of musts and wants for the alliance;
6. Plan, plan and plan some more. You can never finish your homework;
7. Iron out structural and procedural issues;
8. Identify potential trouble spots to minimise the risks of collaborating with competitors;
9. Assess human resource needs for the alliance;

10. Factor competitors' and/or government reactions into the alliance equation.

Walker (2000) suggests that alliance partners are selected on the basis of their expertise and ability to meet stringent performance criteria before price is considered. Trustworthy, committed and world-class professional and competent firms are invited to join with the owner/client to develop the project. The project price target is then developed through design and development with agreed risk and reward sharing arrangements established. Cost savings are derived from improved value for money through leverage of skills and expertise of the alliance partners in developing the project concept through to delivery.

The Wandoo B case study

Research method

A Case Study of a recent and successful project alliance (Wandoo B Project) was carried out via a two-stage interview process, first round and second round interviews, and the evaluation of the participant's roles and actions within the alliance. There are certain circumstances, as noted by Yin (1984), which provide a justifiable reason for the application of a single case study research method. As the Wandoo B Project was the first Alliance project in Australia, a single case study is appropriate as it represents an extreme or unique case

The following questions posed in this case study were developed and refined from the review of the literature:

1. Why was an alliance contract selected for this particular project?
2. How was the alliance implemented within the project?

A series of structured interviews were conducted with the senior management of the Wandoo Project Alliance. Accompanying the structured interviews was relevant documented information that pertains to the specific single case study, such as contractual and financial data. The first round interviews were with six senior managers representing a broad spectrum of alliance participants influential in their management roles in the areas of design, construction, fabrication and/or installation on the project. The specific participants that were selected for interview within the Single Case Study included:

1. The Chairman of the Alliance Board
2. Two Company Directors from the Alliance Board of Directors (from separate participating corporations)
3. The Project Director
4. Project Manager
5. The Consultant Facilitator employed for the Alliance Case Study

The second round, or follow-up, interviews were conducted after the results of the first interviews were compiled. These second round questions, relating to the results found, offered a degree of refinement to the findings of the research and provided the analysis with greater depth. The Wandoo B Project involved five major international corporations, who formed the first project alliance in the Australian Construction Industry (Thompson, 1998). The five participants within the Wandoo B Project were:

1. Ampolex Limited
2. Brown and Root
3. Keppel Corporation
4. Ove ARUP and Partners
5. Leighton Contractors

MELBOURNE LIBRARY

Project background and results

The Wandoo Development began in December 1994 and was successfully completed, within budget and within time, in approximately 26 months in March 1997. A marginal project was made viable. By normal standards, the economics of the Wandoo field were marginal. The introduction of the alliancing method for project delivery produced outstanding performance and an ongoing viable operation for the client, Ampolex. The Wandoo Alliance was the first alliance to be formed in Australia. Alliance members sought to develop a unique culture of mutual trust and respect, a 'no-blame' approach, with the development of a synergy between all parties. This culture bred innovation and enables excellent results to be achieved by focusing on the outcomes and challenging conventional standards. Innovative financial arrangements aided the successful delivery of the alliance. The innovative financial arrangements employed by the Alliance required the development of a trusting relationship between all parties with a clear understanding of each other's expectations and goals. Profits and gainshare were determined and split only on the total job result and not on each portion separately. This induced very close working relationships, and the final gainshare of Australian \$16 million is testimony to the success of the alliance method.

A synergistic approach was built through teamwork. A synergy was built up between the design, construction, installation and operation teams and was created by having them all work within the same office, in Perth. Design parameters were able to be set and reviewed based on consideration of installation and construction methods as well as operating requirements. The Wandoo platform used world first innovation. For example, Wandoo was the first platform in the world to use the Hideck floatover installation method for topside in open sea conditions onto a pre-installed concrete gravity sub-structure. This installation method provided a cost effective and time-efficient solution. The project was characterised by intricate planning, intensive engineering and detailed risk analysis. Slipforming of concrete was adopted wherever practicable to ensure rapid progress. The Alliance integrated international corporations. The Wandoo Project saw the merging of Australian, Asian and British-based participants into a vital and effective entity in a remarkably short time. Alliancing was used to negate any cultural differences and propel the participants toward the agreed goals.

