
The competition aspect of construction alliances

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Abstract

The primary purpose of forming an alliance in the construction industry is to pool together the resources of the participating partners in order to form a team that has a competitive advantage. Each partner in an alliance has its own competence and market share that do not necessarily fall under the alliance as common resources. Therefore, although the competitive advantage aimed at when forming an alliance is for common profits, each partner has a possibility of using it (the competitive advantage) for private profits (i.e. activities that do not fall under the alliance). Using a case study from Botswana, this paper argues that a construction alliance strives as long as the profits created by common activities are substantially higher than the ones that can be created by private activities. Once one of the partners in the alliance can create the competitive advantage in question on its own, it will opt out of the alliance through such mechanisms as withdrawing some of its key contributions to the alliance.

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Introduction

The development of a highly sophisticated and economically accessible global transportation system has opened up local construction markets to access by outside specialists in what were previously inaccessible areas. Additionally, widespread and efficient telecommunications systems have produced a network of information that creates virtually equal access to information anywhere on the globe. These developments have brought about increased competitiveness within the construction industry.

The barriers that separated economic and vertical market sectors and the firms that operated within them are quickly falling. Competition can arise unexpectedly from anywhere, which means that firms can no longer be over-confident about their market shares and their competitive positions. With markets and their players constantly changing, the possibility of establishing a sustainable competitive advantage no longer exists.

Traditionally, construction firms have attempted with some success to face the challenges brought by competition by being self-sufficient through vertical integration within the enterprise. In the intensified competitive environment, this strategy can no longer work. Firms must look to a variety of other strategies to assemble the services required to successfully acquire new projects and new revenues. Combining the strengths of firms that provide complementary services through alliance formation is one way to provide these services. However, alliances are characterized by common activities and private activities (activities that do not fall within the alliance), which create varying degrees of competition and cooperation between the firms in the alliance. The success of an alliance is influenced by a firm's "relative scope", which captures the initial conditions likely to influence the competitive and cooperative dynamics and for each firm is the ratio of the scope of the alliance to the total set of markets in which the firm is active (Gulati, 1998).

Against this background, this paper reports on a study carried out in Botswana to determine the influence of private activities on the performance of construction alliances.

Importance of alliances in the construction industry

A study conducted by the World Bank in 1984 showed that nearly 80 per cent of all

formal construction projects in developing countries were accomplished by foreign firms (Simkoko, 1989). To the governments of these countries, this is not an acceptable situation because it would seem that they depend entirely on foreigners to develop their countries. To provide sufficient opportunities for small and medium-sized domestic construction firms to participate and learn during the nation building process, most developing countries see alliances as one of the best instruments to achieve this (Sornarajah, 1992).

Moreover, since construction industry cannot use the conventional forms of market penetration such as agents, distributors and licensees, the alliance in the form of joint venture is the most popular form of entry because of the perceived benefits it brings to the host country through transfer of technology, job creation and capital inflow (Sornarajah, 1992). Based on this fact, most governments in developing countries, particularly South-east Asian countries, require a minimum percentage of local participation in most of business ventures operating in their territories (Sornarajah, 1992). Besides the pressure exerted by governments to pair up foreign and local firms, firms may of their own volition decide to work together on a short-term or long-term arrangement. This form of cooperation is known as strategic alliance and is defined as voluntary arrangements between firms involving exchange, sharing or co-development of products, technologies or services (Gulati, 1998). They can occur as a result of a wide range of motives and goals, take a variety of forms and occur across vertical and horizontal boundaries. Similarly, the Construction Industry Institute (CII) defines alliance as “a long-term association with a non-affiliated organization, used to further the common interests of the members” (Badger *et al.*, 1993). Dussauge and Garrette (1999) give another definition of strategic alliance designed to emphasize the specific nature of alliances while distinguishing them from other forms of inter-firm relationships. According to them, strategic alliances are links formed between two or more independent companies which choose to carry out a project or specific activity jointly by coordinating the necessary skills and resources rather than pursuing the project or activity on their own, taking on all the risks and confronting competition alone; or merging their operations or acquiring and divesting entire business units. Kogut (1989) highlighted three main motivations for formation of alliances: transaction costs resulting from small

