THE BOOT APPROACH FOR STADIUM AUSTRALIA: REFLECTING ON THE CRITICAL FACTORS FOR SUCCESS

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ABSTRACT

Trends in the provision of infrastructure development over recent years indicate that the private sector is playing an increasingly important role in the procurement process. This trend has partly arisen out of a necessity for the development of infrastructure to be undertaken at a rate that maintains and allows growth. This has become a major challenge for many countries where it is evident that these provisions cannot be met by government alone. The emergence of Build Own Operate Transfer (BOOT) schemes as a response to this challenge provides a means for developing the infrastructure of a country without directly impacting upon the government's budgetary constraints. The concepts of BOOT are without doubt extremely complex arrangements, which bring to the construction sector risks not experienced previously. Many of the infrastructure partnerships between public and private sectors in the past are yet to provide evidence of successful completion, since few of the concession periods have expired. This paper examines perceptions of BOOT schemes in order to develop a framework of critical success factors. This is developed and tested against a case study of Stadium Australia.

KEYWORDS:

BOOT procurement; case study; critical success factors; Stadium Australia

INTRODUCTION

There is a growing trend for governments and other clients in the construction industry to place major projects into the private sector (Angeles and Walker, 2000). The private sector is playing an increasingly important role in this trend that has partly arisen out of a necessity for the development of infrastructure to be undertaken at a rate that maintains and allows growth. This in turn has become a major challenge for many countries, and particularly so where it is evident that these provisions can not be met by government alone, as they have typically been in the past.

The emergence of BOOT schemes as a response to this challenge, provides a means for developing the infrastructure of a country without directly impacting on the government's budgetary constraints. Walker et al (2000) state that in the BOO, BOT and BOOT acronyms, the 'B' represents 'Build', the first 'O' stands for 'Own', the second 'O' for 'Operate' and the 'T' for 'Transfer'. With the BOT family of procurement options an alliance or joint venture group forms to provide a facility for a client for which the client makes a concession agreement to fund the facility until that facility's ownership is transferred to the client. This arrangement is more common for infrastructure projects than buildings because the concession allows for tolls or other payments to be made by end-users to cover the cost of both procuring the facility and its operation (Walker et al, 2000).

Many countries have now embarked on infrastructure projects procured via BOOT or the use of similar methods. The scheme is now widely practiced and spreads among a diverse range of countries from Australia, Canada, Hong Kong, UK and the US to countries like India, Malaysia, Mexico, Thailand and the Philippines (Walker & Smith, 1995). Most of these projects are financed on a

limited recourse basis and built and operated as a private venture under a project agreement involving the host government.

Many of the infrastructure partnerships between public and private sectors in the past are yet to provide evidence of successful completion, since few of the concession periods have expired. Therefore, the aim of this paper is to examine perceptions of BOT/BOOT schemes to establish a framework of critical success factors that can be tested and developed against a case study undertaken on a current project.

It became evident several decades ago that governments globally had major shortcomings in funding public works. The fundamental influences from these issues are what have developed the trends towards privatisation and more specifically infrastructure procurement strategies such as BOT. According to Walker and Smith (1995), the infrastructures of 'developed' countries such as those of Western Europe, North America, Japan and Australia are under strain from two principal influences. Firstly, the existing and limited infrastructure is unable to keep pace with the growth of the country and secondly, is the demand for health and welfare due to an ageing population. Walker and Smith (1995) also acknowledge the problems and challenges for 'newly industrialised countries' such as Malaysia, Hong Kong, Taiwan, Mexico and South Africa. Here the common problem, defined as urbanisation, is caused by a population explosion placing heavy demand on an already limited infrastructure.

Unless specifically stated otherwise, the acronyms BOT and BOOT are referred to as similar procurement strategies in this paper, and are often used interchangeably.