From the review of the literature several points were gathered with regards to why project alliances are formed. These are highlighted in the following table:

WHY ARE ALLIANCES BEING USED?	
▪	Cope with changing business conditions
▪	Access to new markets and diversification
▪	Risk sharing
▪	Acquisition of complementary skills and technology
▪	Improve relationships and synergy

Table 1

Table 2 indicates the outcomes of the test results as to why an alliance was used for the Case Study?

WHY WAS A PROJECT ALLIANCE USED ON THE WANDOO B DEVELOPMENT?	
▪	The Wandoo development was a marginal project and required an extraordinary approach
▪	Client did not wish to form/establish an in-house engineering capacity and the traditional contract approach was unsuccessful with Wandoo A
▪	The contractors/participants were specialists and willing to apply a new project approach
▪	The project approach needed to set difficult targets in order to produce dramatic cuts in construction costs and time

Table 2

How are Project Alliances being Implemented?

The following diagram (figure 1) illustrates how the Case Study project alliance was formed. From the diagram it can be seen that the formation of the alliance was carried out within several stages. There are preliminary stages where investigation into the alliance approach was performed, then the alliance was formed with the five participants who underwent a technical study period to set the formation of the project alliance prior to commencement.

Discussion of results

Why are project alliances being used?

The Wandoo Development was an economically marginal project and in order for it to succeed it required an extraordinary approach. After investigation from the Client, which included international investigation through the UK and the US, the alliance approach was determined as the most viable option considering the position of the marginal project.

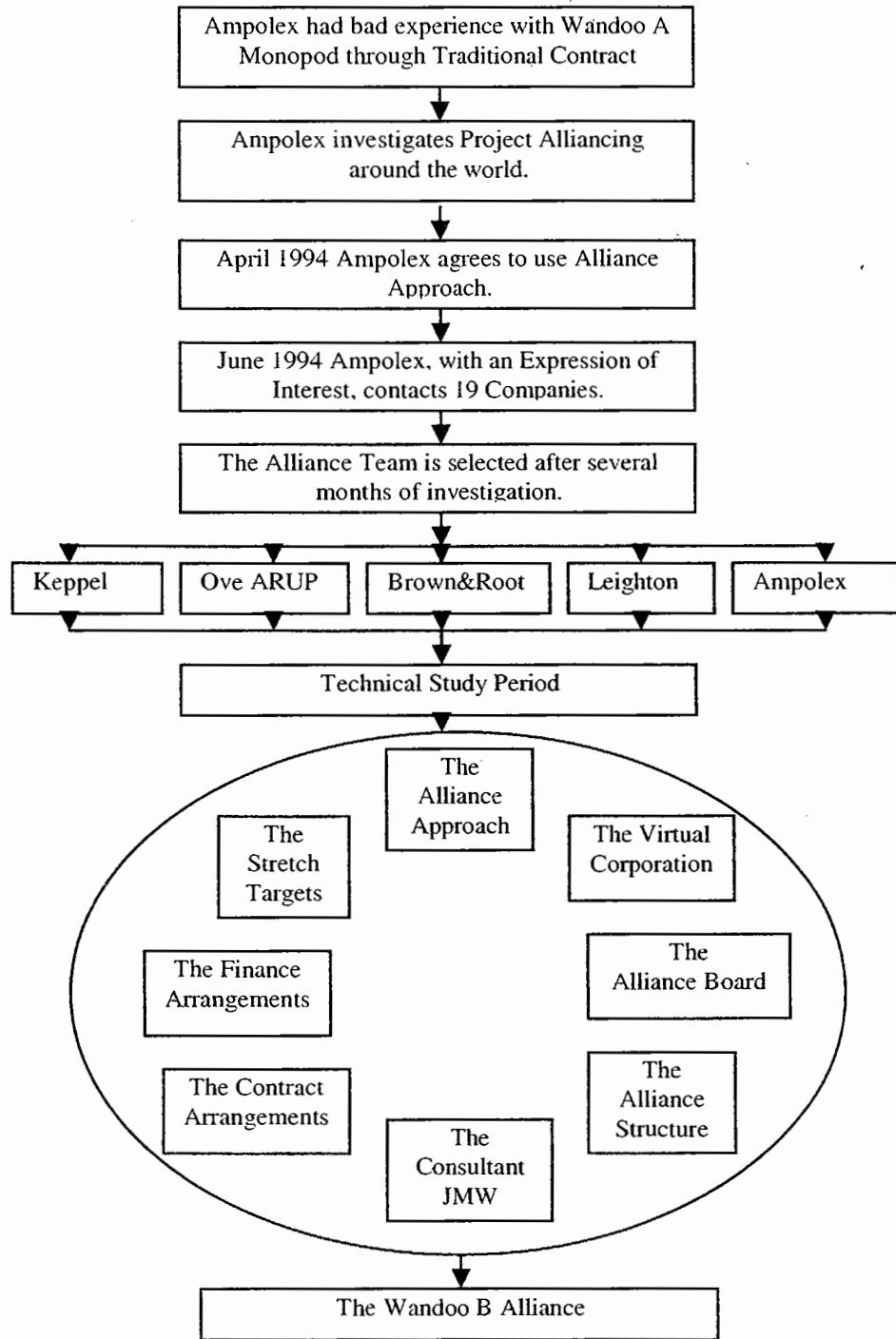
The Client of the Wandoo Development, Ampolex, did not wish to form an in-house engineering capacity as this would only increase their corporate capacity while most corporations were performing the opposite of downsizing. Ampolex were not interested in the traditional contract approach due to 'their previous experience with the Wandoo A Development' where they overran the project in both time and cost as well as ensuing litigious problems.

