

**CRITICAL SUCCESS FACTORS FOR PARTNERING IN THE
TURKISH CONSTRUCTION INDUSTRY**

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TURKISH CONSTRUCTION INDUSTRY**

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ABSTRACT

CRITICAL SUCCESS FACTORS FOR PARTNERING IN THE TURKISH CONSTRUCTION INDUSTRY

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Partnering is in the agenda of many construction companies worldwide as it is an effective strategy that may increase competitiveness of partner companies and reduce risks retained by each party. In order for partnering to reach its expected benefits, partner selection is of vital importance. Similarly, there are some critical success factors (CSF) that should be taken into account by the parties in order to maintain a successful partnership throughout its lifecycle. The aim of this thesis is identification of factors that affect the partner selection process of the Turkish contractors as well as CSFs that are found important by the Turkish contractors. For this purpose, interviews are carried out with experts and a questionnaire is designed to collect necessary statistical data regarding the CSFs. The number of experts who answered the questionnaire is 49. Statistical analysis is conducted to reveal the perception of contractors about partnering in the Turkish construction industry. One of the findings is that Turkish contractors

prefer establishing short-term partnerships in the form of project-based joint ventures rather than long-term strategic alliances. Results demonstrate that the most important factors while selecting the partners are experience and image of the company. Mutual trust between the parties, management support and commitment to win-win attitude are identified as the most important CSFs by the Turkish contractors. Finally, the results of the questionnaire are compared with those from other countries and certain strategies are proposed to practitioners for maximizing success of partnerships.

Keywords: partnering, joint ventures, critical success factors, Turkish construction sector

ÖZ

TÜRK İNŞAAT SEKTÖRÜNDE ORTAKLIKLARIN KRİTİK BAŞARI FAKTÖRLERİ

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Rekabet avantajını artırma ve partilerin üstlendiği riskleri azaltma potansiyeli nedeniyle ortaklık kurma stratejisi, inşaat sektöründe sıkça kullanılmaktadır. Ortaklıkların istenen sonuca ulaşabilmesi için ortak seçiminin doğru olarak yapılması önemli bir faktördür. Benzer şekilde, ortaklığın başarıyla sonuçlanması için, ortaklığın süresi boyunca, firmaların dikkat etmesi gereken pek çok sayıda kritik başarı faktörü (KBF) bulunmaktadır. Bu tezin amacı, Türk yüklenicilerin ortak seçimi ve ortaklığın süresi boyunca dikkat edilmesi gereken faktörler ile ilgili görüşlerinin saptanarak, Türk inşaat sektöründeki ortaklıklara ait KBF'lerinin belirlenmesidir. Bu nedenle, sektörde deneyimli kişilerle görüşmeler yapılmış ve edinilen bilgiler ışığında bir anket formu tasarlanarak istatistiksel analizlerin yapılabilmesi için gerekli olan veriler toplanmaya çalışılmıştır. Ankete cevap veren katılımcı sayısı 49'dur. Bulgulardan biri, Türk yüklenicilerin uzun-vadeli stratejik ortaklıklardan çok kısa-sürelili proje bazlı ortak girişimler

kurmayı tercih ettikleridir. Sonuçlar, ortak seçiminde en önemli faktörlerin ortak firmanın deneyimi ve imajı olduğunu göstermektedir. Partiler arasında karşılıklı güven, üst yönetimin desteği ve partilerin kazan-kazan felsefesine bağlı kalması en önemli KBF'leri olarak belirlenmiştir. Son olarak, Türk yüklenicilerin görüşlerini yansıtan anket çıktıları, diğer ülkelere ait sonuçlarla karşılaştırılmış ve Türk inşaat sektöründe ortaklıkların başarısını artıracak stratejiler önerilmeye çalışılmıştır.

Anahtar kelimeler: ortaklıklar, ortak girişimler, kritik başarı faktörleri, Türk inşaat sektörü

To my beloved family

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LIST OF ABBREVIATIONS

ASCE	American Society of Civil Engineers
BPR	Business Process Re-Engineering
CII	Construction Industry Institute
CII-HK	Construction Industry Institute Hong-Kong
CSF	Critical Success Factors
SPSS	Statistical Package for the Social Science
TQM	Total Quality Management
UK	United Kingdom
USA	United States of America
USD	United States Dollar

CHAPTER 1

INTRODUCTION

Due to the globalization process, the world has been witnessing high competition and a sheer increase in risk levels, in every sector including the construction industry. The construction industry in most developing countries suffered seriously from two major changes in the business environment. Firstly, there were high inflation rates and oil embargoes in the early 1970s (Cook and Hancher 1990). Secondly, at the start of the 1990s, prominent changes have initiated a crisis in the construction industry (Thompson and Sanders 1998; Li et al. 2000). In order to overcome the challenges resulted due to globalization and high financial risks, it carries utmost importance to adapt to novel techniques as well as technologies rapidly. It is believed that implementing new management strategies will pave the way for higher competitive advantage and decrease the risks of globalization.

Recently, for the last two decades, partnering has been acknowledged by many researchers and practitioners as an innovative approach for the procurement of construction services in the industry and became a primary management strategy for improving project performance and organizational relations (Cowan et al.1992; Badger and Mulligan 1995; Crowley and Karim 1995; Black et al. 2000; Li et al. 2000; Chan et al.2003). Chan et al. (2003) emphasized that partnering does not only reduce the risk of cost overruns and delay as a result of better time and cost control over the project, but also has a potential to increase the opportunity for innovation. Furthermore, partnering provides the basis for project participants to reorientate themselves towards a “win-win” approach to solve problems and faster synergistic team-work among themselves (Chan et al. 2004).