HISTORY OF BOT PROJECTS

From the late 1700s, tax revenues on the wealth generated from the ongoing phases of the Industrial Revolution meant that governments were increasingly able to directly fund their own infrastructure. Occasionally forms of concession arrangements were adopted where large or specialist undertakings were required. The popularity in the use of concession contracts decreased in industrialised countries as the initial infrastructure was completed. Of most significance around this time, was the 99 year concession contract used for procurement of the 195km Suez Canal (Walker & Smith, 1995). The Suez Canal Company was empowered by the Egyptian government to build and operate the canal. The Canal was to be financed by European capital with Egyptian financial support, and a concession to design, construct and operate this revenue producing facility was expected from the Egyptian ruler of the time, Pasha Muhammad Ali (Levy 1996).

As demonstrated by the Suez Canal experience, the concept of private sector participation in infrastructure provision is not a new idea. It is however, only in the last two decades that BOT concepts have become high on many government agendas. Australian examples of the BOT approach include the Sydney Harbour Tunnel, M4 and M5 tollways in New South Wales and the Ord River Hydro-Electric Scheme in Western Australia (Angeles and Walker, 2000).

THE BOT CONCEPT

The acronym 'BOT' was reported to be first used in the early 1980's by Turkey's late Prime Minister Targut Ozal. When a private sector group has a concession to build and toll a motorway project for say 20 years, this is a BOT. If, however, their concession also allowed them to own, build and rent warehouse space (for the concession period of 20 years) at certain locations along the motorway then the contractual arrangement in place is described as a BOOT agreement (Walker & Smith 1995).

Most BOT projects are first identified by the host government. In advertising or requesting for proposals, the host government asks for bids to have a particular project delivered on a BOT basis. It is also possible, although less common, for a project opportunity to first be identified by a private consortium, who then propose it to the host government (UNIDO 1996).

The BOT concept uses a well established approach of financing the project known as "project finance". Project finance techniques have been applied in the US to the development of commercial real estate, and were further developed in the 1970's in the North Sea in connection with oil and gas projects. Now commonly used in BOT or similar arrangements, they are being used for numerous infrastructure projects involving power plants, roads, railways, bridges and water treatment plants. The financing of this infrastructure is very different to the financing of a shopping centre for example. In equipment or real estate financing, the lender's primary security is the capital value of the asset. Toll roads or power plants, on the other hand, have uncertain capital value and a very limited potential for resale. The lender's primary security therefore, are the contracts supporting the project and the certainty of the revenue stream set out in the project agreement (UNIDO 1996).

In practice, most BOT projects are financed on a limited or in some cases a non-recourse basis. Non or limited recourse financing is a financing structure in which the main source of debt repayment or equity return is the assets or returns that result from the project. The lender is relying on the project assets and cash flows for repayment and debt service. The deals are called "limited recourse" when the sponsors' liability is limited to the amount they invested in the project if it fails, or "non-recourse" when the sponsors have no liability for project failure. The non-recourse approach is only used in cases where the project is clearly capable of supporting the debt (Walker & Smith 1995).

PHASES AND CHARACTERISTICS OF A BOT PROJECT

In analysing a BOT project from conception to completion of the concession period, there are a number of very different phases. These phases present varying challenges and risks across stages of feasibility, construction and then operation. The following 'Phases of a BOT Project' were identified by the United Nations Industrial Development Organisation (UNIDO) during preparation of their infrastructure development guidelines in (UNIDO 1996):

1. Identification - identify project; define form of financing; preliminary feasibility study; assign project manager and team; government decision.
2. Government Preparation for Tendering - procurement procedure; prequalification of tenderers; project agreement; tender documents; bid evaluation criteria.
3. Sponsor's Preparation to Bid - form consortium/possibly project company; feasibility study; identification of potential partnership; submit bid package.
4. Selection – evaluate bids; clarifications/adjustments; project award.
5. Development - form project company; equity contributions; loan agreements; financial closing; construction contract; supply contract; off-take contract; insurance contract; operation and maintenance agreement.
6. Implementation - construct facility and install equipment; testing and commissioning; acceptance; technology transfer and capability; building; evaluation.
7. Operation – during the concession period; inspection; training; technology transfer and capability; building.
8. Transfer – transfer procedure

CRITICAL FACTORS FOR SUCCESS

A number of authors have compiled lists of factors they consider critical to the success of project procurement under BOT or similar concepts. It seems logical that both risk and success factors in these contexts are considered and this does indeed form the basis of one of the author's Research Higher Degree Programme. Salzmann and Mohamed (1999) suggested that risk and success factors should be considered together, due to the point that a factor can be described in not only a negative sense (risk factor), but also in a positive sense (success factor). But, for the purpose of this paper the success factors are identified and tested in the case study.