The participants of the Wandoo Development were specialists in their fields and they were willing to apply a new project approach. Another key reason why the alliance was formed was influenced by the participants of the proposed alliance. The participant's commitment and willingness to apply the appropriate methods aided the successful formation of the alliance. A large degree of the participant's commitment and willingness came from their individual specialist backgrounds as each company performed a specific stage of the development and hence they were all dependent on each others ability to perform their particular stage successfully.

Another reason why a project alliance was used for the Wandoo B Development was that the project approach needed to set difficult targets in order to produce dramatic cuts in construction costs and time. The Wandoo Development would not have been able to achieve the required cuts in construction cost and time if they had used a traditional contract approach, it was only through the corporations working close together as an alliance that the targets were achieved and in some places excelled.

CONFIDENTIAL LIBRARY

Figure 1 – How the Wandoo B Project Alliance was Formed?



Similar and differing views were suggested by the literature and the Wandoo experience. The literature suggests that alliances are being formed because of many globally influencing factors, such as market and country diversification. In the Case Study the alliance was formed out of the pure

desire to perform the project efficiently and effectively where other contract methods would be left wanting.

How are project alliances being implemented?

The analysis of the literature in comparison with the Case Study identified the following steps to form a successful alliance:

The first step in forming an alliance is the 'starting point' and the second is 'recognising the opportunity', which includes understanding all the requirements and components of an alliance structure. These steps are also included within the formation of the Case Study alliance where a bad project experience lead to the investigation into project alliancing around the world for a more viable project approach.

The third step is 'creating the plan', which is assessing the planning process of an alliance. A comparable step to this is also noted in the Case Study where, after several months of investigation and consideration, the Client agrees to use the alliance approach for the Wandoo B Development.

'Choosing the right partners' is the next step where a clear understanding of the alliance partners is produced as well as their compatibility with all the other alliance participants. This step is also noted within the formation stages of the Case Study where the Client, over many months, assesses the appropriate participants for the project alliance and selects the most attractive participants for the Wandoo B Development.

The review of the literature also notes that 'the alliance understanding' and 'the alliance contractual arrangement' follows the partner selection period. These are both critical stages in the formation of the alliance and the Case Study has also identified these stages within the technical study period where some of the following points were addressed:

- The alliance approach
- The virtual corporation
- The alliance board
- The alliance structure
- The consultant JMW
- The contract arrangements
- The finance arrangements
- The stretch targets

It was noted in the literature that there were several steps to the formation of an alliance and these steps can be successfully collated to those taken in the formation of the Case Study. The only differing stage to the formation of an alliance between the two research modes is the Technical Study Period within the Case Study. This period of the alliance enabled the formalities of the alliance approach to be refined and agreed upon by all participants prior to the commencement of the project.

Conclusion.

The application of the project alliance process that has been successfully used in the oil industry can be applied to the construction industry. According to Walker (2000) the recently commenced Australian National Museum project in Canberra, is breaking new ground in the construction industry, as it is the first alliance building project to be undertaken in Australia. The project is adopting practices followed by alliance projects in the energy and mining industries, such as the Wandoo B Development.

The formation of alliances has enabled a diversified approach to construction projects that has received mixed responses from the Industry. Many are wary and unsure about new 'ideas' with

regard to project management issues, while some are willing to enter into alliance contracts with limited knowledge on the new concept but with a desire to perform as a participant within an extraordinary project.

