

Success Factors for Partnering Implementation in Construction: a Survey from Vietnam

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Abstract: Traditional procurement methods have revealed many disadvantages in construction fields such as the adversarial relationships between stakeholders. After several decades of application, partnering has shown to be an innovative arrangement that helped to reduce many problems existing in the traditional arrangement. In Vietnam, partnering has been applied for construction projects since the construction industry was facing many new challenges emanated from the global integration and economic booming. Partnering is rather new, so it needs to gain a better understanding of the new concept. This paper has identified twenty eight success factors for partnering in the Vietnamese construction industry. Five factors are considered critical to partnering success including financial security, commitment from top management, mutual trust between parties, adequate resources and effective communication. The findings could help construction practitioners to deploy the innovative procurement type and would also contribute to the global knowledge.

Keywords: Success factors, Partnering, Construction industry, Vietnam

I. INTRODUCTION

Construction projects encounter some inherent difficulties coming from the characteristics of the construction industry such as the adversarial relationships between parties. This creates an unfavorable environment which could jeopardize the success of construction projects. In the world, during the late 1980s, partnering was emerged as a new project delivery method which seeks to create a win/win attitude between parties [25]. Partnering is a concept which provides a framework for establishing the mutual objectives among a building team with an attempt to reach an agreed dispute resolution procedure as well as encourage the principle of continuous improvement [20]. Thus, partnering in a construction project provides a trust-based environment to encourage project participants to maximize their contributions to obtain a successful project.

Through addressing critical success factors (CSFs), the strategy could be established to enhance project performance [27]. Boynton and Zmud [4] stressed that CSFs were those few things that must go well to ensure the success for a manager or an organization. Thus, they represent those managerial or enterprise areas that must be given a special and continual attention to bring about high performance. In addition, CSFs include issues vital to an organization's current operating activities and future success. Firms that understand, manage and exploit underlying differences in perception of CSFs stand well to benefit from being able to devise better strategies. For example, improving resource use, project delivery processes and productivity, in turn, could enable firms to compete more effectively in the market [22, 27].

In Vietnam, partnering has been applied in recent few years. Although partnering is common in practice, there is little effort in literature to provide prescriptions for its application. Thus, this paper aims to identify CSFs of partnering implementation in the Vietnamese construction industry, which could help to improve the strategy performance of partnering in construction projects.

II. LITERATURE REVIEW

Rockart [23] has defined CSFs as those few key areas of activity in which favorable results are absolutely necessary for a particular manager to reach his or her goals. Boynton and Zmud [4] have defined CSFs as those few things that must go well to ensure success for a manager and an organization and therefore, they represent those managerial or enterprise areas that must be given special and continual attention to bring about high performance.

Since the application of partnering concept, it has become popular in recent decades and researches about CSFs for implementing this procurement type have been vigorous. Crane et al. [13] proposed a partnering process model that consisted of five phases, from 'owner's internal alignment' to 'partner selection' to alliance alignment' to project alignment' to 'work process alignment'. In each step, various CSFs were identified to ensure a successful partnering. Larson [15] surveyed 291 construction projects to examine the relationships between specific partnering related activities and project success. The findings suggested that a comprehensive approach be applied to partnering on construction projects and that top management support for teamwork across organizations be critical to project success.

Cheng et al. [10] developed a partnering framework and identified CSFs based on a review of the partnering literature. The framework highlighted the influence of contextual characteristics and management skills on partnering success. A conceptual model of partnering used a three-stage process (i.e. formation, application and completion) and the reactivation was presented by Cheng and Li [9, 11] and Cheng et al. [12] later. Several aspects of research about CSFs were presented in these works to facilitate the partnering implementation through the proposed model. CSFs were investigated for a certain stage. An analytic hierarchy process survey helped to determine the comparability of the factors in individual process stages. Four common CSFs were top management support, open

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communication, effective coordination and mutual trust.

Black et al. [3], using a UK-wide postal questionnaire survey, have assessed the opinions of different types of organization in relation to CSFs and benefits of partnering. The research has indicated that certain requirements must be met if partnering is to succeed. Partnering can and does work, but all project participants must re-think their attitudes and work to make projects more efficient, successful and free of conflict. Paying attention to the UK construction industry as well, Beach et al. [2] was concerned with evaluating the progress of partnering adoption. A conceptual framework of CSFs was presented. Three new aspects of successful partnering were identified including best value, service and dependency, which when reviewed in the context of four categories of key elements, previously identified in the literature including commitment, processes, tools and outcomes, appeared to fit into the outcome category.