Tiong, Yeo and McCarthy (1992) considered the critical success factors involved in winning a BOT contract. Their research centred on case studies of BOT projects and interviews of project sponsors

and government officials. Their list of critical success factors necessary for consideration prior to the bidding process included the six main categories of:

1. Entrepreneurship
2. Selecting the right project
3. Strong team of stakeholders
4. Imaginative technical solution
5. Competitive financial proposal
6. Special bid features

Tam, Li and Chan (1995) developed a "Five P's" framework for the successful launching of BOT projects with special significance given to the power industry in South East Asia and China. The authors suggest that "many companies have found careful planning to be the simple secret…they researched the market and its characteristics, found the best partner and project, and structured the project to protect their position and to assure profitability".

Their research concluded that successful BOT venture planning and execution involves consideration of the Five P's. This framework tends to view the success factors from an investor's perspective, wishing to identify and then establish a BOT project. The Five P's being:

1. Project - identification of suitable projects is the first critical step.
2. Partner(s) - close attention must be paid to aspects such as goals, possession of political influence, provision of equity and possession of project management skill.
3. Pattern - investors must consider the structure of the investment, for instance, the importance of local participation and representation.
4. Profitability - providing a predictable level of profit.
5. Protection - protecting the relationship created with the project partners.

Ogunlana (1996) stresses that not all projects are suitable for procurement by BOT methods, and that given the numerous risks faced, projects should be in the local interest with government support, there should be long term demand for the service offered by the project with limited competition from other projects and the legal and political systems in which the project is situated should be stable.

UNIDO (1996) concluded their publication of guidelines for BOT projects, with a review of factors that are particularly important for the success of a BOT project. The following list provides a summary of their success factors:

- The project must be financially sound, feasible and affordable
- The country risks must be manageable
- There must be strong government support
- The project must rank high on the host government's list of infrastructure projects
- The legal framework must be stable
- The administrative frameworks must be efficient
- The bidding process must be fair and transparent
- BOT transactions should be structured so as to be concludable within a reasonable time and at a reasonable cost
- The sponsors must be experienced and reliable
- The sponsors must have sufficient financial strength
- The construction contractor must have sufficient experience and resources
- The project risks must be allocated rationally among the parties
- The financial structure must provide the lenders adequate security
- The currency, foreign exchange and inflation issues must be solved
- The BOT Contractual framework must be coordinated and must reflect the basic economics of the project
- The public and private sectors need to cooperate on a win-win basis

The following table of success factors has been developed from the review of the related literature:

Table 1 - Success Factor Framework (including parties managing success factor) developed from the review of the related literature

Success Factors	Project Company	Insurance Co.	Project Participants	Host Govt.	Comment/Response
Environmental impact issues	♦			♦	Well prepared EIS will assist in the biding process
Approval-efficiency level or complication in negotiations	♦			♦	Efficient approval process assists the likelihood of success
Technical innovation/ complex project	♦		♦		Technical innovation can be a solution to overcoming project complexity.
(Under)developed legal/economic framework	♦			♦	Is a critical success factor which all parties must be aware of yet is sometimes a 'gamble' borne by the project company in undertaking a project.
Political (in)stability-	♦			♦	Indicated by many authors to be the most significant and most difficult area of risk to manage. Greater political stability and support will aid in success
Selecting the right project	♦			♦	Not all projects are suited to BOT procurement. Both private and public sectors need to find agreement in the advantages BOT would offer a project/parties over other methods Tiong et al (1992).
Existing joint ventures/strategic alliances	♦				This experience or network is viewed favourably. Further, a local partner/s in an international BOT contributes greatly toward success. Experience may be viewed in terms of country (Previous host country) and at what level (International/National consequence)
Organisation size-resource/m'ment ability	♦				Proven experience and adequate resource to expedite such contracts relaxes government concern in the award of the project. The factor also broaches issues of level and availability of local/national knowledge and expertise
Trust				♦	Government will feel more comfortable in awarding the project if the sponsors are known and trusted
Community support	♦			♦	Strong community support can only assist the project's likelihood of success. It may result also in a quicker and more efficient approval process
Feasibility studies	♦			♦	Comprehensive feasibility is critical to the project success from both public and private perspective
Transfer of technology	♦			♦	The technology transfer benefits associated with a BOT proposal may assist with government and local support, thus raising success likelihood
Investor financial capability/ credibility	♦				Critical to the success of the project. The need exists also for the project company to be able to account for contingency factors.
Consortium structure	♦				The structure forms the foundation for all risk management and contributes significantly to the project's likely success. Importance of local participation and representation is vital.