Uher (1999) emphasized that partnering had nothing to do with old adversarial management practices and dogmas, but rather embraced a new and existing win-win approach to business by way of trust, open-communication, team work and shared goals.

Despite the potential benefits gained by the participants from the implementation of partnering, there are some obstacles and barriers to successful partnering. To explore the barriers and problems leading to unsuccessful partnering, several industry surveys were conducted by many researchers. Chan et al. (2003), Ng et al. (2002), Larson and Drexler (1997), Li and Green (1996) revealed that the barriers and problems to successful partnering implementation cover broad themes, ranging from project environment and partnering structure to personal knowledge, skills and attitude (Tang et al. 2006). Certain requirements including a collaborative team culture, a long term quality focus, consistent objectives and resource sharing must be taken into consideration to be successful in partnering projects. Critical success factors of partnership can be used to devise effective strategies for minimizing conflicts and enhancing project performance (W. Cheng and T. Cheng, 2007).

In this thesis, the main aim is to determine the main pillars and criteria for choosing an appropriate partner in the Turkish construction sector as well as the critical success factors of partnering for the Turkish contractors. Within the context of this thesis, a questionnaire form has been designed based on information gathered by means of literature survey and interviews carried out by experts.

Chapter 2 reports the findings of a literature survey about partnering and critical success factors of partnering in the construction industry. In addition to this, a summary of previously carried out research studies about partnering and critical success factors are presented in this chapter.

Chapter 3 reports the research methodology of the study and the contents of the questionnaire that consists of two parts, one of which focuses on selecting a partner, and the other focuses on critical success factors of partnering.

Statistical analysis results, research findings of the questionnaire and the findings of previously carried out research studies about partnering and critical success factors have been reported in detail by tables and graphs in Chapter 4.

Chapter 5 reports summary of the research findings and comparisons between the research findings and the findings of previously carried out research studies. Concluding remarks about the research study are presented in this chapter.

CHAPTER 2

LITERATURE REVIEW

2.1 Definition of Partnering

Many research papers have discussed the definition and the meaning of partnering in terms of the fundamental principles of partnering commitment, trust, respects, communication and equality that are designed to include proper consideration of the interests of all parties at every level. (CII 1991, Cowan et al. 1992, Uher 1999)

Numerous definitions of partnering that have been derived from previous studies are summarized below:

- Sanders and Moore (1992) defined partnering as a technique that tries to create an effective project management process between two or more organizations.
- Crowley and Karim (1995) defined partnering as a conceptually viewed organization that is formed by implementing a co-operative strategy that modifies and supplements the traditional boundaries between separate companies in a competitive market.
- According to Bennet and Jayes (1998), partnering is a set of strategic actions that delivers marked improvements in construction performance. It is driven by a clear understanding of mutual objectives and co-operative decision-making by multiple firms all focused on using feedback to continuously improve their joint performance.

- Black et al. (2000) summarized partnering as an arrangement between two parties which can be either open-ended for a specific term or for a single project. In other words, the partnering procurement method aims to eliminate adversarial relationships between clients and contractors by encouraging the parties to work together towards shared objectives and achieve win/win outcome (Watson 1994, Black et al.2000)

Among these and other definitions which have not been mentioned here, there is a most widely cited definition developed by the Construction Industry Institute (CII) in the USA. The CII (1991) defined partnering as:

“a long term commitment between two or more organizations for the purposes of achieving specific business objectives by maximizing the effectiveness of each participant’s resources. This requires changing traditional relationships to a share culture without regard to organizational boundaries. The relationship is based on trust, dedication to common goals and an understanding of each other’s individual expectations and values” (CII, 1991).

2.2 Incentives and Benefits of Partnering

Some of the prominent changes faced by the construction industry summarized by Li et al. (2000) are as follows:

- Increased competition
- Higher standards for competitive success
- Dwindling resources
- The existence of a global market/ economy
- The need for more flexibility and faster response time
- The increased risk in construction contracting.

As a result of these changes, organizations have aggressively searched for better management solutions to improve their performance and sustain a competitive advantage by embracing concepts such as total quality management (TQM), business process re-engineering (BPR) and partnering (Li et al. 2000). Partnering in construction is expected to be separated from typical partnership as the former promotes advantages such as risk sharing and joint problem solving. (Cowan et al. 1992; Li et al. 2000)

In the years ahead, the most important thing that the organizations should be aware of is that customer satisfaction will still be a major indicator of business success as it happened in the previous years. (Li et al. 2000) Thus, the development of a partnering strategy is needed to strengthen an organization's competitive advantage in order to achieve their business targets and prevent attaches from competitors (Figure 1) (Li et al. 2000).