numbers bargaining, strategic behaviour that leads firms to try to enhance their competitive positioning or market power, and a quest for organizational knowledge or learning that results when one or both partners want to acquire some critical knowledge from the other, or one partner wants to maintain its capability while seeking another firm's knowledge. Some of the industry-level factors linked with alliance formation include the extent of competition, the stage of development of the market, and demand and competitive uncertainty (Harrigan, 1988; Eisenhardt and Scheonhoven, 1996).

Governance structure of alliances

The formal contractual structures used to organize the partnerships in alliances are called the governance structure (Gulati, 1998). While alliances may be considered a distinct form of governance that is different from markets or hierarchies, there are also considerable variations in the formal structure of alliances themselves (Powell, 1990). There is a distinction among alliance structures in terms of the degree of hierarchical elements they embody and the extent to which they replicate the control and coordination features associated with organizations, which are considered to be at the hierarchical end of the spectrum (Harrigan, 1988; Teece, 1992). At one end are joint ventures, which involve partners creating a new entity in which they share equity and which most closely replicate the hierarchical control feature of organizations. At the other end are alliances such as partnering, which are single project based, with no sharing of equity and having few hierarchical controls built in them.

As the construction industry is dominated by one-off projects, most literature in construction has tended to concentrate on the latter end of alliances. Crowley and Karim (1995), for instance, argue that partnering can be conceptually viewed as an organization that is formed by implementing a cooperative strategy that modifies and supplements the traditional boundaries between separate companies in a competitive market. Badger and Mulligan (1995) summarize the potential benefits for the construction projects arising from partnering as: enhanced competitive position, broadening of client base, access to new work, increased market share, reduction of risk, increased profits, and increased labour productivity. Saad and Hancher (1998) see partnering as an effective tool to navigate the project

management process from the planning, design, procurement, construction and commissioning phases since it can be incorporated into each of the five phases. Crowley and Karim (1995) describe partnering structure using an analogy of organizations in cell-like form where the contact of their boundaries determines the level of partnering. These boundaries' deformation implicitly reflects the breadth, stages, and the types of partnering. They described these in three stages: parties in arms-length distance where boundaries are protective and impermeable (adversarial and guarded adversarial); the formative partnering state where the united boundary is still impermeable but some internal resources are reorganized by individual parties and reserved for the group use (informal partners); and complete partnering where the merged boundary is permeable for the inter-organizational exchange to occur. In the last stage, the united boundary becomes more permeable over time, resulting in the emergence of advanced features of partnering such as implicit trust (Thompson and Sanders, 1998).

In any case, the economic context can influence the structure of the alliance greatly. For instance, the extent of markets' overlap between the partners and within the alliance, also known as "relative scope" can influence the likelihood of competitive dynamics between the partners (Harrigan, 1988). Firms may anticipate the likelihood of such dynamics in an alliance and alter the structure to address those concerns if they arise.

Private and common benefits

Private benefits and common benefits are two qualitatively different kinds of benefits available to participants in an alliance. Private benefits are those that a firm can earn unilaterally (from activities in markets not governed by the alliance) by picking up skills from its partner and applying them to its own operations in areas unrelated to the alliance activities. Common benefits are those that accrue to each partner in an alliance from the collective application of the learning that both firms go through as a consequence of being part of the alliance; these are obtained from operation in areas of the firm that are related to the alliance (Khanna *et al.*, 1998).

Intuitively, the ratio of private to common benefits for a particular firm will be higher when it has more opportunity to apply what it learns to its businesses outside of the scope of

the alliance (and thus earn private benefits), than to apply what it learns to business within the scope of the alliance (and thus earn common benefits). This intuition crucially impacts the behaviour of a firm within the alliance because the different incentives to invest in the alliance are a result of the competitive aspects of what is simultaneously a cooperative and a competitive enterprise. The cooperative aspect arises from the fact that each firm needs access to the other firm's know-how and that the firms can collectively use their knowledge to produce something that is beneficial to them all (common benefits). The competitive aspect is a consequence of each firm's attempt to also use its partners' know-how for private gains, and of the possibility that significantly greater benefits might accrue to the firm that finishes learning from its partner(s) before the latter can do the same.

