

Construction Partnering – Is Relationship Agreement better over Traditional Practices?

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Abstract

In contrast to traditional partnering approach, relationship agreements provide an alternative delivery method in which all parties work together as a cohesive team to achieve an agreed outcome, and boast a range of advantages that have yet to be realised by the wider construction industry. The objective of this study was therefore to better understand the concept of relationship agreements by identifying advantages, limitations and critical factors in relation to traditional approach leading to success of the delivery method. A questionnaire survey was designed to test the respondent's perception of advantages, limitations and factors critical to the success of relationship agreements. Based on the quantitative analysis of the data received from 97 valid responses in the survey, the research was able to generate a range of results that support and contradict those found in previous studies. It was concluded that while Relationship Agreements may not be as time efficient as Traditional Procurement Methods, the integrated management team has a number of advantages. The results achieved in the study highlight a number of advantages and limitations in relationship agreements.

Keywords: relationship agreements, critical factors, project success, advantages & limitations

1. Introduction

Perhaps the most recognisable characteristic of the construction management industry is its bullish mentality towards standard forms of project procurement. The idea that “your profit loss is my gain” is entrenched throughout all standard procurement methods and can only be seen as counter-productive as it generates a variety of inefficiencies during project delivery. While this problem exists on an international level, the following study has been based on medium to large scale developments in the Melbourne construction industry.

The bullish mentality displayed in the construction industry often results in a difference of opinion on project issues escalating into disputes and claims with informal adversarial attitudes (Jones 2001). The conflict will then result in unnecessary cost and time delay to the project which could otherwise be avoided. Previous studies have shown that errors by the contractor in the preparation of a tender price and uncertainty of design at the time of tender can result in substandard quality of workmanship (Naoum 2000). Anecdotally, an earlier involvement of an integrated team potentially assists in reducing conflicts among the project partners. Relationship Agreements adopt a project management process in which all parties work together as a cohesive team to achieve an agreed outcome. Rather than penalising non conformance with the threat of liquidated damages and excessive variation claims, etc; participants in a relationship agreement will generally receive a share of profit that is determined by the overall team performance. Critical attributes of relationship agreements include accelerated delivery times, reduction in conflict, appropriate risk allocation, informed decision making and a reduction in the overall project cost. Previous studies have shown that sharing of a profit margin ensures team decisions result in a “best for the project” outcome, rather than that of the individual parties, therefore forming the primary theory behind Relationship Agreements (Rahman and Kumaraswamy 2002).

Relationship Agreements can be seen in both the form of a Project Alliance and Partnership, while the notion of partnering is well understood. The idea of a Project Alliance is a relatively new concept and unfamiliar to many working in the industry. Previous studies indicate that three factors critical to the success of Relationship Agreements include the establishment of the Joint Risk Management team to effectively manage the project risks (Rahman and Kumaraswamy 2002), ensuring team member trust and are confident in one another’s abilities (Wong and Cheung 2005) and establishing open and reliable lines of communication between team members (Ross 2006).

Although the theory behind Relationship Agreements remains relatively simple, previous studies have shown that a lack of trust between parties and a difference in opinion on resolving disputes may jeopardise an otherwise successful project and cause an unwarranted market perception of the particular procurement process (Bresnen and Marshall 1999). In consideration of the above findings, this study proposes to unveil the perceptions of the industry, identifying the pros and cons of relationship agreement in relation to traditional approach and thereby highlight the key distinctions of the critical factors in achieving project success.

2. Background review

Partnering has been viewed as an effective tool in successful delivery of projects across many countries including UK (Naoum 2003; Wood and Ellis 2005), Europe (Williams and Lilley 1993), Hong Kong (Rahman and Kumaraswamy 2002) and Singapore (Kwan and Ofori 2001). There is an increasing perception that partnering could help managing risks and uncertainties and thereby improve productivity in projects (Bresnen and Marshall 2000; Chan 2001; Cheung et al. 2006). Given the nature of modern construction projects where involvement of multitude of contracting parties result very high risks, partnering based on relationship agreements and cooperative teamwork perceived to be an effective medium for managing conflicts between diverse participants (Rahman and Kumaraswamy 2002).