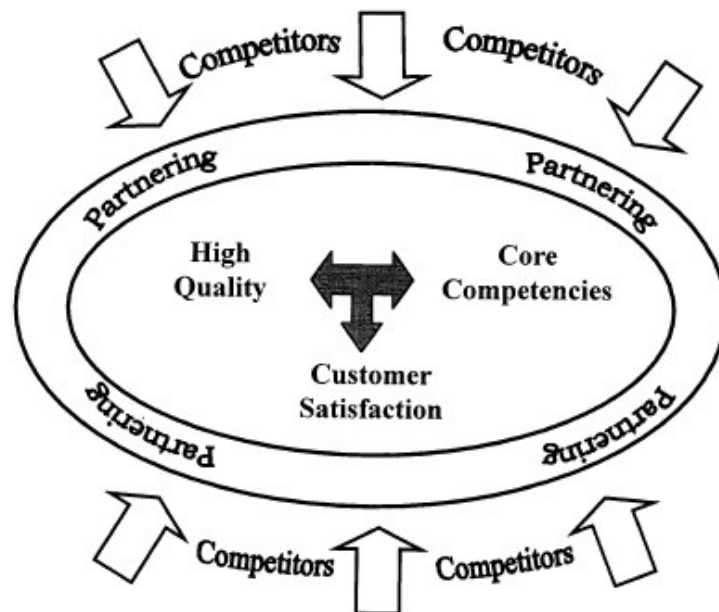


Figure 1. Partnering as a cohesive boundary (Li et al. 2000)

Badger and Mulligan (1995) gave a summary of incentives for partnering and benefits gained from it (Lu and Yan, 2007). Badger and Mulligan (1995) defined possible reasons for forming alliances such as accessing technology, sharing risks, secure financing, entering new markets, serving core customers and improving competitive positions. Besides these incentives, Lu and Yan (2007) identified eight more common incentives for strategic partnering: meeting special requirements, better product quality, cost reduction, better time control, reduced litigation, efficiency improvement, long-term relationship establishment and increased cultural responsiveness.

Badger and Mulligan (1995) defined potential benefits for construction projects which were depicted as enhancing competitive position, increasing market share, obtaining new work, broadening client base, increasing cultural, responsiveness, reducing risks, increasing profits, increasing labor productivity. Based on these findings about potential benefits gained from partnering, Cheng et al. (2004) also pointed out that strategic alliance in construction should help construction companies to gain certain benefits at the project, business and corporate levels.

2.3 Critical Success Factors of Partnering

Rockart (1982) defined critical success factors as “those few key factors are absolutely necessary to reach goals”. It is clear from this definition that any study on critical success factors without conceptual definitional clarity is likely to be counter-productive (Anvuur and Kumaroswamy 2007).

Significant factors affecting the success of partnering projects were identified and discussed in several studies: Cheng et al (2000) defined a framework that consists of the CSFs of partnering in construction. It was suggested that partnering can become successful by using appropriate management skills and developing a favorable context (Figure 2).

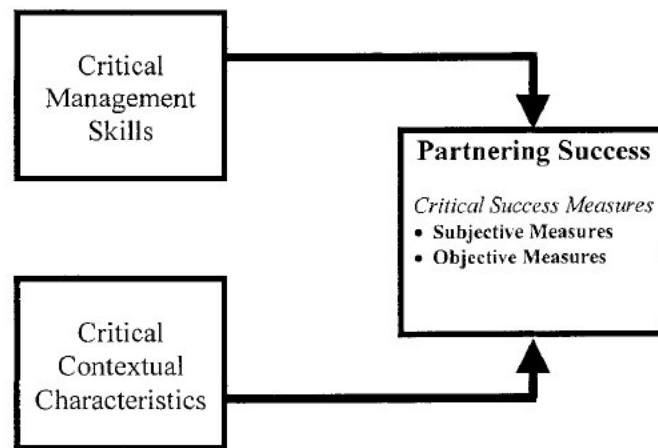


Figure 2. Framework of Partnering in Construction (Cheng et al. 2000)

According to the framework, some objective and subjective measures were used for assessing the rate of partnering success. The objective measures were defined by Cheng et al. (2000) as cost variation, rejection of work, client satisfaction, quality of work, schedule variation, profit variation and safety. On the other hand, some subjective measures were defined as adequate resources, management support, mutual trust, creativity and effective communication and co-ordination.

Black et al (2000) tested the level of importance of CSFs toward partnering success with respondents who involved in partnering and concluded critical factors as follows: mutual trust, effective communication, commitment from senior management team, clear understanding, acting consistently with objectives, dedicated team, commitment to continuous improvement, flexibility to change and commitment to quality.

Chan et al (2004) summarized significant factors affecting the success of partnering as in Figure 3.

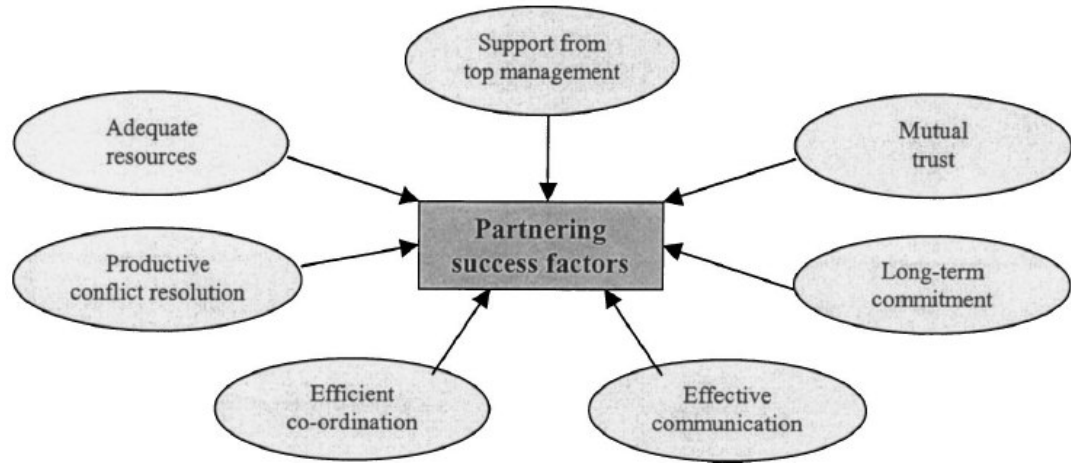


Figure 3. Summary of significant factors affecting partnering success (Chan et al. 2004)