RESEARCH METHODOLOGY

In their consideration of research methods, particularly within the construction field, Fellows and Liu (1997) comment that a case study yields deep but narrow results. The possibility of the case study results being 'narrow' is accepted in that they are restricted to the case study project in question. The development of a 'perfect' BOT model applicable to 'all' infrastructure projects is not the aim of this research. This is difficult given the complex, fragmented and unique characteristics of individual construction projects. However, the case study will serve to test the validity of the success factor framework developed from the related literature, and possibly provide for further refinement as a sound foundation applicable to BOT projects in general.

Yin (1984) noted that the single case study method is an appropriate application where the case in question represents an extreme or unique case or that the situation has not previously been the subject of detailed scientific investigation. Given the fragmented nature of the construction industry, the many forms of BOT procurement and its variations, and the 'unique' nature of commercial infrastructure projects in general, it is not possible to study either a 'typical' project or a group of projects which represent the entire application.

A single case study has been selected as the most appropriate means for this research paper. Collection of evidence for the case study was achieved by reviewing the documentation and reports provided by the consortium stakeholders, government office and general project literature and an informal interview process with key management personnel involved in the project.

PROJECT BACKGROUND

Following the announcement on 24 September 1993 that Sydney had won the right to host the games of the XXVII Olympiad, work began on the planning and development of the facilities. The Olympic Coordination Authority (OCA), was established on 30 June 1995 by the NSW government, replacing Homebush Bay Corporation (HBC) to oversee the process.

Multiplex and Hambros led the private sector consortium, known as Australia Stadium 2000, to respond to HBC's August 1994 invitation for proposals to design, construct, finance, operate and maintain an Olympic stadium. In January 1995, HBC announced a shortlist of three consortia, including Australia Stadium 2000, and a call for detailed proposals was issued in June 1995. It was at this time that Macquarie Bank joined the consortium. In September 1995 Obayashi Corporation also joined the consortium.

The government announced in January 1996 that the Australia Stadium 2000 consortium had been nominated as preferred proponent for the project. It was not until August 1996 that the Olympic Coordination Authority then awarded the proposal to design, construct and operate the facility to the 'Australia Stadium 2000' consortium. The Stadium Australia Trust and OCA signed the project agreement in September 1996 (Stadium Australia Group 1996a).

Although the stadium evolved as a result of Sydney's successful bid for the 2000 Olympics, the project is now being run by Stadium Australia Management as a classic BOOT scheme. The A$615 million project is capable of seating 110,000 spectators now and for the Olympic Games, but will be reconfigured following the games providing a capacity of 80,000 spectators.

Relationships and Contractual Arrangements

The OCA granted the Stadium Australia Trust the Trust Lease on the completion date of the stadium, being March 1999. The term of the Trust Lease expires on 31 January 2031 or, if the Project agreement is terminated before this date, on the date of termination of the project agreement. On the lease expiry date, the ownership and operational rights of the project transfers to the government (OCA) for nominal consideration. Up until that time, the Trust Lease covers, by lease and exclusive licence, the land on which Stadium Australia is constructed. The Trust Lease does not however cover

the precinct or adjacent area. The Trust has in turn granted the sublease and sub-licence over the same land to Stadium Australia Management.