Each firm in an alliance operates in a set of markets each element of which can be described by its products/services and geographic characteristics. The scope of the alliance refers to a need that both partner firms have agreed to target (e.g. the introduction of a new construction service), typically corresponding to some subset of markets in which the firms are themselves involved. The larger the overlap between alliance scope and firm scope, the higher is the common benefits and the lower are the private benefits. Khanna *et al.* (1998) introduced the notion of "relative scope" of a firm in an alliance, to refer to the ratio of the scope of the alliance to the total set of markets in which the firm is active. Thus, the relative scope, which is a ratio that lies between 0 and 1, is a measure that is particular to a given firm in a given alliance. Different firms in the same alliance, and the same firm in different alliances, would have different relative scope values. Correspondingly, a greater ratio implies more opportunity for a firm to apply skills acquired in the course of the alliance to markets not involved in the alliance.

Factors other than relative scope affect the magnitude of private and common benefits as well, and thereby their ratio for a particular firm. Given a set of markets outside the scope of a particular alliance, a firm's ability to earn private benefits by applying what it has learned to those markets is affected by the extent to which these markets are related to those within the scope of the alliance and the extent to which the firm has skills to accomplish the transfer to learning (Cohen and Levinthal, 1990). The type of knowledge

transferred need not be restricted to R&D issues. It could relate to understanding a particular customer base, understanding marketing in a new country, or learning the use of new production techniques.

It is important to note that it is the ratio of a particular firm's private to common benefits that affects its decision to stay in or quit the alliance, as the firm in question compares its already existing private benefits to its potentially attainable common benefits in trying to decide whether to continue its involvement in the alliance. In contrast, the ratio of one firm's private benefits to the private benefits of its partner, are not relevant to the individual firm's decision to continue in an alliance (Khanna *et al.*, 1998).

Performance of alliances

Numerous studies have reported dramatically high failure rates of alliances. In an in-depth study of 59 alliances, Bleeke and Ernst (1991) reported that, in about half the cases, at least one of the partners felt that the alliance had been a failure. Other studies have reported failure rates as high as 80 percent, usually leading to the dissolution of the alliance or acquisition by one of the partners (Harrigan, 1988; Geringer and Herbert, 1991). Many of these problems can be traced to the cultural differences that exist at both the national and organizational level, i.e. country of origin of partners as developed or developing (Datta, 1988). Cultural differences can often lead to a breakdown of communication, create mistrust and sometimes result in eventual termination of an alliance (Peterson and Shimada, 1978). Other factors that may contribute to problems in alliances are the presence of current ties, partner asymmetry, age dependence or the duration of the alliance, characteristics of the alliance itself such as autonomy and flexibility and importantly, the competitive overlap between the partners (Beamish, 1985; Kogut, 1989).

On the other hand, termination of an alliance is not necessarily a failure as some successful alliances terminate because they are predestined to do so by the parent firms at the very outset. In other instances, an alliance may simply be a transitional arrangement that the parents plan to terminate when their objectives are met or when they have valuable new information that makes viable an acquisition or divestiture of that business (Kogut, 1991; Bleeke and Ernst, 1991; Balakrishnan and Koza, 1993).

The following section reports on a study carried out in Botswana to determine the influence of private activities of some known construction alliances on their performance.

A study in Botswana

Background

Botswana is a sparsely populated country with a total area of 582,000 square kilometres and a population of 1.4 million people (National Census, 1991). The country has experienced rapid economic growth since the time of independence in 1966, and development of the infrastructure has been one of the country's priorities. Construction activities in general constitute an average of 7.5 percent of the Gross Domestic Product (GDP) and is estimated at Pula 2 billion (1 Pula = \$US0.21) in 1998. The estimated employment in the formal sector in 1995 was 234,500 of which 22,600 or 9.6 percent was in the construction industry (*Annual Economic Report*, 1996).