Brief explanations and definitions of CSFs that are discussed and summarized in previous researches are given below:

- **Adequate Resources:**

Since resources are rare and competitive, it is not common for an organization to share its resources with others. The main resources are expertise (including knowledge, technology, information and specific skills) and capital (Cheng et al. 2000). The complementary resources from different parties cannot only be used to strengthen the competitiveness and construction capability of a partnering relationship but also they can be major criteria for accessing partnering success. (Cheng et al.2000; Chan et al. 2004)

- **Management Support:**

Another critical factor is management support. Commitment and support from top management are always pre-requisites for successful partnering projects (Harback et al. 1994; Slater 1998). As senior management formulates the

strategy and direction of business activities, their full support and commitment are critical in initiating and leading partnering spirit (Cheng et al. 2000).

- Mutual Trust:

The establishment of trust has been identified as the most critical factors that facilitate partnering success. Trust can be regarded as glue that fosters cooperation among organizations and on essential lubricant that helps to complete a project (Wong et al. 2000). Mutual trust can be defined as, critical to “open” the boundaries of the relationship as it can relieve stress and enhance adaptability, increase information exchange and joint problem solving and promise better outcomes (Zand 1972; Williamson 1985; Mohr and Spekman 1994, Cheng et al.2000).

- Long-term Commitment:

This factor can be regarded as the willingness of the involved parties to integrate continuously to unanticipated problems (Brensen and Marshall 2000; Cheng et al. 2000, Cheng et al. 2004). More committed parties are expected to balance the attainment of short-term objectives with long term goals and achieve both individual and joint missions without raising the fear of opportunistic behavior (Mohr and Spekman 1994; Romancik 1995).

- Effective Coordination:

Coordination reflects the expectation of each party from the other parties in fulfilling a set of tasks (Mohr and Spekman 1994). Good co-ordination resulting in the achievement of stability in an uncertain environment can be attained by an increase in contract points between parties and sharing of project information (Bayramoğlu 2001, Chan et al.2004).

- Effective Communication:

Effective communication skills can help organizations to facilitate the exchange of ideas and visions, which can result in fewer misunderstandings and stimulate mutual trust (Cheng et al, 2000).

- **Conflict Resolution:**

Conflicting issues are common among parties with incompatible goals and expectations. The impact of conflict resolution can be either productive or destructive and largely depends on the manner in which partners resolve conflict (Mohr and Spekman 1994; Cheng et al. 2000). High level of participation among parties may help them to create a commitment to the mutually agreed solution (Cheng et al. 2000).

2.4 Previous Studies on Partnering and Critical Success Factors of Partnering

When compared with other industries, the idea of partnering is relatively new to the construction industry. Despite partnering is mature in construction, the copious number of researches and studies on definition of partnering and about exploring CSFs of partnering and partnering success have been published recently. Several authors have examined customized models and/or applied questionnaires to highlight the partnering and critical success factors of partnering in construction industry.

In 2000, Black et al. made a study by using the UK Wide Postal questionnaire to have opinions of different types of organizations, consultants, contractors and clients about success factors and benefits of partnering in the UK. The questionnaire had six sections. The first section covered general information about respondents, the second section dealt with partnering trends, the third section was about outcomes of partnering, the fourth section covered the reasons for using partnering and the benefits and the fifth section was about the risk associated with partnering in particular circumstances, and the construction industry in general. Finally, the last section invited respondents to supply general comments on partnering.

Black et al. (2000) listed the factors in the questionnaire which were thought to be responsible for the success in partnering. Authors emphasized that “mutual trust, effective communication, commitment from senior management, clear understanding, acting consistently with objectives, dedicated team, flexibility to change, commitment to quality, commitment to continuous improvement, long-term perspective, total cost perspective, formation at design stage, good cultural fit, company wide acceptance, technical expertise, financial security, questioning attitudes, availability of resources, equal power/empowerment” were critical factors required for successful partnering.

Cheng et al. developed a partnering framework in 2000, to identify the CSFs for construction parties implementing partnering arrangements. Developed framework highlights the influence of contextual characteristics and management skills on partnering success (previously depicted in Figure 2). Cheng et al. (2000) identified critical success factors in partnering projects and described how these factors could be evaluated to improve the productivity and performance of construction projects. Table 1 lists measures for these CSFs

**Table 1. Examples for Measuring Critical Success Factors
(Cheng et al. 2000)**

Variables (CSFs)	Example of Measures
Adequate resources	<p>Investigating extent to which responding organization has received adequate resources from its partners. Questions are</p> <ul style="list-style-type: none"> - Our partners have provided us with sufficient information to execute the Project. - When we need relevant information for executing our work, our partners are always helpful. - Our partners always keep us informed about events or changes that may affect us.^b - In this relationship, it is expected that any information that might help the other parties will be provided.^b
Management support	<p>Investigating the extent to which top management has supported formation of partnering. Questions are</p> <ul style="list-style-type: none"> - Top management has shown their support for formation of partnering by providing us with sufficient resources, including money, time, manpower, and authority. - Top management has agreed that formation of partnering is strategic affair. - Top management has assigned senior executive who represents our organization in dealing with partnering matters.
Mutual trust	<p>Investigating the extent to which trust is established between partnering organizations. Questions are</p> <ul style="list-style-type: none"> - Our partners are highly trustworthy - We want to establish a relationship of trust with our partners - We believe that trust established between organizations is critical to the partnering relationship. - We trust that our partners' decision will be beneficial to our business.^b - We feel we do not get a fair deal from our partners.^b - Partnering relationship is marked by high degree of harmony.^b