In the Taiwanese context, CSFs were identified and assessed as certain requirements that must be met for partnering to be successful in Chen and Chen [7] and Chen et al. [8]. In the Hong Kong context, Chan et al. [5] presented a review of the development of the partnering concept in general, identified CSFs for partnering projects and derived the relationship between the perception of partnering success and CSFs, and Chan et al. [6] studied the cases of six selected projects and developed a best practice partnering framework. Focusing on the mainland of China, Tang et al. [25] presented a finding of a study that was conducted to develop and test a partnering model that revealed the relationships between CSFs of partnering and demonstrated their importance to construction.

Reviewing some previous researches, mutual trust, communication, coordination, and commitment appeared to be important to most countries. However, it is up to the country-specific context, other factors could emerge as CSFs for partnering. Conforming to suggestion in Toor and Ogunlana [27] that more studies should be conducted in other countries to account for the nature and structure of the local construction industry.

It is shown from the literature review that the research area is context-specific. Conducting a study in Vietnam could obviously derive some valuable findings contributing to the global knowledge. Moreover, research about the application of partnering concept in Vietnam has not received the attention from the international research community in general, or from the local researchers in particular. This study will attempt to fill in the gap using the data collected from a questionnaire survey.

III. METHODOLOGY

An empirical survey was adopted to investigate CSFs for partnering application in the Vietnamese construction industry. Reviewing the literature and case analysis published in newspapers and discussing with practitioners in professional fora helped to form a preliminary

questionnaire with the potential factors. A group of six experts were invited to participate in a pilot test of this first-version of the questionnaire. They have experience of not only practicing in construction projects but also in partnering projects. All of them have at least 12 years of experience. They were asked to review the sufficiency and appropriateness of the potential factors and the structure of the questionnaire. Their valuable comments were used to revise the questionnaire. After being revised, the questionnaire was resent to these six experts. The pilot test was finished after two rounds when the comments received were positive and more changes about the questionnaire structure and the potential success factors were unnecessary. Then, the questionnaire was finalized and ready to survey. Respondents were requested to rate the CSFs of partnering on a five-point Likert scale from 1 = "not significant" to 5 = "very highly significant". The answers were based on the projects they participated.

Because there is no practice of organization recording or managing construction practitioners' profiles in Vietnam, practitioners in the sample were identified through construction companies' web-pages or charters, project case analyses, professional fora and personal relationships. Although invited participants were considered as pre-specified, to be completely sure about the experience of respondents with partnering projects, a question was added in the questionnaire. All returned questionnaires with the answer 'no experience' were discarded.

Hand delivery and e-mailing were employed to distribute the questionnaires. Totally, 79 valid returned questionnaires accounted for a response rate of about 24% were used for analysis. SPSS software was used to process the data. The test yielded a Cronbach's alpha coefficient of internal consistency value of 0.887, which was considered reliable (> 0.70).

Out of 79 returned questionnaires, 20.3%, 59.5% and 20.3% were from clients, contractors and consultants respectively. Regarding the respondents' position, 12.7% were top managers, 49.4% were functional managers, and project team members and partnering facilitators were 32.9% and 5.1% respectively. About 15.2% respondents had less than 5 years of experience, 36.7% respondents had 5-10 years of experience, 40.5% respondents had 10-15 years of experience, and 7.6% respondents had more than 15 years of experience. Regarding the respondents' origin of organization, 32.9% were from foreign sector and the remainders (67.1%) were from Vietnamese sector.

IV. MEAN SCORE AND RANKING OF CSFS

Table 1 presents the rating frequency of CSFs with respect to all respondents. The distributions are right skewed. Most of the peaks are at level 4. Table 2 denotes the mean score and ranking of CSFs according to all cases, project party groups (clients, contractors and consultants) and sector groups (foreign and Vietnamese).

Table 1. Summary of responses on the significance index of CSFs – All respondents