Informal employment in the construction industry may be as high as formal employment.

Unlike most countries in South East Asia, Botswana does not have a restriction against entry of foreign firms to the local construction market. Botswana provides free access to foreign firms as part of her free market policy. As result of this, alliances in the construction industry are formed for motives other than government pressure.

Objectives of the study

The main objective of the study was to determine the influence of private benefits on the performance of construction alliances.

Methodology

The projects that have been executed by alliances of firms between 1980 and the present were identified from the records of the major employers in the Botswana construction industry. Semi-structured interviews based on the questions shown in the Appendix were held with the chief executives (or their representatives) of the firms in the alliances. Where the chief executives could not be appointed for face-to-face meetings, the interviews were conducted by means of telephone. In one case the respondent volunteered to send a written reply by fax.

Construction alliances in Botswana

From the records kept at the Ministries of Works, Transport and Communication

(MWTC); Local Government, Lands and Housing (MLGLH); and Finance and Development Planning (MFDP) reliable information was obtained on five alliances. For the sake of confidentiality, which was the condition for obtaining information throughout the study, the alliances are named A, B, C, D, and E while the firms in the alliances are named a1, a2; b1, b2; c1, c2, d1, d2 and e1, e2 respectively. The origins of the firms in the alliances, the number and approximate value of the projects they have executed and the present status of the alliances are shown in Table I.

Although the main focus of the study was the activities of the firms in the alliance after their formation, it was necessary to gather information about the choice of partners and the motivations for forming the alliances. This information was important in assessing the behaviour of the firms in the alliance. The following section is the summary of the responses elicited from the chief executives of the firms on the interview questions.

Question 1: What type of alliance was your association?

Responses to question 1 established that, except for firms a2, c1, c2 and d1, the respondents were not aware of the different forms of alliances. However, their responses indicated that the form of alliances which they intended to form were joint ventures. The chief executives of firms c1 and c2 clearly stated that their alliance was a single project partnership which was then terminated on completion of the project.

Question 2: What motivated your firm to form an alliance?

Responses to question 2 established that the motivations of the firms whose origins are Botswana in all alliances were acquisition of

key technical and management knowledge to execute large projects. The firms in alliances C and D were motivated by their enhanced combined capability in handling complex projects, ranging from infrastructure to multi-storey buildings. Perceived increased efficiency was another factor that motivated the firms in alliance D to form the venture. According to the chief executive of firm d1, it is much cheaper and quicker to get skilled personnel from RSA because of the distance and familiarity with Botswana environment than getting them from Kuwait.

Question 3: What criteria did you use to choose your partner(s)?

Generally, choice of partner was based on the record and type of operation carried out by the prospective firm. All responses to question 3 indicated that the firms sought out ties with partners who had strategic interdependence with them and who could help them manage such interdependencies. While firms a2, b2, and c2 had superior technical and management capabilities to those of their partners, the latter were familiar with the labour market at the artisan level and were conversant with the local environment. Responses from the firms in alliance C, further indicated that the firms wanted to introduce a novel method of producing low-cost *in situ* concrete housing units by casting them in a single mould. Due to uncertainty in the acceptability of the method in the market, none of the firms was willing to pursue it alone. This finding concurs with the observation by Kogut (1991) that many joint ventures occur as options to expand in the future and are interim mechanisms by which firms both buffer and explore uncertainty.

Table I Construction alliances operating in Botswana between 1980 and 1998

Alliance	Origins of the firms	Projects executed	Appr. value projects (million pula ^b)	Status of the alliance
A	a1 – Botswana a2 – Sweden	3	6.3	Terminated
B	b1 – Botswana b2 – RSA ^a	2	9.8	Terminated
C	c1 – Kuwait c2 – UK	1	100.0	Terminated
D	d1 – Kuwait d2 – RSA	1	179.0	Sustained
E	e1 – Botswana e2 – RSA	2	29.0	Sustained

Notes: ^a RSA = Republic of South Africa; ^b 1 Pula (P) = \$US0.21 (January 2000)

Question 4: What type of activities did your firm do that did not fall under the alliance?

