CSFs in Competitive Tendering and Negotiation Model for BOT Projects

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Abstract: The build-operate-transfer (BOT) model of project development is implemented through the award of a concession to a private sector consortium for the financing, building, and operating of infrastructure projects. Project promoters must, however, realize that the process of winning a major BOT contract in a competitive tender is full of uncertainties and risks. This paper shows that the financial and technical strength of the consortium is regarded as the most important critical success factor in a BOT tender. It also presents the competitive tendering and negotiation model for BOT promoters involved in tendering BOT projects. BOT promoters must give special and continued attention to the model in order to develop a superior proposal that will increase their chances of securing a profitable BOT contract.

INTRODUCTION

As described by Tiong et al. (1992), the road to winning a build-operate-transfer (BOT) contract is not easy. The whole process of project development is a complex, time-consuming, and expensive business. The financial risk is high, competition is keen, negotiations are extensive, and opportunity costs are considerable. Those making BOT proposals must be willing to take calculated risks, be flexible in their attitudes and stance, and their proposals must be adaptable to changing circumstances and demands by the governments. There are grounds for caution for governments in awarding BOT concessions, and the private promoters will need to give special attention to these concerns.

Tiong et al. (1992) qualitatively described the importance and characteristics of six critical success factors (CSFs) that are vital for project promoters in their endeavors to win BOT contracts. These factors are: entrepreneurship, picking the right project, a strong team of stakeholders, an imaginative technical solution, a competitive financial proposal, and the inclusion of special features in the bid. In this paper, the CSFs and their subfactors were modified and updated. Their relative importance was analyzed. The CSFs were then incorporated into a competitive tendering and negotiation model for BOT promoters to develop the strategies and abilities that are necessary to compete in a BOT tender and win the concessions.

RESEARCH METHODOLOGY AND HYPOTHESES FOR CSFs

The two hypotheses for the CSFs in winning BOT concessions are proposed as follows:

1. There are six CSFs that, if combined and given continued and sustained attention, would increase the chances of winning BOT concessions; that is, there is a positive relationship between the CSFs and the success in winning BOT projects.
2. There is a positive agreement between the government and promoters on the importance of these CSFs.

These factors are

- CSF 1: Entrepreneurship and leadership
- CSF 2: Right project identification
- CSF 3: Strength of the consortium
- CSF 4: Technical solution advantage
- CSF 5: Financial package differentiation
- CSF 6: Differentiation in guarantees

The CSF concept should form the basis of a total approach by the promoters to maximize their chances of winning a BOT concession. The CSFs and their subfactors have been qualitatively analyzed by Tiong et al. (1992) to support hypothesis 1. In this paper, the CSFs and their subfactors were modified and updated. Their relative importance was analyzed. For a competitive tender to be successful, the promoter must have a clear understanding of the importance that governments attach to these factors. Therefore, they must have a positive agreement with the governments on the importance of these factors.

The initial selection of these CSFs is judgmental and subjective as it is researched from two sources. First, research comes from documented experiences and lessons learned from successful BOT projects. Detailed studies were done on those BOT projects that were either under construction, in operation, or under negotiation [refer to Table 1 in Tiong et al. (1992)].

The second source of observations was based on interviews of BOT project promoters and government officials and their consultants. The interviews were followed by extensive correspondence for clarifications and validity. The validity of these CSFs and their subfactors was then done through questionnaire surveys.

Data Collection for Cases

In addition to the two sources just mentioned, the information for each of the case projects studied to support the CSFs and the subfactors was also collected from the following sources:

- Request for proposals (RFPs) issued by governments and the bidders' proposals
- Annual reports, company and project profiles, and internal

TABLE 1. Topics in First Set of Questionnaire

Part (1)	Topics of questionnaire (2)
1	General background of companies Viability of BOT investments
2	Risks and uncertainties in BOT projects Criticality of conditions for BOT projects
3	Constraints in promoting BOT contracts Critical success factors and their subfactors Barriers to CSFs
4	Competitive advantage in BOT proposals

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data made available by the companies and government departments
- Newspaper articles, articles in business magazines, journal papers, conference articles by professionals, and government officials

Data Collection for Survey Research

In the research, three sets of questionnaires were developed. The first one was entitled "Critical Success Factors in Winning BOT Contracts" and was aimed at construction professionals on the criticality of subfactors in winning general BOT projects. The questionnaire was divided into four parts as shown in Table 1.