No.	Success factors	N	Rating frequency					Mean	Std. Dev.
			1	2	3	4	5		
1	Mutual trust between parties	79	0	2	7	38	32	4.27	0.73
2	Effective communication	79	0	2	16	31	30	4.13	0.82
3	Adequate resources	79	2	3	10	24	40	4.23	0.99
4	Long-term commitment	79	0	4	18	41	16	3.87	0.79
5	Commitment from top management	79	0	2	10	28	39	4.32	0.79
6	Clear understanding about scope and objectives	79	0	3	16	33	27	4.06	0.84
7	Early implementation of partnering process	79	4	12	26	27	10	3.34	1.05
8	Commitment to continuous improvement	79	0	12	24	30	13	3.56	0.94
9	Acting consistent with objectives	79	0	6	18	45	10	3.75	0.78
10	Dedicated team	79	0	10	12	38	19	3.84	0.94
11	Flexibility to change	79	2	3	21	43	10	3.71	0.83
12	Commitment to quality	79	0	7	22	25	15	3.86	0.97
13	Total cost perspective	79	0	23	19	23	14	3.35	1.09
14	Good cultural fit	79	4	14	21	31	9	3.01	0.91
15	Company wide acceptance about partnering	79	2	14	29	28	6	3.28	0.93
16	Technical expertise	79	2	4	14	43	16	3.85	0.89
17	Financial security	79	0	0	8	24	47	4.49	0.68
18	Questioning attitude about assumptions	79	0	10	22	35	12	3.62	0.90
19	Empowerment of stakeholders	79	0	6	21	29	23	3.87	0.93
20	Creativity of partnering team	79	1	11	31	26	10	3.42	0.93
21	Equity	79	0	6	17	39	17	3.85	0.85
22	Mutual vision, goals/objectives	79	2	6	21	35	15	3.70	0.95
23	Effective conflict resolution process	79	0	5	16	41	17	3.89	0.82
24	Educated and trained personnel for partnering	79	0	6	23	40	10	3.68	0.79
25	Effective coordination	79	0	4	23	42	10	3.73	0.75
26	Adequate partnering team building	79	0	12	18	29	20	3.72	1.01
27	Partnering experience	79	1	7	32	28	11	3.52	0.89
28	Joint problem solving	79	0	4	16	47	12	3.85	0.74

The CSFs ranked in top five were considered critical to partnering success. Financial security (No. 17) was considered important for successful partnering implementation in Vietnam by all respondent categories. Finance is a big concern of construction participants in the Vietnamese market. Joining a partnership, finance burden can be shared among partners so that the project could run smoothly. Foreign participants find partners to share financial related risks when entering into a new market. Commitment from top management (No. 5) is a requirement for partnering success with all practitioners. Except for consultants, this factor was ranked in top five by all types of respondents. The commitments embody the full support and commitment of senior managers in formulating the strategy and direction of business activities [9].

Assuring adequate resources (No. 3) for partnering projects was considered vital under most viewpoints. Issues relevant to resources have caused various difficulties for implementing construction projects in Vietnam. The other factors including effective communication (No. 2), clear

understanding about scope and objectives (No. 6), effective conflict resolution process (No. 23), and mutual trust between parties (No. 1) were found important according to various roles of respondents.

Joint problem solving (No. 28) was ranked fourth according to client group. In addition, consultant group ranked technical expertise (No. 16) and dedicated team (No. 10), and foreign sector ranked commitment to quality (No. 12) and empowerment of stakeholders (No. 19) in top five.

Long-term commitment (No. 4) was also perceived as being critical by all stakeholders, especially by contractors/consultants and Vietnamese partners. Practitioners desire to improve and maintain the close relationship with their partners through reaching a good image in the current partnering project. To begin with a new partner is always harder than to continue with a familiar counterpart. Equity (No. 21) is a factor peculiar to teamwork attitude. In the Vietnamese context, it appeared to be critical for the success of partnering concept application.