Traditional procurement methods generally produce a culture of defensiveness, with each party spending significant amounts of time on money on protecting its contractual position. Even where the parties are on relatively good terms, management cost will include full detailed documentation in the case of dispute (Jones 2001). In case of a dispute, the general focus of each party is on blame allocation, rather than finding a workable solution for the problem. The constant threat of a dispute arising creates a defensiveness in the general context of contractual negotiations in which each party attempts to transfer more risk onto the other.

Traditional delivery methods generally select the lowest tender bid in order to reduce the costs associated with the project, however, it is often the case that lowest tender bid is incorrect. Incorrect tender bids, combined with management decisions to exclude profit and even overheads when desperate to win a tender, can result in contractors work being of substandard quality. Incorrect bids may also result in the contractor pursuing claims and inflated measurements to recover losses, both of which can result in disputes between the contractor and the client, causing unwarranted cost over-run and program delays to the project (Naoum 2000).

A lack of vision on behalf of the client and failure to take into account any factors other than the tender price can also lead to substandard quality of the work and poor OHS practices if the contractor selected is not experienced or suited to the particular project. Traditional Procurement Methods may also result in a lack of value management and design innovation as builders are restricted to pricing a predetermined solution with specific products. Much focus is placed on liquidated damages and performance security which provide only negative incentive to perform with little focus on rewarding the contractor for completing the project ahead of schedule. At most, liquidated damages ensure compliance with the minimum contractual requirements, with little reward for outstanding work or to encourage to the contractor to strive for and excellent result (Jones 2001).

In contrast, Relationship Agreements embrace a wide range of approaches to managing the owner-constructor relationship based on the recognition that there is a mutual benefit in a cooperative agreement (Jones 2001). An integrated project team is assembled early in the project phase, who eventually share in

a profit determined by the overall project outcome, decisions are therefore made on a best for project basis. The two most common forms of Relationship Agreements include Project Alliances and Partnerships.

Partnerships in Australia have generally been formed on a typical contractual agreement with an overlying detail confirming the relationship agreement. This could, for example include both parties signing a typical AS4000 contract with an executed agreement placed over the top of the contract, confirming the details of the relationships (DTF 2006). In the past, partnerships that have been established in this fashion have experienced limited success, as confusion remains over precedence of the documents (Ling *et al* 2006). While many partnerships have been successful on projects that have not required dispute resolution, when a dispute erupts, parties tend to refer back to the traditional contract rather than the overlaying relationship agreement, therefore ignoring the benefits associated with the executed Relationship Agreement (Ngowi 2007; Wong and Cheung 2005).

In contrast to Partnerships, parties that participate in a Project Alliance sign a formal agreement that explicitly states the terms and conditions of the alliance, therefore leaving no confusion of the contractual terms (Jones 2001). Alliance agreements have experienced success in Australia on projects that have been fast tracked. However, such projects still evidently suffer from ill-defined risks and many unknowns (Ross 2006).

The structure of Relationship Agreements involves a collaboration of owner and non owner participants to deliver the capital project, with all participants sharing the responsibility for the project risks and for achieving project outcomes. The project model creates a commercial framework where all participants will win or lose, depending on their collective performance against agreed project objectives. This then creates incentive to achieve project objectives and a “best for project” focus among the participants (Cheung et al 2006).

Having reviewed the characteristics and key structure of the partnering arrangements, diverse views on pros and cons of partnering agreements in relation to getting best values in projects emerge. However, a clear consensus in terms of understanding the relationship agreement among wider project stakeholders and its links to the successful project delivery is not quite widespread in the past literature (Cheung et al 205; Jones 2001). The objective of the study was therefore designed to better understand the concept of Relationship Agreements by identifying advantages, limitations and critical factors leading to success of the delivery method. The aim is limited to the investigation and evaluation of the potential advantages and limitations involved in relationship contracting.

3. Research methodology

The survey method was adopted to test the hypotheses proposed in this study. A questionnaire survey was designed for respondents to assess the performance of a project that they had participated and to evaluate

the influence of the variables in measuring respondent's perceptions of the advantages and limitations of Relationship Agreements. The questions were phrased to ask the respondents an affirmative response on the relevant indicators impacting the success of relationship agreements in project. Respondents' profile and the project information were also collected in the survey.