The second set and third set of questionnaires were similar in contents. The second set was entitled "Evaluation of Proposals for BOT Projects" and was targeted at the government officials and their consultants. The third set was entitled "Experiences in Tendering BOT Projects" and was targeted at contractors and project promoters and their financial and technical advisors. One of the aims of these questionnaires is to establish as comprehensively as possible a checklist of CSFs and their associated subfactors to support the building of a competitive tendering and negotiation model for potential private promoters as well as for governments. The structures of the second and third questionnaires are compared in Table 2.

The survey responses and the country distribution of the government officials and promoters who responded to the surveys are presented in Table 3 and also Tiong (1995a,b).

FIRST SURVEY ON CSFs: CRITICALITY OF SUBFACTORS

In the first survey to the construction professionals on the criticality of the subfactors in winning BOT projects in general, the respondents were asked to rank the subfactors in accordance with a scale of criticality. The objective is to analyze the subfactors and to seek evidence to support hypothesis 1. The scale is as follows: 4 = extremely critical; 3 = critical; 2 = fairly critical; 1 = not critical; and NA = not applicable.

TABLE 2. Topics in Second and Third Sets of Questionnaire

Part (1)	Second questionnaire (for government) (2)	Third questionnaire (for promoters) (3)
1	Evaluation statement, criteria, and weights	Company objectives and information on BOT projects tendered
2	Quality of unsuccessful proposals	Reasons for unsuccessful proposals
3	Competitive advantage in BOT proposals	Competitive advantage in BOT proposals
4	Distinctive winning elements in best proposal	Distinctive winning elements in best proposal
5	Final negotiations	Final negotiations

TABLE 3. Country Distribution of Respondents

Country (1)	Government: number of responses (2)	Promoter: number of responses (3)
Australia	4	5
Canada	2	1
Hong Kong	5	4
Indonesia	2	2
Malaysia	5	6
Pakistan	2	1
Philippines	2	2
Thailand	2	2
United Kingdom	3	6
United States	3	4
Total	30	32

Table 4 shows the mean score of the criticality for each of the subfactors and their ranking within each CSF. Many observations and conclusions on the CSFs can be made from the Table 4, and are discussed in the following.

CSF 1—Entrepreneurship and Leadership

For BOT projects, entrepreneurship can be defined as the pursuit of opportunities beyond the financial and technical resources that the entrepreneur currently possesses. Early BOT projects such as the Shajiao 'B' powerplant in China, Sydney Harbour tunnel project in Australia, the Channel Tunnel in the United Kingdom/France and Hong Kong's Eastern Harbour Crossing and Tate's Cairn tunnel projects were pursued and won either by entrepreneurs or entrepreneurial corporations.

Entrepreneurship in the context of BOT projects consists of three subfactors. These are (1) calculated risk taker: (2) cultivating goodwill with host government; and (3) leadership of a key entrepreneur or leading contractor. Table 4 shows that the subfactor of leadership by an entrepreneur or a leading contractor has a mean score of 3.25 and is considered the most critical of all the three subfactors. The scores for the subfactors of calculated risk taker and cultivating goodwill with the host government are close, and are therefore of equal importance. These subfactors are explained here.

Calculated Risk Taker

BOT projects involve taking calculated risks. In Tiong (1995a), the hypothesis that the ability to win a concession is related to the ability of the promoter to retain risks and offer guarantees was supported. In traditional projects, the risks of completion and cost overruns rest more with the government. With BOT projects, it is a single source of responsibility for these risks and BOT promoters must be prepared to retain such risks and then reallocate the risks to minimize the impacts.