Stadium Australia Management is therefore the operational entity of the group which generates revenue from operation of the facility. From this revenue Stadium Australia Management is required to meet certain operating expenses. The Sublease obliges Stadium Australia Management to make quarterly fixed and variable rental payments to the Trust. The rental income received by the Trust is used to meet payments to the major maintenance reserve, the principal and interest obligations under the debt documents, administration expenses and payment obligations to OCA under the Trust Lease and the Project Agreement (Stadium Australia Group 1996a).

Beyond this intricate web of legal relationships, the Trust has an appointed Trustee. Perpetual Trustee Company Limited is one of the largest independent trust companies in Australia and has this responsibility. The Trust manager is Tower Hill Investment Managers Limited, a company jointly owned by Hambros and Multiplex (Stadium Australia Group 1996a).

Financing the Project

Financing of Stadium Australia has been as unique as the stadium itself. The approach broke a number of financing barriers because of a unique set of structures and an innovative approach. The Stadium Australia Group is a publicly funded group. According to a Senior Manager of Stadium Australia Management Limited "We are a publicly listed entity and we were founded on our ability to raise both debt and equity...of the initial A$550 million investment, the public float raised A$350 million. The float was unsuccessful in that it finished short, but from a stadium viewpoint, it didn't make an enormous difference to us because the underwriters paid the shortfall."

The project is stated to have a total development cost of A$615.2 million. This cost includes: design and construction costs of Stadium Australia and the associated precinct area; fitout costs of the stadium (apart from the fitout of private suites leased to third parties); the cost of reconfiguring the stadium and precinct area after the Olympics; development costs including those incurred during the bid process, design fees, listing and legal fees, stamp duty, financial advisory fees, accounting taxation advice and those to achieve financial close including marketing; pre-opening costs incurred prior to the project completion date; and financing costs including equity underwriting fees, debt related fees and costs, funding for a debt service reserve account and capitalised interest on the construction loan facility (Stadium Australia Group 1996b).

Equity funding for the project was raised via gold and platinum investors, founders and commercial investors. The capital structure of the Trust and Stadium Australia Management was such that at financial close, investors would hold or be obliged or entitled to subscribe for approximately 97.3 million units in the Trust, and an identical number of shares in Stadium Australia Management. The time obligations for payment of these investments were different, with gold and platinum investors (or underwriters take-up) being paid before financial close, while most founders and commercial investors' subscriptions were required to be made within 5 days of project completion (Stadium Australia Group 1996b).

The financing of Stadium Australia broke a number of financing barriers due to the innovative techniques employed. These included introducing the first Australian Stock Exchange (ASX)-listed lifestyle product. It was also the first triple-stapled listed product. Most shares on the ASX are simple products which involve straight ownership of equity. Stapled products involve add-ons which are designed to make the overall product more attractive or to suit the particular needs of the project. In the original float offerings, gold and platinum packages involved three things - Olympic tickets, membership entitlements and equity investment; thus the recognition of a triple-stapled product. Each unit in the Trust is stapled to a share in Stadium Australia Management.

The ability to attract equity investors into a BOT project is only a component of the overall financing requirements. Ability to raise debt and attract organisations willing to offer these arrangements is the

other significant component. The primary debt funding for Stadium Australia was a Construction Loan Facility and now a Term Loan Facility. ANZ Bank and ABN AMRO agreed to provide a A$161 million Construction Loan Facility to the Trust under the terms of the Construction Loan Facility Terms Sheet.

The Project's Revenue Sources

The future financial success of the Trust and Stadium Australia Management depends substantially on their ability to generate corporate hospitality revenues and membership subscriptions. The achievement of these revenue targets will depend on the number and type of events held at Stadium Australia. Revenue generated from corporate hospitality and membership subscriptions over the 32 year concession period, need to be adequate to cover interest payment, debt repayment, dividends on equity investment, operational costs and ideally a sufficient profit margin.