Table 2. Means core and ranking of CSFs

No.	Success factor	All		Party						Sector			
				Client		Contractor		Consultant		Foreign		Vietnam	
		Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean
1	Mutual trust between parties	3	4.27	7	3.88	3	4.49	7	4.00	8	4.12	3	4.34
2	Effective communication	5	4.13	15	3.56	4	4.28	4	4.25	3	4.15	5	4.11
3	Adequate resources	4	4.23	5	3.94	5	4.23	1	4.50	13	4.00	4	4.34
4	Long-term commitment	8	3.87	10	3.63	9	3.91	7	4.00	11	4.04	8	3.79
5	Commitment from top management	2	4.32	5	3.94	2	4.57	10	3.94	2	4.19	2	4.38
6	Clear understanding about scope and objectives	6	4.06	1	4.38	7	3.98	7	4.00	3	4.15	6	4.02
7	Early implementation of partnering process	26	3.34	18	3.38	26	3.28	25	3.50	26	3.46	24	3.28
8	Commitment to continuous improvement	22	3.56	20	3.25	22	3.62	19	3.69	20	3.85	22	3.42
9	Acting consistent with objectives	15	3.75	20	3.25	13	3.85	10	3.94	17	3.92	15	3.66
10	Dedicated team	14	3.84	20	3.25	11	3.89	4	4.25	9	4.08	13	3.72
11	Flexibility to change	18	3.71	15	3.56	16	3.77	19	3.69	11	4.04	20	3.55
12	Commitment to quality	10	3.86	8	3.81	8	3.94	19	3.69	3	4.15	13	3.72
13	Total cost perspective	25	3.35	25	3.06	25	3.32	18	3.75	22	3.81	27	3.13
14	Good cultural fit	28	3.01	27	2.75	28	2.98	27	3.38	28	3.12	28	2.96
15	Company wide acceptance about partnering	27	3.28	27	2.75	27	3.26	12	3.88	27	3.31	25	3.26
16	Technical expertise	11	3.85	10	3.63	18	3.74	2	4.38	9	4.08	11	3.74
17	Financial security	1	4.49	2	4.19	1	4.64	2	4.38	1	4.35	1	4.57
18	Questioning attitude about assumptions	21	3.62	19	3.31	21	3.64	12	3.88	17	3.92	21	3.47
19	Empowerment of stakeholders	8	3.87	10	3.63	6	4.09	25	3.50	3	4.15	11	3.74
20	Creativity of partnering team	24	3.42	26	2.88	23	3.53	23	3.63	24	3.77	26	3.25
21	Equity	11	3.85	10	3.63	9	3.91	12	3.88	14	3.96	8	3.79
22	Mutual vision, goals/objectives	19	3.70	20	3.25	15	3.79	12	3.88	22	3.81	16	3.64
23	Effective conflict resolution process	7	3.89	3	4.06	11	3.89	19	3.69	3	4.15	10	3.76
24	Educated and trained personnel for partnering	20	3.68	20	3.25	16	3.77	12	3.88	17	3.92	19	3.57
25	Effective coordination	16	3.73	10	3.63	18	3.74	17	3.81	14	3.96	17	3.62
26	Adequate partnering team building	17	3.72	9	3.75	13	3.85	28	3.31	14	3.96	18	3.60
27	Partnering experience	23	3.52	17	3.50	24	3.49	23	3.63	25	3.73	22	3.42
28	Joint problem solving	11	3.85	4	4.00	20	3.68	6	4.19	20	3.85	7	3.85
N			79		16		47		16		26		53
	Kendall's Coefficient of Concordance (W)		0.160		0.231		0.213		0.160		0.132		0.198
	Significance level		0.000		0.000		0.000		0.000		0.000		0.000

The other factors ranked out of top ten in a certain respondent group might be considered less important for a successful deployment of partnering concept. Nevertheless, these factors should also be well performed in order to increase the chance of partnering success.

The results of Kendall's coefficient of concordance tests yielded the significance levels of 0.000 (see Table 2). It can be concluded that the respondent's rankings within a certain group are related. The response consensus within each respondent group is achieved.

Table 3. Spearman's rank correlation test

	Spearman rho	p-value	Significant ranking correlation?
<i>Party</i>			
Client - Contractor	0.712	0.000	Yes
Client - Consultant	0.374	0.049	Yes
Contractor - Consultant	0.511	0.005	Yes
<i>Sector</i>			
Foreign - Vietnam	0.826	0.000	Yes

Spearman rank correlation test was used to demonstrate whether there exists an agreement between a pair of respondent groups about the ranking of the CSFs. The results are shown in Table 3. The computed Spearman rank correlation coefficients (ρ) are 0.712, 0.374, 0.511, and 0.826, respectively. The produced p-values are all less than 0.05. It can be concluded that there is a significant agreement between any certain pair of respondent groups on the ranking of the CSFs at the level of confidence of 95%.

V. CONCLUSION

This paper aims at identifying CSFs of partnering application in the Vietnamese construction industry. The results have contributed to the global knowledge by filling in the gap of the Vietnamese perspective. Further recommendations are given to practitioners in order to promote the implementation of the innovative concept.

The values of this paper are the clear identification of twenty eight CSFs associated with success partnering implementation in the Vietnamese context. As such, practitioners could improve their strategy for performing partnering to achieve a higher level of success. The top five CSFs in the Vietnamese context according to all respondents are financial security, commitment from top management, mutual trust between parties, adequate resources and effective communication.

Partnering in construction is important for project success. However, the unfamiliarity is likely to lead to reluctance in the adoption of partnering. Top managers need to be informed in order to help them to be aware of the partnering approach. More efforts from academic researchers, practitioners and State organizations should be consumed to promote the approach in Vietnam such as arranging seminars or workshops practitioners, supplying funds to conduct researches related to the field, encouraging and establishing a good relationship between academic researchers and practitioners to bring research into life.

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