TABLE 4. Criticality of Subfactors

Critical success factor (1)	Subfactors (2)	Mean score (3)	Rank (4)
Entrepreneurship and leadership	Leadership from a key entrepreneur or leading contractor	3.25	1
	Calculated risk taker	2.76	2
	Cultivating goodwill and relationship with host government	2.70	3
Right project identification	Accurate prediction of critical need	3.48	1
	Ideal candidate for privatization	2.86	2
	Potential to achieve near-monopolistic advantage for services or products	2.4	3
	Lack of funds by government	2.15	4
Strength of consortium	Perseverance and financial strength for protracted negotiations	3.4	1
	A multidisciplinary and multinational team of stakeholders	2.9	2
Technical solution advantage	Cost-effective solution	3.52	1
	Soundness of solution	3.2	2
	Short construction period	3.1	3.5
	Proven technology	3.1	3.5
	Innovative solution	2.5	5
	Environmental impact	2.2	6
	Public safety	2.0	7
Financial package differentiation	Acceptable toll/tariff levels	3.24	1
	Low construction costs	2.81	2
	Financial commitments	2.8	3
	High equity/debt ratio	2.79	4
	Profit sharing with government	2.5	5
	Short concession period	2.4	6
Differentiation in guarantees	Contractual guarantees to address specific concerns of government	3.0	1
	Imaginative features that demonstrate altruism toward host government.	2.4	2

Cultivating Goodwill with Host Government

This sub-factor is particularly critical in developing and Third World countries, where both the BOT concept and the foreign promoters are sometimes new to the governments. BOT promoters must cultivate goodwill with the host governments by earning their trust and respect through patience and understanding of the governments' positions. They can then slowly educate the governments of the essential characteristics of the BOT concept and develop a long-term relationship with them through successive BOT projects. This is seen in Hopewell's success in winning BOT concessions for powerplants in China, Philippines, and, more recently, in Indonesia and Pakistan.

Leadership from Key Entrepreneur or Leading Contractor

An entrepreneur or a top-level executive such as the chief executive officer or project director must have the support of board of directors and should be authorized to have access to other in-house divisions so that the team has a key project champion that the government can identify with. This is also the person who is responsible for subfactor, that is, to cultivate goodwill with the government. His functions are therefore on the front-line negotiations. The experiences of successful promoters such as Hopewell Holdings of Hong Kong in the China's Shajiao 'B' powerplant project (Wu 1991), and Kumagai Gumi in the Sydney Harbour Tunnel project (Burke 1989) and Hong Kong's Eastern Harbour Crossing project (Thompson 1989) showed clearly the importance of this subfactor in CSF 1.

CSF 2—Right Project Identification

One of the crucial factors in winning BOT contracts is to identify and choose the right project to initiate as in the case of unsolicited proposals, or to compete as in the case of competitive tenders. Governments in several countries have openly declared BOT as the main means of privatizing public services and have drawn up a long list of projects for the private sector to undertake. The private sector must therefore be cautious in selecting the right project to prepare the proposal. There are four subfactors and a number of basic conditions that should apply in order to maximize the chances of the project being demonstrably commercial. These four subfactors are (1) accurate prediction of need; (2) ideal candidate as a privatized project; (3) potential to achieve near monopoly; and (4) lack of funds by host government.

Table 4 shows that the ability to predict accurately the need for the project is considered by the respondents as the most critical subfactor, followed by the other subfactors.

Accurate Prediction of Need

There should be a demonstrated and accepted need for the project. For tolled facilities, the demonstrated need is the critical traffic congestion, especially at peak hours, and there is no other alternative to relieve the congestion except by building another road or bridge. For utility projects such as powerplant or water supply project, the demonstrated need is the acute shortage of electricity or water to meet the domestic or industrial demands. The accepted need is that the governments are aware of the problem and that they are serious in attempting to solve it. In some projects, the governments may have already initiated feasibility studies on new routes or alignments.

Ideal Candidate for Privatization

In a competitive tender for BOT projects, the promoter should try to be reassured of a number of factors that are necessary for the candidate project to be successfully implemented as a privatized project. These concern the existence of enabling legislation or precedents in the country, the government policy regarding the status of intellectual property in the proposal, the number of promoters invited to tender, and the presence of political will and strong capital markets. In addition to these factors, the project should also be characterized by a clear economic rationale. For example, an expressway system in a city center that is facing heavy traffic congestion is clearly more economically viable than that in any outlying area. In Turkey, the thermal power stations privatized under the BOT scheme are located in free trade zones where the proceeds of power sales are in foreign currency. They were therefore less risky propositions than the hydroelectric stations that generate income in the Turkish lira and whose output is dependent on fluctuating river volumes.

Potential to Achieve Near Monopoly

There should be a near-monopoly situation in the provision of the service or product. Bridges or tunnels without competition from alternative crossings are usually more viable commercially than roads with significant traffic diversion, and both are more attractive than mass transit systems (Anderson 1989).