Before undertaking an industry-wide survey, a pilot study was conducted among a five member focus group explaining the research intents and the questions in order to validate the contents for accurate translation of the overall model construct. Based on the feedback received, the questionnaire was refined and the ethics clearance was obtained from the University Ethics Committee for conducting the industry-wide survey. The preliminary data was collected from a total of 43 medium to large construction firms in Australia. The target population of the survey in this study was contractors, architects, consultants and owners involved mostly in infrastructure, residential and commercials projects.

Table 1: Summary of respondents' profile

<i>Filed of work</i>		<i>Experience (years)</i>		<i>Project budgets (\$ million)</i>	
<i>Contractor</i>	<i>58%</i>	<i><3</i>	<i>21%</i>	<i><5</i>	<i>2%</i>
<i>Architect</i>	<i>10%</i>	<i>3-5</i>	<i>24%</i>	<i>5-20</i>	<i>11%</i>
<i>Consultant/Designer</i>	<i>19%</i>	<i>6-10</i>	<i>29%</i>	<i>21-50</i>	<i>8%</i>
<i>Owner/Developer</i>	<i>13%</i>	<i>11-21</i>	<i>22%</i>	<i>51-100</i>	<i>47%</i>
		<i>>20</i>	<i>4%</i>	<i>>100</i>	<i>32%</i>

Table 1 shows the respondents profile in terms of field of work, years of experience and project size. Total 150 questionnaires were mailed out or hand delivered to target participants involved mostly in the senior management teams and 97 valid responses were returned. Among the 97 respondents, 56 are contractors, 10 are architects, 18 are consultants or designers and 13 are owners or developers. A response rate of 64% has been considered as extremely successful as this exceeds the 37% threshold of the suggested response rate of a survey of this kind (Stevens 2002). Such a response rate was primarily due to the selection of the sample and the interaction between the researcher and the respondents in confirming willingness and participation in the study. The valid dataset was then analysed on SPSS software.

4. Data analysis

Determination of a suitable analytical tool for testing the data is an important first step for achieving research success. In order to derive the advantages and limitations in relationship agreements, a number of analytical tools were used namely descriptive analysis, bi-variate correlation, independent t-test and factor analysis. However, due to sake of brevity, the analysis and results of descriptive analysis and independent t-test are only discussed in the following sections.

4.1 Descriptive analysis

A descriptive analysis was used to graphically represent the breakdown in respondents, and demonstrate the basic statistical distributions of the responses on selected variables. Based on the past literature, a range of variables were identified across both Relationship Agreements and Traditional Procurement Methods. The review of the mean values of the respondent's responses from Relationship Agreements and Traditional Procurement methods indicates the importance of each variable and highlights any advantages or opportunities for improvement for each procurement technique.

Table 2: Top five Mean Scores

Rank	Relationship Agreements		Traditional Agreements	
	Variable	Mean	Variable	Mean
1	Team member build a broad range of skills	4.25	Team member pro-active in resolving problems	3.61
2	Team Environment = informed decision making	3.94	Team member understand Risks	3.55
3	Delivery method = best for project outcome	3.89	Team member build a broad range of skills	3.48
4	Team member understand Risks	3.78	Delivery process = high quality workmanship	3.39
5	Team member pro-active in resolving problems	3.78	Delivery process = high quality individuals work	3.26

Table 2 shows the list of the five variables in the survey with the highest mean scores from both Relationship Agreements and Tradition Procurement methods and therefore could be interpreted, on a basic level, as the most important variable for each procurement method. Although some variables appear to be common to both Relationship Agreements and Traditional Procurement Methods, an adequate contrast was also found among each management technique. Although some variable were same for both management techniques, their mean scores were quite different. Thus, a comparison of mean score has been reviewed using the T-test analysis. It is also noted that all five mean scores from Relationship Agreements are larger than the means displayed for the top five Traditional Procurement variables.

The results in Table 2 support the literature by Ross (2006), as the most important variable for Relationship Agreements, with a mean score of 4.25 (above agree), was “team members are able to build on a broad range of skills”. This result highlights the benefit of the integrated project team established by Relationship Agreements and suggests that in removing the adversarial nature present in many Traditional Procurement methods, team members are able to learn important skills from one another.