Corporate hospitality revenues are expected to be the largest contributor toward operating revenue. Fees from Stadium Australia Club are also expected to be a significant revenue source. These two sources together are expected to contribute approximately 65% of the revenue of Stadium Australia Management in the year ending 30 June 2002. This is anticipated to be the first year with a full season of sporting events. During the Olympic period in 2000, Stadium Australia Management will receive negligible income from SOCOG. Food and beverage sales, merchandising, event rentals and signage rights outside the Olympic period form part of the anticipated operating revenue (Stadium Australia Group 1996b).

SIGNIFICANT SUCCESS FACTORS

The interview process identified the following key success factors:

1. The consortium had a wealth of expertise, considerable experience, high profile and a good reputation.
2. An efficient approval process that assisted the stakeholders in a very tight timeframe.
3. Innovation in the financing and equity raising methods meant that the consortium "had a very good 'winning' strategy." They demonstrated ability to raise both debt and equity.

A Senior Construction Manager during the preferred tenderer and early construction stages of the project described a further critical success factor, perhaps overshadowed only by the innovative 'winning', "A crucial success factor of the project was also the representatives of the 2 key companies involved (Multiplex and Hambros). These people were extremely committed, dynamic, aggressive and yet accommodating. Multiplex and Hambros were a very good fit. The team members got on very well and worked together in a trusting relationship."

This comment reiterates the success factors of teamwork and complimentary style, consortium structure and general trust as identified in the framework established from reviewing the literature. Asked whether it is likely that, in hindsight, any of the stakeholders would change their approach, the senior construction manager thought not. He qualified this by commenting that this was easy to state given that the comment came from within the consortium that actually won the bid. Comment was however made of a different approach taken by OCA on subsequent Olympic projects procured under similar methods, "In hindsight from a government perspective, instead of selecting a single preferred tenderer as early as they did, they would have taken two consortiums further down the evaluation process in the hope of realising further competition benefits."

The culmination of reviewing contract summaries, project documentation and discussions with several key project personnel is evident in the following success factor framework specific to Stadium Australia:

Table 2 - Success Factor Framework (including parties managing success factor) developed from the case study

Success Factors	Stad. Australia Trust	Insurance /Under-writers	Cont-ractor	Project partici-pants	Host Govt. (OCA)	Comment/Response
Environmental impact	♦				♦	A carefully prepared EIS will often assist in bid and approval processes. Particularly important given Sydney's bid for the Olympics as the 'Green games'
Approval process-efficiency/complicated negotiations	♦		♦		♦	The promise of efficient approval processes assists likelihood of success. Comprehensive DA was in fact submitted by OCA. Efficient approval process meant that consent was given 8/8/96 before project agreement was signed in September 1996.
Technical innovation/ complexity	♦	♦	♦	♦		Technical innovation can be a solution to overcoming project complexity. Innovation was certainly a success factor in winning the project. The financing methods/ASX listing broke new barriers. Project design very innovative, particularly on environmental/waste management.
(Under)developed legal/economic framework	♦				♦	Is a critical success factor which all parties must be aware of yet is sometimes a 'gamble' borne by the project company in undertaking a project.
Political (in)stability-opposed/support	♦				♦	Government was certainly supportive of the project, given the country's responsibility in staging the Olympic games. By virtue of the concession period, BOT projects will see changes in administration. Greater political stability and support will aid in success.
Selecting the right project	♦				♦	Not all projects are suited to BOT. Public and private agreement over the advantages the concept has to offer needs to be found. Project feasibility must show evidence of viability.
Existing JV/ strategic alliances	♦					This experience or network is viewed favourably. A local partner in an international BOT contributes greatly toward success. Experience viewed in terms of country (previous host).
Org. size-resource m'ment ability	♦					Proven experience & adequate resource to expedite such contracts relaxes govt. concern in award of the project. Issues of level and availability of local/national knowledge and expertise are vital
Trust					♦	Govt. will feel more comfortable in awarding the project if the sponsors are known and trusted
Community support	♦				♦	Strong community support can only assist the project's likelihood of success. It may result also in a quicker and more efficient approval process
Feasibility study	♦				♦	Comprehensive feasibility is critical to project success from both public and private perspective
Transfer of technology	♦				♦	Technology transfer benefits may assist with govt and local support, thus raising success likelihood. NSW Govt publication (Guidelines for private participation in public infrastructure), raises the issue and highlights it as a success factor in evaluation of bids/ proposals.
Financial capability	♦					Financial capability & credibility are critical to the success of the project especially regarding investors. The need exists also for the project company to be able to account for contingencies.
Compatibility/ complimentary	♦	♦	♦	♦	♦	This was a significant factor in the Stadium Australia. All consortium teams 'fitted' well with complimentary styles and created a sense of trust among key parties.
Consortium structure	♦					Structure forms the foundation for all risk management & contributes significantly to the project's likely success. In international BOT, local participation and representation is crucial.