Lack of Funds by Host Government

The urgent need coupled with the lack of funds by the host government in pursuing the much needed infrastructure will form the twin forces that will cause the government to be more receptive to the private sector proposals. If the ministry of finance or central bank has adequate funds or foreign exchange reserves, chances are that the local public works authority concerned may not be too keen in accelerating the privatization of the public projects to the private sector.

CSF 3—Strength of Consortium

A strong partnership should exist within the consortium in order to win the concession. The subfactors in forming a strong team of stakeholders are (1) perseverance and financial strength for protracted negotiation; and (2) a multidisciplinary and multinational team of stakeholders. Table 4 shows that the ability to persevere and the financial strength to stay on the negotiations has a score of 3.4, which is higher than the score of 2.9 for the multidisciplinary team subfactor and is therefore considered more critical.

Perseverance and Financial Strength

In addition to the technical skills for a multidisciplinary and multinational team the team must be able to persevere and must consist of members who are financially sound so that they are able to bear and share the huge development costs and have the staying power to meet the huge demand in management time. This explained why this subfactor was ranked higher than the other.

To have perseverance and staying power, the following professional and personal characteristics are essential in a strong consortium: (1) acceptance of a common goal; (2) capacity for analysis of country-related parameters such as political risk and government commitment; (3) effective negotiating strategy; (4) desire to carry out the project with the determination to succeed, the key elements being the vision and the will to persist against all odds; (5) capacity to mix disappointment with renewed rigor; and (6) suppleness in relation and submerging of potential conflicts of interests among the different parties in the consortium (Pierce 1989).

A Multidisciplinary and Multinational Team

A proper combination of diverse skills and talents is essential in forming a strong team to study the multifaceted requirements of a BOT tender such as preliminary environmental impact study, traffic studies, design, planning, etc. This requires the multidisciplinary team to be formed from the beginning. The original team of stakeholders may be small, but it must consist of highly qualified professionals from reputable companies and with the requisite technical and financial engineering skills (Turner 1989).

CSF 4—Technical Solution Advantage

An imaginative technical solution is another CSF in winning the tender for a BOT project. The element of an imaginative design must provide a simple and cost-effective solution by using proven technology to meet the needs of the project. This will create the competitive advantage against other proposals and make the proposal highly attractive to the government. Other factors include a short construction period (so that the public would enjoy the benefits of the completed facility earlier), consideration of sound environmental impact, and public safety. The winning technical solutions for the Sydney Harbour tunnel crossing, and Hong Kong's Eastern Harbour crossing and Tate's Cairn road tunnel were described in Burke (1989), Turner (1989), and Porter and Mason (1990). An innovative technical solution definitely provides the competitive advantage, and these cases also illustrated that an innovative technical solution could make an attractive financial package possible (Tiong 1995c).

Table 4 shows that the score for the cost-effective solution subfactor is 3.52 and is the most critical of all the subfactors. The next level of factors that are of equal importance are a sound solution, short construction period, and using proven technology, while the environmental impact and public safety subfactors are regarded as of lesser importance.

CSF 5—Financial Package Differentiation

In the evaluation of any proposal from the private sector, both the technical and financial aspects are considered. Under the BOT model, however, it is the commercial and financial considerations, rather than the technical elements, that are likely to be the final determinants in winning the BOT concession. It is the financial package that provides the cost advantage that differentiates it from the other competing proposals. Subfactors such as financial commitments and project sharing with government are viewed favorably.

The cost advantage in a sound and competitive proposal for an infrastructure project is determined by the following four cost drivers: (1) low construction costs; (2) acceptable tolls/tariff levels; (3) reasonably high equity to debt ratio; and (4) short concession period. The financial proposals packaged by Nishimatshu for Hong Kong's Tate's Cairn tunnel, and the proposals by Kumagai Gumi for the Eastern Harbour crossing and the Sydney Harbour project, clearly supported this CSF and its subfactors.

Table 4 shows that the acceptable tariff levels subfactor has a mean score of 3.24 and is the highest as compared with the others. The next most critical subfactors are low construction costs, financial commitments, and a high level of equity.

CSF 6—Differentiation in Guarantees

The two subfactors for this CSF are (1) contractual guarantees to address specific concerns of government; and (2) imaginative features that demonstrate altruism toward host government. In almost all of the winning BOT projects examined, it can be seen in hindsight that the winning proposals in each case had at least some imaginative or risk-taking elements to make its proposal unique. This uniqueness comes from some special features or guarantees in the proposal that provides the differentiation and set it apart from the others.