TABLE 1 (Continued) (Cheng et al. 2000)

Long-term commitment	<p>Investigating extent to which long-term commitment is established in partnering organizations.</p> <p>Questions are</p> <ul style="list-style-type: none"> - We believe that our partners are committed to the partnering relationship on long-term basis. - We are highly committed to what we have promised our partners. - We try to stay away from our commitment to partnering.
Coordination	<p>Investigating extent to which partnering parties are effectively co-coordinated.</p> <p>Questions are</p> <p>Our partners have established good contact with us to avoid any misunderstanding.</p> <ul style="list-style-type: none"> - We would contact our partners when things are not clear - Our activities with other partners are well coordinated. - We feel we never know what we are supposed to be doing or when we are supposed to be doing it under the partnering agreement.^b
Creativity	<p>Investigating extent to which partnering team is creative.</p> <p>Questions are</p> <p>Partnering team always likes things of novel ideas.</p> <p>Partnering team always likes to use advanced techniques to initiate their creative thinking, such as the use of value engineering and benchmarking.</p>
Effective communication	<p>Investigating extent to which organizations can resolve conflicts.</p> <p>Questions are</p> <ul style="list-style-type: none"> - Our organization has used conflict resolution techniques, such as joint problem solving or outside arbitration, to solve conflicts. - Our organization can resolve conflicts quickly. - Our organization is always concerned about our ability to resolve conflicts.
Perceived satisfaction of partners' expectations	<p>Investigating the extent to which our partners' expectations are satisfied.</p> <p>Questions are</p> <ul style="list-style-type: none"> - Our partners praise our successful completion of tasks. - We fulfilled our task commitments, conforming to our partner's expectations

<i>TABLE 1 (Continued), (Cheng et al. 2000)</i>	
Compatible goals	<p>Investigating the extent to which our organizational goals are compatible with the partnering goals.</p> <p>Questions are</p> <ul style="list-style-type: none"> - Our organizational goals have no conflict with partnering goals. - Our organizational goals are in line with partnering goals.
^b Adapted from Mohr and Spekman (1994)	

In 2002, Cheng and Li examined a customized model of construction partnering in order to highlight the relationships between the critical success factors and individual partnering process stages. They proposed a process of partnering that was composed of three stages – formation, application, completion/ reactivation. The customized model uses a three stage process which forms the basis for considering what factors lead to the success of each stage (Figure 4).

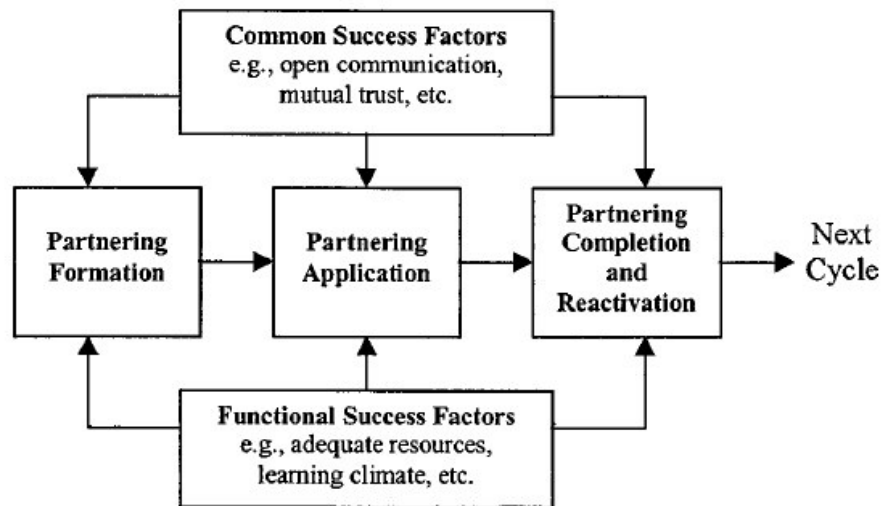


Figure 4. Customized model of partnering (Cheng and Li, 2001)

Table 2 lists critical success factors which were identified by Cheng and Li (2002) in the respect of each of the three process stages that were posted to the respondents to identify which one of them was the most important.

**Table 2. Potential Factors of Three Partnering Process Stages
(Cheng and Li, 2002)**

Factors in Partnering Formation	Factors in Partnering Application	Factors in Partnering Completion / Reactivation
Top Management Support	Top Management Support	Top Management Support
Open Communication	Open Communication	Open Communication
Mutual Trust	Mutual Trust	Mutual Trust
Effective Coordination	Effective Coordination	Effective Coordination
Workshops	Workshops	Workshops
Joint Problem Solving	Joint Problem Solving	Joint Problem Solving
Partnering Agreement	Partnering goals' achievement	Learning Climate
Creativity	Creativity	Long-Term commitment
Team Building	Adequate resources	Adequate Resources
Facilitator		Partnering Experience
		Continuous Improvement

Chan et al. (2003) reviewed the barriers to successful implementation of partnering in general and wanted to identify the perceived problems associated with partnering in Hong-Kong. A questionnaire was conducted both to analyze the participant's perception of the problems with partnering in Hong-Kong and to provide some useful insight to make partnering success such as determining the critical success factors for partnering projects. A review of the literature survey indicates that common problems of partnering can be grouped under nine major headings: misunderstanding of the partnering concept, relationship

problems, cultural barriers, uneven commitment, communication problems, lack of continuous improvement, inefficient problem solving, insufficient efforts to keep partnering going and discreditable relationship (Figure 5) (Chan et al. 2003).