The responses to question 4 established that all activities performed under the alliance (common activities) were similar to the activities of the firms (private activities) in the alliance. General differences between the common activities and the private activities were the geographical locations of the projects and/or their complexities. While for firms a2, b2, c2, d1, the private activities were carried out outside Botswana, the activities of firms a1, b1, c1, and part of the activities of firms c1, d2 and e2 were carried out in Botswana.

It was also established that common activities in firms a2, b2, c1, and c2 formed less than 25 percent of the firms' activities, while for firms d1, d2, and c2, this percentage is between 25 and 50, and for firms a1, b1 and e1, it was more than 50. This finding indicates that the majority of the firms that originate from Botswana in the alliances got their revenues from common activities.

Question 5: What was the structure of your alliance?

The responses to question 5 determined that the partners in all alliances created new entities, at the project level, in which they shared equity. Key personnel for the projects were in principle drawn from both partners' staff. However, it was established that there were asymmetries in alliances A, B and E because most of the key technical and management staff were drawn from one of the partners, in this case, firms a2, b2, and e2 respectively. The respondents from the firms that contributed more resources to the alliances, further stated that they had feelings that their partners were either free-riding by limiting their contributions to the alliances or were simply behaving opportunistically. They were of the opinion that, being the main contributors, they had the right to make key decisions about the alliance and direct their operations. On the other hand, respondents from firms a1, b1, and e1 were of the opinion that, being citizens of Botswana where the projects were been conducted, they had the right to transfer of technology in key project areas, and therefore, their partners should have taken this into consideration. In addition, they thought that the alliances were run just like the partners' firms and not according to what was agreed. Responses from the firms in alliances C and D indicated that all partners in the alliances contributed to the established entities as per agreements.

Question 6: How were the activities of your firm that did not fall under the alliance run?

The responses to question 6 established that, while firms a1, b1, and e1 contributed very limited resources to their respective alliances, they used their key personnel to run private activities. An indication that the alliance was used as a mechanism for transfer of technology is that firms b1 and e1 had a policy of attaching key personnel with the alliance for periods not exceeding four months, after which a transfer was made and replacement was attached to the alliance. The idea behind this, according to the respondents from these firms, was to ensure that the key personnel in these firms were exposed to the operations of the alliances, which were deemed superior to those of their firms. Firms e1 and d1 had private activities in Botswana, but once they assigned personnel to a project, they did not remove them before the completion of the project.

Question 7: How loyal were your employees to the alliance?

As responses to question 6 indicated, private activities had influences on the loyalties of the partners to the alliance. The responses to question 7 generally established that the individuals involved in the alliances were torn between the loyalties to the ventures themselves and to the parent organizations from which they originally came. As was established by responses to question 5, while individuals from firms a2, b2 and e2 tended to run the alliances in the same way their parent organizations were run, individuals from firms a1, b1 and c1 concentrated on learning the skills of their partners for use in their parent organizations.

Question 8: What were the reasons for terminating/sustaining the alliance?

The original information about the alliances established that, of the five alliances, three had terminated and two are still in operation. Responses from firms c1 and c2 to question 8 established that alliance C was formed as a single project partnership and this was terminated on completing the project. The main reason given for the termination of alliances A and B is that the construction environment changed, leading to the partners altering their needs and orientations, which affected the partnership. However, a more fundamental reason given by firms a1 and b1 was that after working within the alliances for more than four years, they had learned the skills of their partners and so they did not see any economic sense in sustaining the alliance as

their private activities gave them more income than the common activities. The experience and knowledge learned from the alliances enabled them to raise their grades in the classification of construction companies, and being citizen companies, they enjoy 2.5 percent price preference on all public financed projects. This factor contributed substantially in their decision to terminate the alliances. Similarly, firms a2 and b2 became familiar with the labour market and the local environment. So the original needs of forming the alliances had been fulfilled. Responses from firms d1, d2, e1 and e2 to question 8 established that the reasons for forming their alliances were still valid and although they were not running perfectly, there were still some benefits to be gained by sustaining them.