Table 4 shows that the provision of special guarantees has a mean score of 3.0 and is higher than the provision of special features.

Contractual Guarantees

Guarantees in BOT projects are of the two types: those provided by the government, and those offered by the promoters themselves. Guarantees in the promoters' proposal that can cause differentiation are (1) minimum and stable tool increases; (2) standby credit in case of cost overruns; (3) fixed interest rates; and (4) sharing of revenues and profits with government. Government support is essential for the success of BOT projects. On the other hand, governments do not wish to be seen to provide financial guarantees or subsidies to the private sector. Therefore, the proposal that seeks the least government guarantees and incentives can also provide the distinctive differentiation.

Special Features

These special features are very diverse in application, but there are two themes running through them all. First, they demonstrate the altruism of the promoters and that those promoting the project are not motivated by the prospect of early profit taking. Second, they address the specific fears the host government may have regarding the project under consideration. These fears may concern, for instance, foreign ownership of local companies, overpricing of essential services, or undisclosed development gain. In every case examined, including the Dartford bridge crossing in the United Kingdom, those who had won BOT proposals, having included such special features, had identified the fears and concerns of the government in early negotiation.

The conclusion from the first survey and the preceding discussion on Table 4 is that the subfactors can be of different criticalities as far as winning BOT concession is concerned. They are nevertheless important, and all the subfactors are supported, with the lowest score being 2.0. It is interesting to note that for each CSF, there is at least one subfactor that has a mean score above 3.0, signifying that it is a critical factor. This shows that the professionals do support the subfactors, the CSFs, and thereby hypothesis 1.

SECOND AND THIRD SURVEYS ON CSFs: IMPORTANCE OF CSFs

The second and third surveys were sent to the government and promoters, who were asked to select the CSFs according to its significance and importance in enabling the consortium to win the concession for a specific BOT project that they were personally involved in. The ranking for each of the CSF is based on the number of responses each CSF receives. The larger the number, the higher the response rate, and the higher will be the ranking for the CSF. A response rate of 80%, for example, would mean that 80% of the respondents had selected the particular CSF.

Ranking Based on Response Rate

Table 5 shows the ranking and therefore the relative importance, of the CSFs. The inferences are presented next.

Correlation of Ranking Using Spearman Coefficient

The Spearman correlation coefficient r_s is 0.6, which shows a strong relationship and therefore a strong correlation, be-

TABLE 5. Ranking of CSFs in Winning Specific BOT Projects

Critical success factor (CSF) (1)	Ranking and response rate by governments (2)	Ranking and response rate by promoters (3)
1. Entrepreneurship and leadership	6 (27%)	6 (43%)
2. Right project identification	5 (30%)	2 (72%)
3. Strength of consortium	1 (79%)	1 (76%)
4. Technical solution advantage	3 (44%)	5 (45%)
5. Financial package differentiation	2 (70%)	3 (63%)
6. Differentiation in guarantees	4 (43%)	4 (53%)

tween the responses by the sample governments and promoters. This indicates that the promoters and the governments are in agreement on the ranking of the CSFs.

Several conclusions can be made from Table 5:

- Both the governments and promoters chose CSF 3 as the most important CSF.
- For governments, the order of importance of the other CSFs are (1) financial package differentiation; (2) technical solution advantage; (3) differentiation in guarantees; (4) right project identification; and (5) entrepreneurship and leadership.
- For promoters, the order of importance of the other CSFs are (1) right project identification; (2) financial package differentiation; (3) differentiation in guarantees; (4) technical solution advantage; and (5) entrepreneurship and leadership.
- It can be seen from the Table 5 that the agreement on ranking of the CSFs is on CSF 1, 3, and 6. The ranking for CSF 5 is close, being second by governments versus third by promoters. The disagreement is on CSF 2 and CSF 4. For CSF 2 the ranking is fifth (by governments) versus second (by promoters); while for CSF 4 the ranking is third (by governments) versus fifth (by promoters). The difference in ranking for CSF 2 and 4 will be further analyzed and explained in the next section.
- There is therefore a positive agreement between the governments and promoters that the CSFs are important in winning BOT projects. The order of importance may nevertheless be different, depending on which CSF is being referred to.