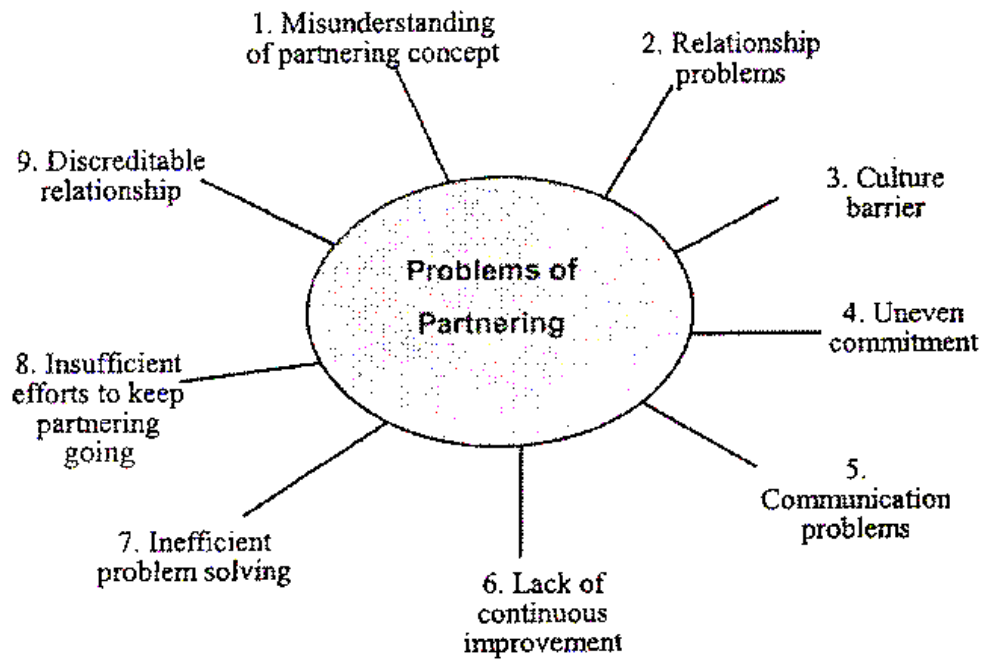


Figure 5. Summary of Partnering Problems (Chan et al. 2003)

In 2004, Chan et al. presented the development of the partnering concept in general and identified critical success factors for partnering projects again from the Hong-Kong perspective in particular. Throughout a postal questionnaire survey, included 41 determined critical success factors, geared toward project participants with hands-on partnering experience, the opinions of various parties were sought and evaluated in relation to partnering success factors.

The Construction Industry Institute Hong-Kong (CII-HK) initiated an industry driven research study in March 2003 to compare the implementation and outcomes of the project partnering practice among the public, private and infrastructure sectors. CII-HK aims to compare the project partnering practices among respondents based on six selected projects completed between 1999 and 2002 in Hong-Kong. In 2004, Chan et al. summarized the key findings derived from CII-HK funded research study. They conducted numbers of analyses to compare the project partnering practices among the public, private and infrastructure sectors of Hong-Kong. The first analysis is the direct comparison of the key performance indicators included construction time, speed of construction, time variation, construction cost, and incident rate. The second analysis is about comparisons of partnering process and comparisons of problems resolution process. The third and the last analysis is on the relative rankings of the mean scores for the major benefits of partnering, critical success factors for adopting partnering and major difficulties based on the responses on the survey (Chan et al, 2005). Details of criteria which were analyzed in the third part are shown in Table 3.

Table 3. Major Benefits of Partnering, Critical Success Factors for Adopting Partnering and Major Difficulties in Partnering (Chan et al. 2005)

Benefits of Partnering	Critical Success Factors for Partnering	Major Difficulties in Partnering
Improved relationship amongst the project participants	Mutual trust amongst the project participants	Dealing with large bureaucratic organizations impeded the effectiveness of partnering
Improved communication amongst project participants	Early implementation of partnering process	Uneven levels of commitment were found amongst the project participants
Better productivity was achieved	Commitment to win-win attitude	Parties were faced with commercial pressure which compromised the partnering attitude
Reduction in litigation	Establishment and communication of conflict resolution strategy	The parties had little experience with the partnering approach
Improved conflicts resolution strategies	Clear definition of responsibilities	Risk and rewards were not shared directly
Reduction in dispute	Early involvement of trade subcontractor	The concept of partnering was not fully understood by the participants
A win-win attitude was established amongst the project participants	Willingness to eliminate non-value added activities	Conflict arose from misalignment of personal goals with the project goals
A long-term trust relationship was achieved	Willingness to share resources among the project participants	Parties did not have proper training on partnering approach
More responsive to the short-term emergency, changing project or business needs	Ability to general innovative ideas	Participants were conditioned in a win-lose environment
Improved corporate culture amongst the project participants	Regular monitoring of partnering process	The partnering relationship created a strong dependency on other partners