DISCUSSION OF RESULTS

The procurement of Stadium Australia under BOOT, is in accordance with Australian Government's increased acceptance of alternative forms of project procurement and search for private sector infrastructure investment. Both the literature and case study confirmed the critical importance of consortium structure as a success factor in winning BOT projects and the successful operation of them. The case study consortium had a wealth of expertise, considerable experience, high profile and a good reputation. This played a significant role in the consortium's successful bid. The literature confirmed the critical importance of a well organised and defined structure for the parties taking a stake in a BOT project. It also noted the importance of reputation and profile among the participating parties as a success factor in winning the bid.

The literature stated that "…choosing the most suitable project consortium is the single greatest determinant of the success or failure". The case study reflected much of that comment: "A crucial success factor of the project was that team members got on very well in a trusting relationship".

The literature progresses to list the following factors necessary for the success of such a project. The way that the case study project was found to address each of the issues follows each point.

1. Market concerns with regard to competition and the flexibility to adjust to new markets.

The case study revealed Stadium Australia's flexibility to cater for different or new markets. This is evidenced by the Post-Olympic re-configuration of the layout to allow cricket and football matches. Market concerns in regard to existing competition were not seen as a major threat given the advantages expected in achieving better economies of scale with the larger venue. Some risk mitigation was however offered within the project agreement with regard to limiting the effect of introducing competitive venues within a 50km distance.

2. Concerns with pricing. As the facility may have a degree of monopoly power, the government may wish to regulate fees and charges.

The only concerns revealed by the case study in regard to pricing are in association with the operational revenue risk previously described.

3. Consideration for the quality of infrastructure which actually feeds the new facility.

The case study revealed this factor as an important issue, with particular regard to transportation within the Homebush Bay region. The Transportation Implementation Masterplan outlined OCA's responsibilities in providing this infrastructure which the stadium obviously depends on.

4. Relationships with the 'large' organisations anticipated to use the facility as a hub or essential part of their operation.

The case study revealed agreements with a number of project participants who partially underwrite revenues for the facility. Beyond this, several agreements have been made with organisations such as the National Rugby League for the staging of a minimum numbers of events.

Therefore, the case study project has shown evidence in all respects of fulfilling the success factors required for a sustainable operation.

CONCLUSION

The emergence of BOT or BOOT schemes provides a means for developing the infrastructure of a country without directly impacting on the government's budgetary constraints. Consideration given to BOT characteristics and perceptions has allowed the development of an overall success factor

framework. With application to BOT projects generally, the framework serves the purpose of raising awareness to factors at an early planning stage, such that further consideration can be implemented where applicable. The framework considers issues from all perspectives throughout the construction and development phase through to the operational and eventual transfer phase. The undertaking of a case study allowed the identification of critical success factors relevant to a large infrastructure project procured under the BOT concept.

The most significant success factor applicable to the project in terms of operation is revenue sustainability. The success factor underlying this issue is the logic of achieving better economies of scale out of a much larger venue. In considering the most significant success factor at the developmental stages, the issue of consortium structure was most evident in both the literature and the case study. The consortium structure was of an extremely complex nature, yet consisted of teamwork, complimentary styles and trust among key parties. Contributing to the successful consortium bid, this array of companies demonstrated a wealth of expertise, considerable experience, high profile and a good reputation. However, although this success factor is considered most significant up until completion of the construction phase, it has substantial consequence for the entire project life. As such, extensive consideration and planning given toward the consortium structure may be viewed as the single greatest determinant of success or failure of BOT projects.

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