Differentiating Importance of CSFs

The response rates are plotted against the ranking of CSFs using the information in Table 5 with one plot for governments and another plot for promoters. Fig. 1 shows the ranking of the CSFs between governments and promoters in terms of the response rates from Table 5.

The observations and conclusions of Fig. 1 are as follows:

- The response rates by the governments fall into an uneven line, as shown in Fig. 1. This is primarily due to the large difference in response rates of 26% between the second-ranked CSF and third-ranked CSF (CSF 5 and CSF 4, respectively), while the difference between the third-ranked CSF and the fourth-ranked CSF (CSF 4 and CSF 6, respectively) is very close at 1%. This shows that there is differentiation of the importance of the six CSFs by governments, with greater importance being attached to the first-ranked CSF and second-ranked CSF (CSF 3 and CSF 5, respectively).
- The response rates by the promoters, on the other hand, fall into a smoother curve. It can be seen that the response rates are in fact fairly orderly with uniform differences. The curve shows that the differences in terms of the response rates are very narrow. Nevertheless, the gentle slope shows that there is a systematic differentiation of the importance of these CSFs in winning BOT projects.

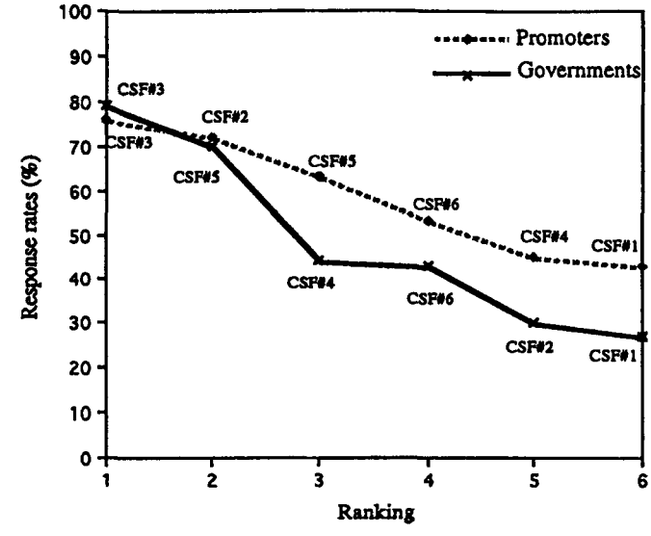

FIG. 1. Ranking of CSFs for Governments and Promoters

- The previous analysis shows that there is a greater preference by governments for certain CSFs, while there is a more balanced, uniform differentiation in the preference for the CSFs by the promoters. Governments chose the factors that they believe would contribute most to the success of the projects, and they believe that strength of consortium and financial package differentiation are the most important. As long as the successful promoter is able to demonstrate these two CSFs in its team and the financial package, the other CSFs, such as the guarantees, should automatically fall in place. It is not surprising that the governments attributed least importance to entrepreneurship and leadership and right project identification. To the government, the proposal with the financial package differentiation and technical solution advantage is more important than whether the promoters possess entrepreneurship or whether they have picked the right project or not, as it should be the prerogatives of the promoters themselves to pick the right project. The government interests are that the technical proposal provides the ideal solution to the needs for the project and that the financial proposal would enable the financing of the technical proposal to be raised.
- To the promoters, they must pay attention to all the CSFs, as the lack of any one would contribute to a certain degree of weakness in its team or proposal. They must adopt a total approach in order to compete in the tender and to win in all aspects. To them the strength of the consortium is the most important. However, they must also identify the right project to pursue right from the beginning so as not to waste their precious resources. Technical solution, on the other hand, is a controllable factor, and once the project is identified, they should be able to provide a sound technical solution. This explains why the promoters ranked right project identification second, while technical solution advantage is ranked fifth. For governments, it was almost the reverse: right project identification was ranked fifth, while technical solution advantage was ranked third. It is interesting to note that the response rate for CSF 4 by both the governments and promoters are very close, at 44% and 45%, respectively. The difference is in the ranking.
- For both parties, the ranking of financial package differentiation is higher than technical solution advantage—for