Tang, Duffield and Young (2006) presented findings 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

industry in China in 2006. Tang et al. identified the main CSFs as mutual objectives, commitment, equality, trust, attitude, openness, effective communication, team building, problem resolution, timely responsiveness and incentives and ranked the importance of partnering CSFs, according to previous researches and the results of questionnaires conducted by Cheng and Li (2002), Scott (2001), Black et al. (2000), Cox and Townsend (1999), Australian Constructors Association (1999); Bennet and Jayes (1998), Cowan (1992). Based on the CSFs identified by the above-mentioned studies, a conceptual model has been developed (Figure 6). The model facilitates how improvements from partnering could be generated from these CSFs (Tang et al. 2006).

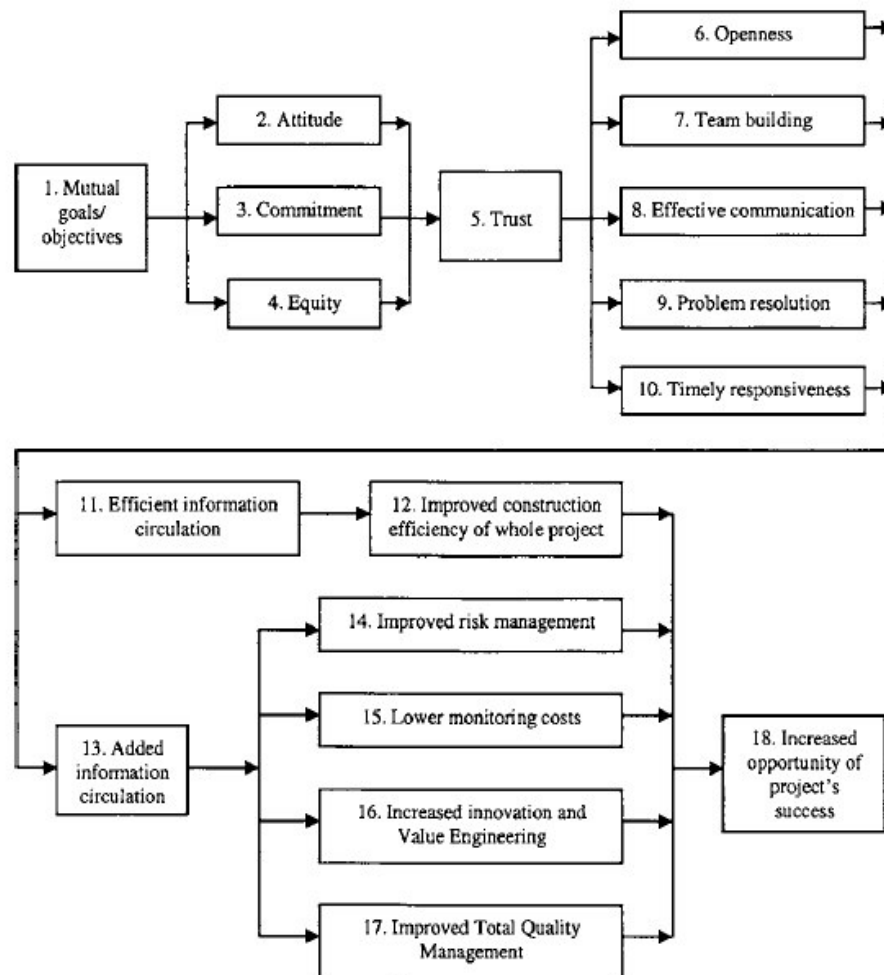


Figure 6. Conceptual Partnering Model (Tang et al. 2006)

The 10 partnering CSFs are incorporated as components of the model from 1 to 10. Components 11–18 of the model demonstrate the outcomes of the interactions of these CSFs. These outcomes include improved construction efficiency of the whole project, improved risk management, lower monitoring costs, increased innovation and value in engineering and improved total quality management which are decided in accordance with the literature of Chini and Valdez (2003), Baker et al. (1999), Austrian Standard (1999), Smith (1999), Carr et al. (1999), Buck (1989), Lu and Lu (1998), Pietroforte (1997), Ruskin (1995), Warne (1994), Kubal (1994), Hanly and Valence (1993), and Cowan (1992) (Tang et al. 2006).

In 2007, Chen and Chen identified and ranked the CSFs of project partnering in accordance with the important evaluation based on the views of the experienced construction professionals in Taiwan. Throughout a questionnaire administered to project participants with first-hand partnership experience, the opinions of various parties including government employees, owners, designers and contractors were inquired and assessed in relation to critical success factors in construction partnering (Chen and Chen, 2007). Nineteen CSFs that significantly influenced the success of construction partnering were identified. These nineteen factors are: mutual trust, effective communication, commitment from senior management, clear understanding, consistent with objectives, dedicated team, flexibility to change, commitment to quality, commitment to continuous improvement, long-term perspective, total cost perspective, partnership formation at design stage, good cultural fit, company wide acceptance, technical expertise, financial security, questioning attitudes, availability of resources, equal power/empowerment (Chen and Chen, 2007)

CHAPTER 3

RESEARCH METHODOLOGY

The aim of this study is to determine and assess the judgments of the construction professionals in Turkey on the concept of partnering, their perspective towards it, the most important criteria in the selection of partners and critical factors for the success of an established partnering.