The second most important variable was that the “team environment consistently resulted in informed decision making” with a mean score of 3.94 (agree). One would expect that constant interaction between team members is an advantage of Relationship Agreements as it not only results in informed decision making but also enables team members to build on a broad range of skills. The third ranked variable for Relationship Agreements was “The project delivery method consistently results a best for project outcome” with a mean score of 3.89 (agree). This variable is an obvious advantage in the agreement structure and the result confirms its importance in comparison to other believed advantages (Ross 2006).

“Team members understanding the project risks” was the forth most important variable, with “team members being proactive in resolving disputes” the fifth with means of 3.78 and 3.78 respectively. While both variables ranked in the top five of importance for Relationship Agreements, it is difficult to see any particular advantage for the management technique as both variables also ranked in the top five for Traditional Procurement Methods, with the mean scores being relatively similar for both. From the above, it is difficult to confirm the findings of Rahman & Kumaraswamy (2004) as members in Relationship Agreements didn’t report to have any greater knowledge of the project risks than participants in Traditional Procurement Methods.

The traditional procurement column in Table 2 suggests the two most important variables for Traditional Procurement Methods are “team members being pro-active in resolving disputes” and “team members understanding project risks” with mean scores of 3.61 and 3.55 respectively. As discussed above, both variables were also ranked of importance by participants from Relationship Agreements with the mean scores being similar for each. It is difficult to draw on any specific advantage, however it should be noted that participants from Traditional Procurement Methods perceive both variables as the most important in terms of ranking means.

The third most important variable identified in Table 2 was “team member building on a broad range of skills with a mean score of 3.48. Again, this variable was included in the top five for Relationship Agreements, however, the mean scores are considerably different. The mean score for Relationship Agreements was 4.25, considerably higher than the mean score of 3.48 from Traditional Procurement Methods. The results suggest that while the variable is important to both management techniques, it is considerably more important for Relationship Agreements than Traditional Procurement Methods.

The forth and fifth most important variable for Traditional Procurement Methods related to “quality of workmanship” and “quality of the individuals work”, with mean scores of 3.39 and 3.26 respectively. The findings regarding quality did not support the previous studies by Jones (2001), who suggested the quality of work in Traditional Procurement Methods suffers due to method of selecting a preferred tenderer.

Table 3: Limitations and Opportunities

Rank	Relationship Agreements		Traditional Agreements	
	Variable	Mean	Variable	Mean
1	<i>Lack of communication leads to inefficiencies in project delivery</i>	2.09*	<i>Lack of communication leads to inefficiencies in project delivery</i>	2.26*
2	<i>Project delivery process could be reviewed to be more time efficient</i>	2.33*	<i>Lack of trust leads to inefficiencies in project delivery.</i>	2.32*
3	<i>Project delivery process could be reviewed to be more cost effective</i>	2.42*	<i>Project delivery process could be reviewed to be more cost effective</i>	2.77*
4	<i>Lack of trust leads to inefficiencies in project delivery</i>	2.78*	<i>Milestones are delivered on budget</i>	2.97
5	<i>Disputes arise from a difference of opinion in the project team</i>	3.00*	<i>Project objectives are achieved through the use of incentives</i>	2.98

* Inverse of actual mean score recorded due to structure of question on the survey.

Table 3 highlights the five variables that received the lowest response from the participants. From the table we can identify the three variables that were common for both Relationship Agreements and Traditional Procurement Methods. They are ‘Lack of communication leads to inefficiencies in project delivery’, ‘the project delivery process could be reviewed to be more cost efficient’ and ‘lack of trust leads to inefficiencies in project delivery’.

Reviewing the above suggests that the integrated project team established by Relationship Agreements does not necessarily lead to reliable communication between the project team, and therefore, could not be identified as an advantage of the delivery method. Further to the above, Table 3 suggests that Relationship Agreements are not necessarily more cost efficient than Traditional Procurement methods and the mean difference indicates that Traditional Procurement Methods may, in fact, be the most cost efficient delivery process. While Table 3 suggests both methods could improve the level of trust between project team members to increase efficiency, the mean difference of 0.46 indicates that lack of trust generates more inefficiency in Traditional Procurement Methods than Relationship Agreements. The findings regarding lack of trust influencing project efficiency support those of Ngowi (2007), who suggested partners in Relationship Agreements will be vulnerable to project inefficiencies in project delivery due to lack of trust.