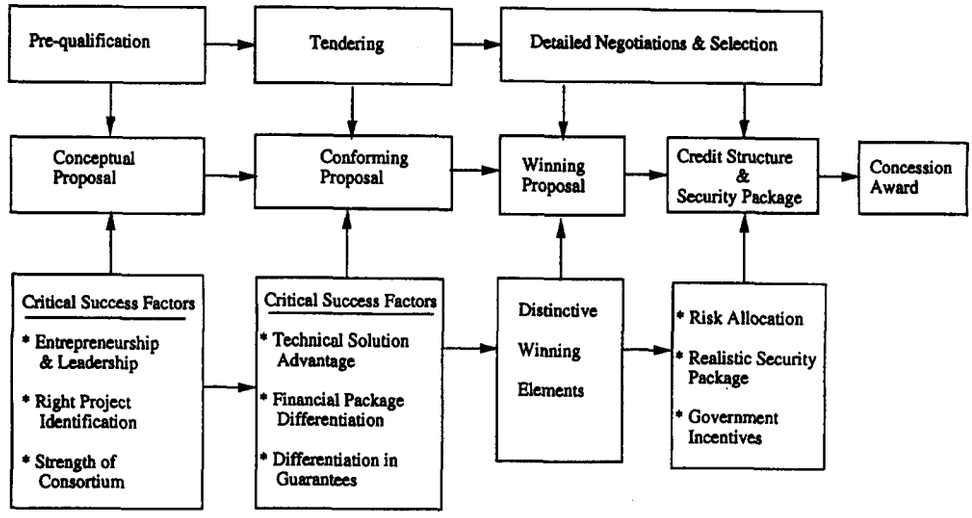

FIG. 2. Competitive Tendering and Negotiation Model for BOT Projects

governments, it is second versus third; while for promoters it is third versus fifth. This was also tested and confirmed in Tiong (1995c), which compares the impact of financial package with technical solution in winning BOT concession.

Comparing the Views of Governments versus Promoters on Importance of Individual CSFs

Table 5 shows that the response rates for CSFs 3–6 are close, though the ranking for each CSF between governments and promoters may be different. This shows that there is concurrence of views between the governments and promoters as far as the importance of these CSFs in winning BOT projects are concerned. For example, for CSF 4, the response rates by both governments and promoters are very close, at 44% and 45%, respectively.

The differences are on CSF 1 and 2. For CSF 1, the number of promoters that selected it was much higher than that for the government (43% versus 27%), signifying that the promoters attached greater importance to it than the governments, though the ranking is the same for both, which is sixth. To the governments, the CSF of entrepreneurship and leadership is not as tangible or as measurable as the other CSFs. It is therefore not as important as the other CSFs as far as winning BOT projects is concerned. To the promoters, this CSF is an important corporate factor and must be inherent in the BOT consortium as the driving force for the other CSFs. They have therefore attached greater importance to this CSF than the governments, even though they have also ranked it sixth.

For CSF 2, the ranking for the promoters was higher (second for promoters versus fifth for governments), with more than twice the number of promoters selecting it. This shows that the promoters attached greater importance to it than the governments. This confirms the earlier inference that the CSF of right project identification is regarded as highly important by the promoters. To them, once the consortium is assembled and the right project is identified, the other CSFs should fall in place quite easily. This explains why there is an uniform differentiation in the CSFs by promoters and why its curve is smooth in Fig. 1.

COMPETITIVE TENDERING AND NEGOTIATION MODEL

The six CSFs may not be the necessary division, but they were derived through the research process of extensive literature review and interviews with construction professionals involved in BOT projects. They were validated through case studies and survey research. They cover a full range of important aspects for promoters in proposal preparation and tendering and they do not overlap.

They represent a mutually exclusive set of factors that helps to develop the research model of competitive tendering and negotiation model for BOT projects, which is shown in Fig. 2. The top of the model shows the three typical phases that a BOT project promoter must go through: prequalification, tendering, and detailed negotiation and selection. The middle section of the model shows the evolution of the proposals from conceptual proposal during prequalification, and if a proposal is invited to tender (revolving to the conforming proposal at tendering stage) and if it is shortlisted, to eventually become the winning proposal after detailed negotiations in the credit structure and the security package.

The competitive tendering and negotiation model reflects the importance and characteristics of the CSFs in supporting the competitive strategies in proposal planning and preparation. It is also useful in developing the competitive advantage in a BOT proposal, as well as the distinctive winning elements. Potential BOT promoters must give special and continued attention to the model, the competitive strategies, the CSFs, and the distinctive winning elements in order to develop a superior proposal that will increase their chances of securing a profitable BOT contract.