An alliance is formed because of many influencing factors that, in most circumstances, are necessary for the successful completion of a project. These influencing factors arise from an aspiration to achieve certain attributes for the specific project. The changing complexities of business conditions and the dramatic increase in competition through the industry have stimulated the need to form new management approaches such as project alliances. Very difficult and risky industry conditions led to the formation of project alliances and alliances are also formed to acquire complementary skills and technology.

The implementation of an alliance into a specific project requires commitment, trust and the desire to set-up a flexible arrangement within all participants of the alliance agreement. It is imperative when an alliance is being implemented that all participants are aware of the methods and approaches of alliance contracting as ignorant participants will hinder the probability of alliance success. Once awareness is attained between alliance participants it is paramount that the appropriate alliance arrangements are composed to set the contractual, financial and managerial directions of the specific project.

Project alliances should attempt to incorporate a 'study period' when integrating the project alliance to enable participants to work together prior to project commencement. The study period formulates the alliance arrangements with all members of the project contributing to the arrangements. This period will enable the participants to apply alliance concepts preceding the commencement and assure that a collaborative environment is formulated.

Project alliancing offers many advantageous possibilities for the future directions of construction management. This opinion is not agreed by all, but there is no doubt that alliancing is changing the competitive structure of many industries including the Construction Industry, and as companies see their competitors lock arms, it will become increasingly difficult for them to operate alone. This may result in the increase in project alliancing or perhaps the development of new and unique project methods for construction management. The future of project alliancing is bound only by the limitations that the Construction Industry sets.

REFERENCES

1. Bergquist, W., Betwee J., and Meuel D. (1995) *Building Strategic Relationships*, San Francisco: Jossey-Bass Publishers.
2. De la Sierra, C. (1995) *Managing Global Alliances: Key Steps for Successful Collaboration*, Addison-Wesley Publishing Co., p 52.
3. Doz, Y.L. and Hammel G., (1998) *Alliance Advantage: The Art of Creating Value through Partnering*, The Library of Congress Publication Data, Harvard Business School Press.
4. Durbidge, A. and Stretton A., (2000) *Applying Features of Project Management Life Cycles to the Management of Strategic Alliances*, in (ed) Crawford, L. Proceedings of the 4th International Conference of the International Research Network on Organising by Projects, UTS, Sydney, January 9th - 12th pp 188-199.
5. Economist Intelligence Unit (1997) *Vision 2010: Designing Tomorrow's Organisation*, London/New York/Hong Kong: Printed by Roland Offset Service Inc.
6. Green S.D., and Lenard, D. (1999) Organisational Issues in Procurement Systems, In (eds) Rowlinson S. and McDermott, P., *Procurement Systems: A Guide to Best Practice*, E. and F.N. Spon, London, pp 57-82.
7. Houlder, (1995) *Financial Times*, Oct 2.
8. Howarth, C. S., Gillin, M. and Bailey, J. (1995) *Strategic Alliances: Resource-Sharing Strategies for Smart Companies*, Pitman Publishing, Melbourne.
9. Jefferies, M.C., Gameson, R., Chen, S.E., and Elliot, T. (2000) Project Alliances - Factors for Success. In (ed) Serpell A., *Information and Communication in Construction Procurement*, CIB W92, Publication 249, pp 313-328.
10. Kwok, A. and Hampson K. (1996) *Building Strategic Alliances in Construction*, Queensland University of Technology, AIPM Special Publication.
11. Lewis J. (1998) *Channel Magazine: Developing Trust in Strategic Alliances* <http://www.semi.org/Channel/1997/feb/features/trust.html>
12. Lynch, R.P., (1989) *The Practical Guide to Joint Ventures and Corporate Alliances*, Wiley and Sons Inc., pp 14-15.
13. Manivong, K. and Chaaya, M. (2000) *Life Cycle Project Management*, in (ed) Crawford, L. Proceedings of the 4th International Conference of the International Research Network on Organising by Projects, UTS, Sydney, January 9th - 12th, pp 221-229.
14. Thompson G., (1998) *Project Alliances Conference*, Mallesons Stephen Jaques Solicitors.
15. Walker D.H.T., Hampson, K. and Peters, R. (2000) Project Alliancing and Project Partnering - What's the Difference? In (ed) Serpell A., *Information and Communication in Construction Procurement*, CIB W92, Publication 249, pp 641-656.
16. Yin R. (1984) *Case Study Research - Design and Method*, Sage Publications