Analysis of the findings

The basic question for any form of alliance is what the parties want from one another. Ideally, a match between the expectations of one party and the other helps to select the right partner. The responses to questions 2 and 3 showed that the expectations of the firms that formed the alliances in Botswana did not match as such. While the local firms were looking for technology and management skills transfer as reflected in the responses to question 6, their foreign counterparts wanted to establish themselves in the local market. However, the alliances enabled the parties to meet their expectations in all cases.

The decision on the structure of the alliances was in all cases taken prior to their formation. As reflected in the responses to questions 4 and 5, the parties involved wanted to retain some degree of independence to carry out activities outside the alliance. This is in line with Hsieh's (1998) finding that although 80 percent of general contractors in Taiwan admitted that they require long-term relationships with specific sub-contractors and material vendors, they prefer informal relationships which give them financial independence rather than any form of joint ownership. This may be an indication of the low level of trust that exists when the parties have only scanty knowledge about one another, but it may also be a deliberate ploy to enable transfer of resources from the alliance for private benefits.

The analogy of the partnering structure to the cell-like model that was described by Crowley and Karim (1995) does not appear to work in this case because the parties did not have interaction prior to the formation of

the alliances, which could enable them to establish such a stage-wise partnering.

All the alliances studied had formed a separate entity into which each party contributed some resources for its operations. As the responses to question 7 showed, the loyalty of human resources contributed to the alliances by the parties remained with their parent organizations. Thus, it would be almost impossible for the new entities to grow bigger than the parent firms in spite of enhanced resources because the staff would tend to direct key profit making parameters to their parent organizations.

As the study found out, often when the initial expectations of forming the alliance are achieved, incentives to continue it dwindle. As responses to question 8 indicate, achievement of the initial expectations enabled the parties to make use of what was learned from the alliance for private profits based on activities outside the alliance. This leads to the potential danger that once the profits from the private activities are higher than the ones from the common activities, there will not be incentives to pursue the latter.

Conclusions

This paper attempted to highlight the importance of alliances in the construction industry and the influence of private aspirations (competition aspect) on their performances.

The review showed that the development of efficient transportation and communication systems have made construction markets all over the world accessible to specialists from different parts of the world. Competitive advantages that were originally enjoyed by certain firms as a result of their presence within the market or in their vicinity can no longer be sustained. As a result, firms need to form alliances so as to pool their resources together and compete favourably.

The study in Botswana established that such reasons as acquisition of know-how and sharing of risks in uncertain market sectors lie behind the formation of alliances, and Botswana being a developing country lays emphasis on acquisition of technology and management know-how, which cannot be developed locally. It also established that in the alliances, firms aim at learning the skills of their partners and apply them to their private activities. The study also showed that, although the general objective of forming alliances, i.e. pooling together of resources for competitive advantage

was also valid in Botswana, once incomes from private activities are higher than those from common activities as the result of applying the learned skills to the former, incentives to sustain the alliances run out and often lead to their termination.

The study strongly indicated that in Botswana, there is a need for the establishment of a framework that clearly elaborates the necessary processes for the formation alliances, especially as the Government intends to promote them as a means of transfer of know-how in the construction industry. The parties that intend to form alliances should first be conversant with the various types and should decide what they expect to be the outcome of the relationship, bearing in mind that learning from one another is part and parcel of alliances.

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Appendix. Questions asked during the semi-structured interviews

Note: The questions were put in the past/present tense depending on the status of the alliance.

- (1) What type of alliance was your association?
- (2) What motivated your firm to form an alliance?
- (3) What criteria did you use to choose your partner(s)?
- (4) What type of activities did your firm do that did not fall under the alliance?
- (5) What was the structure of your alliance?
- (6) How were the activities of your firm that did not fall under the alliance run?
- (7) How loyal were your employees to the alliance?
- (8) What were the reasons for terminating/sustaining the alliance?