Conceptual Proposal

The CSFs of entrepreneurship and leadership, rights project identification, and strength of consortium are essential at this stage, as the government requirements would include conceptual technical solution, preliminary financial plan and detailed information concerning the technical capability, and financial strength of each of the team members and their related experiences in undertaking similar projects. The strategy at this stage, however, is to include the minimum but sufficient information concerning its technical solutions and financial plan and not to reveal too much detail and information. This is to prevent leakage of confidential information that may erode the proposal's competitive advantages.

The CSFs of entrepreneurship and leadership and right project identification are especially important at this stage as they enable the promoters to identify the strategic opportunities and to compete in the right project that has the "strategic fit" with the environment as well as with its expertise. Strength of consortium is important at this stage as it provides the credibility for the consortium to be invited by government to tender.

Conforming Proposal

During the tender stage, the promoters are invited to submit conforming proposals that comply with the tender guidelines. This will include detailed technical analysis and financial plans. The proposal must be both attractive technically and financially to the governments so that it will be shortlisted for further negotiations. The CSF of strength of consortium will in this case provide the strategic capability to create a sustainable competitive position for subsequent detailed negotiations with the government and to meet their demands. The competitive position is achieved by the CSFs of technical solution advantage, financial package differentiation, and differentiation in guarantees. These will be subject to detailed negotiations during which the best proposal will be chosen.

Winning Proposal

This is the most crucial phase, during which the technical solution and financial package will be scrutinized in great details, and the different elements and features diligently compared with the other proposals. At this stage, the government has established the financial strength and technical capability of the consortium and the selection and negotiations are generally concentrated on the subfactors of these three CSFs: technical solution advantage, financial package differentiation, and differentiation in guarantees. The winning proposal will be a combination of subfactors in the three CSFs that provides the competitive advantage. These subfactors are termed the distinctive winning elements in the competitive tendering and negotiation model. The distinctive winning elements are defined as those elements that give the winning proposal the distinctive advantage over the other competing proposals during the final selection of a competitive BOT tender. Which of the subfactors will turn into the distinctive winning elements that cause the proposal to be the eventual winner depends critically on the ability of the negotiation promoter to address the government's specific concerns. The promoter must therefore fully understand the government's needs and concerns and be able to address them through the right package of distinctive winning elements.

Final Negotiations

After the preliminary selection is done and before the concession agreement is awarded and signed, there will invariably be extensive negotiations on the project credit structure and the security package. Governments often want to pass more risks to the promoter than the promoter can properly handle. For example, foreign exchange risks are particularly difficult for the private promoter to bear. It is therefore essential for promoters to understand the importance of the different financial and contractual elements as regarded by the government.

CONCLUSION

The analyses in this paper showed that there are six CSFs that, if given special and continued attention by the promoters, would increase their chances of a successful outcome, and that each CSF also has it own subfactors. These six CSFs are: entrepreneurship and leadership, right project identification, strength of consortium, technical solution advantage, financial package differentiation, and differentiation in guarantees.

It has also been shown that there is a positive agreement between promoters and governments on the importance of these six CSFs, even though the order of ranking on importance of the CSFs may be different.

Both the governments and the promoters agreed that the CSF of strength of consortium is the most important CSF. It is also concluded that there is greater importance attached to the two CSFs of strength of consortium and financial package differentiation by the governments than the other four CSFs. A combination of these factors should, however, form the basis of a total solution approach by the promoters to meet the needs of the government and to prevail against all odds, beat the competition, and eventually win the BOT concession.

The six CSFs represent a mutually exclusive set of factors that helps to define the research model of competitive tendering and negotiation for BOT projects. The model reflects the importance and characteristics of the CSFs in developing the competitive advantage, as well as the distinctive winning elements, in a BOT tender. It provides a useful process model for promoters involved in tendering a BOT project. To prepare a superior proposal, the promoter must first of all assemble a strong team and have a cost-effective solution for the right project. To achieve the competitive edge in the tender, the promoter must also offer a financial package that differentiates it from others and provides guarantees that would strengthen the financial offers. The winning proposal is dependent on the ability of the promoter to provide the right combination of distinctive winning elements to the government.

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