In addition to the above, the results for Relationship Agreements indicate that the delivery process could be reviewed to be more time efficient and that disputes regularly arise from a difference of opinion by the project Team. It is expected that “disputes” in this case may relate to problems that are resolved internally rather than referring to issues that may require legal intervention, to resolve a stand off between two or more parties.

Table 3 also highlighted that a further two limitations in Traditional Procurement Methods were “delivering the project on budget” and “objectives are achieved through the threat of non-performance

rather than use of incentives”. The mean score for “achieving project objectives” was expected and had been previously highlighted by Jones (2001), who suggested the structure of Traditional Procurement Method relies on the project teams meeting the requirements set out in an agreement or contract, failure to do so would then result in punishment through contractual repercussions. If Relationship Agreements are successful in achieving objectives through the use of incentives, one could consider the variable as an advantage.

The descriptive analysis performed on the survey included independently testing and comparing data sets to indicate the advantages and disadvantages of Relationship Agreements. While testing the means will indicate the trend in responses on the survey, the independent T-test highlights the significance of each variable comparison and indicates if the data is reliable.

4.2 Independent T-Test

The independent T-Test is used to compare means between two groups of people (Field 2005). For the purposes of this study, the two groups are respondents from projects managed by Relationship Agreements and respondents from projects managed by Traditional Procurement Methods. The independent T-test has been selected for the study as it is used in situations in which there are two experimental conditions (Relationship & Tradition Procurement methods) and different participants have been used in each condition (Field 2005). The test is conducted by comparing the means from two samples of data from a consistent variable. It is assumed that samples come from different populations but are typical of their respective parent population, therefore, the difference between sample means represent a genuine difference between the two group opinion.

Table 4 highlights the mean comparisons with a two tailed significant value less than 0.05. The significant value indicates that the data is reliable and the mean is a true representation of the variables importance, in regards to each procurement method. As seen, we can make a number of assumptions regarding the advantages and limitations of Relationship Agreements. The mean difference of 0.80 for the first variable in the table suggests that Relationship Agreements could be reviewed to be more time efficient. The mean score from Traditional Agreements was 2.87 indicating that most participants were neutral or disagreed with the statement, however, the mean score from Relationship Agreements of 3.67 therefore indicating that a higher percentage of participants agreed with the statement. From the above we can conclude that Relationship Agreements may not be the most time efficient way to deliver a project and can assume the agreement structure could be modified in most cases to be more time efficient.

Table 4: Independent T-Test Results

<i>Variable</i>	<i>Traditional Mean</i>	<i>Relationship Mean</i>	<i>Variance</i>	<i>Significance (two-tailed)</i>
<i>The project delivery process could be reviewed to be more time efficient</i>	2.87	3.67	0.80	0.000
<i>The team environment consistently results in informed decision making</i>	3.23	3.94	0.72	0.001
<i>Working with other member of the project team enabled the individual to build on a broad range of skills</i>	3.48	4.25	0.77	0.002
<i>Current delivery process consistently produces a best for project outcome</i>	3.23	3.89	0.66	0.002
<i>Project Milestones are consistently achieved on program</i>	3.06	3.56	0.49	0.014
<i>Disputes are resolved quickly and efficiently</i>	3.26	3.69	0.44	0.041

The second variable noted with a high significant value was the “team environment consistently results in informed decision making”. The mean score for Relationship Agreements was 3.94 (Agree) and therefore 0.72 higher than the mean score for Traditional Procurement Methods. This data supports the findings by Ross (2006) who proposed informed decision making as an integral advantage of the Relationship Agreement structure. The results suggests that constant interaction between the project team will result in the significant advantage, that team members are well informed before making decisions, and will therefore make decisions that consistently benefit the project.

The third variable highlighted in Table 4 indicates that the integrated project team established by Relationship Agreements enables team members to build on a broad range of skills. The mean score for Relationship Agreements was 4.25 indicating the average response was between “Agree” and “Strongly Agree” and represented a 0.77 increase on traditional responses. The data suggests that team members working on project managed by Relationship Techniques will be more likely to build on a broad range of skills than team members working on projects managed by Traditional Agreements. We expect that the adversarial contractual relationship established by Traditional Procurement Methods would result in lack of confidence and trust between each party, therefore reducing any chance of learning or developing skills from interaction with each other. Relationship Agreements however, establish an environment in which

the team members work together, therefore presenting opportunities to learn from one another. The findings again support the studies complete by Ross (2006), who also suggested that by undertaking roles not normally available within their organisation, team members of a Relationship Agreement will build on a broad range of skills.

While being relatively open ended, the fourth variable in Table 4 suggests that Relationship Agreements are more consistent in producing a “best for project” outcome than Traditional Procurement Methods. The mean response to the variable from Relationship Agreements was 3.89 compared to the mean response from Traditional Procurement Methods of 3.23. We can therefore assume that the variance of 0.66 indicates that Relationship Agreements are more consistent in producing a best for project outcome. Further to the two previously reviewed variables, these findings support the publication by Ross (2006), who suggested the “commercial framework (of Relationship Agreements) creates a joint best for project focus among all participants by creating incentives that align all participants’ objectives”.

The fifth variable highlighted in Table 4 suggests Relationship Agreements are more likely to deliver project milestones on program than Traditional Procurement Methods. In reviewing the variable it is important to remember that we are not actually comparing past project performance, but rather studying participants’ perception of the variables. While the participant’s perception would lead to believe that Relationship Agreements are more successful in delivering a milestone on program, a direct case study comparison of projects adopting Relationship and Traditional principals might provide more evidence on the matter.

The final variable in Table 4 indicates that disputes are resolved more quickly and efficiently in Relationship Agreements than Traditional Procurement Methods. It is not surprising that the 0.44 variance in mean scores is significant as the structure in Relationship Agreements involves project teams working towards a shared profit margin, compared to traditional Procurement Methods where the outcome of a dispute could significantly impact one party’s profit.

4.3 Comparing Means

Although many of the means compared in the T-Test received significant values greater than 0.05 and are therefore deemed to have occurred “by chance”, it is important to compare means and identify any variance that contradicts or complements those means deemed significant. Comparing the means generated by independent t-test suggests that traditional agreements are not only more time efficient, but comparing means indicates that they are also more cost efficient (variance 0.36). Relationship Agreements are more likely to deliver project Milestones on budget with a variance of 0.31 and the pricing of project costs is more transparent, fair and reasonable in Relationship Agreements than Traditional Procurement Methods with a variance of 0.30. The structure of Relationship Agreements encourages a higher quality in the individuals’ work than Traditional Procurement Methods. The allocation of risks is more appropriate in Relationship Agreements than Traditional Procurement Methods and the

team members in Relationship Agreements have a clearer understanding of the project risk than members in Traditional Procurement Methods (variance 0.23). More disputes are perceived to arise from a difference in opinion in Relationship Agreements than Traditional Procurement Methods (variance 0.23). Lack of communication between team members is perceived to leading to more inefficiencies in Relationship Agreements than Traditional Procurement Methods with a variance of 0.17. Team member in Relationship Agreements are more pro-active in resolving disputes than team members in Traditional Procurement Methods with a variance of 0.16.

As mentioned above, the two-tailed significance value for the above comparisons was greater than 0.05, therefore it is likely that the result occurred by chance, however, it should be noted that there is a positive trend in mean score for Relationship Agreements when making a direct comparison to the mean score from Traditional Procurement Methods.

5. Conclusions

Comparing the mean score ranking for Relationship Agreements and Traditional Procurement Methods highlighted a number of variables that were critical in delivery of both management techniques. Variables such as building skills, understanding risks and being pro-active in resolving problems were important to both management techniques, while cost efficiency, trust and communication between the project team require improvement under both Relationship Agreements and Traditional Procurement Methods. Comparing the significance and mean scores for each variable in the independent T-test will outline further advantages and limitations in Relationship Agreements.

On reviewing the means comparison deemed significant by SPSS, it was concluded that while Relationship Agreements may not be as time efficient as Traditional Procurement Methods, the integrated management team has a number of advantages. In the relationship agreement, the team environment consistently results in informed decision making and working with other member of the project team enabled the individual to build on a broad range of skills. Current delivery process consistently produces a best for project outcome and the milestones are consistently achieved on program across the projects. Disputes are resolved quickly and efficiently.

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