This study was prepared with the adaptation of the methodology that Walker (1997) and Chan et al (2004) applied in their own researches. The methodology used is shown in Figure 7. The fundamental methods used for this research are literature survey, pilot study questionnaire, face-to-face interviews and statistical data analysis.

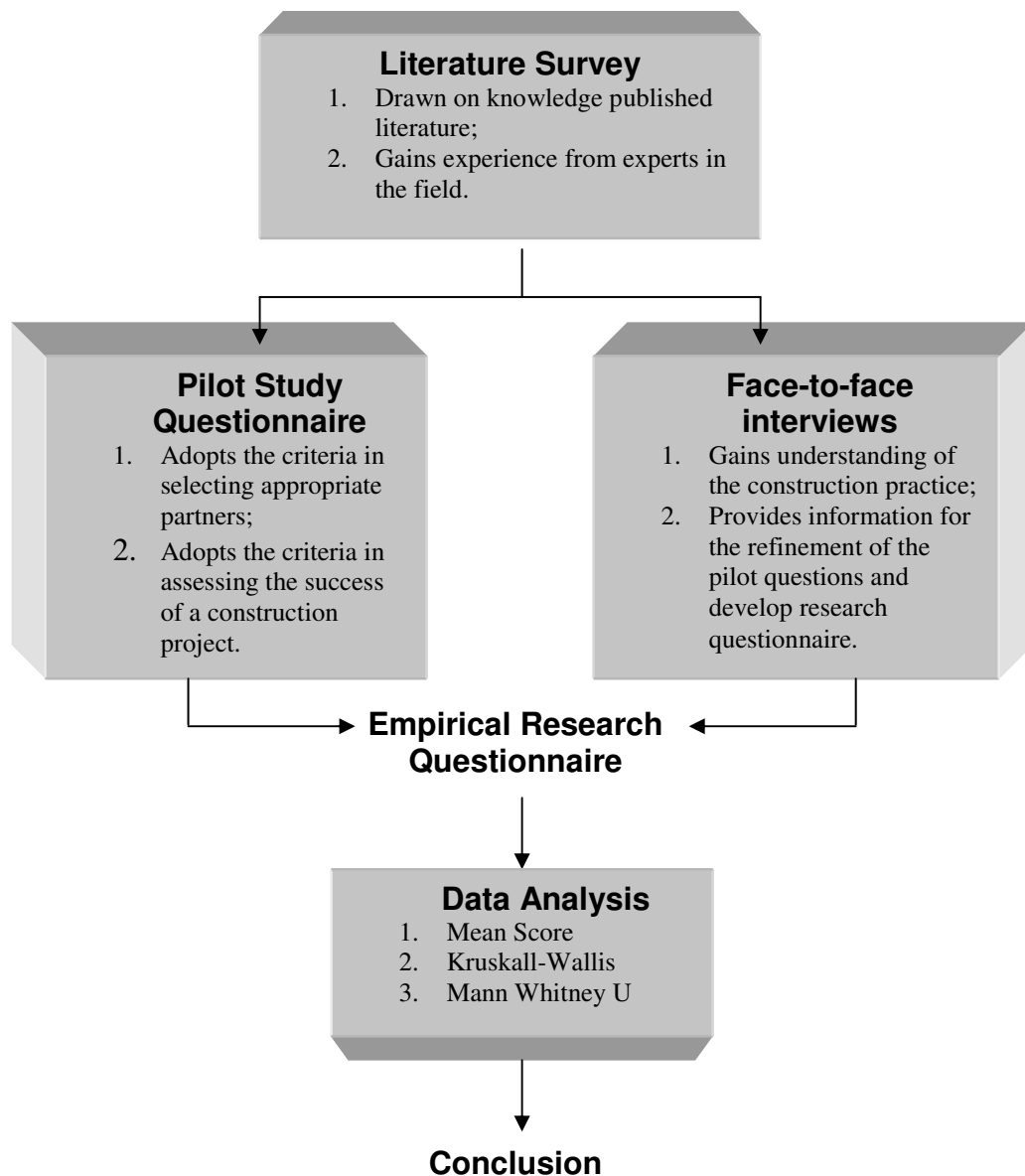


Figure 7: Overall research framework for this study
[Source adopted from Walker (1997), Chan et al. (2004)]

In this study, the questionnaire is composed of 3 parts and 51 questions. Information regarding contents, design phase, application of the questionnaire and analysis methods will be discussed in the forthcoming sections.

3.1. Design of the questionnaire

In order to shape the final questionnaire used in this study; first of all, a detailed literature survey was conducted. Then, a preliminary questionnaire was prepared. Before the preliminary questionnaire was delivered to participants as a final questionnaire, it was revised in the light of the interviews with senior managers of 2 highly reputable firms which are considered as pioneers in the sector.

3.1.1. Literature Survey

As mentioned previously, due to some changes affecting the construction sector in a negative way for the last two decades, the concept of partnering has become an important management strategy. Various surveys were conducted in order to define the concept of partnering and to determine critical factors by the help of some inspiring studies on this subject conducted by some researchers, such as Weston and Gibson (1993), Larson (1995), Chan et al.(2003), Wong and Cheung (2005), Tang et al. (2006), Lu and Yan (2007), as it was mentioned before.

Critical success factors determined by resulting in the studies conducted were reviewed in detail in Chapter 2. In the light of these reviews, critical success factors shown in Figure 8 were identified.

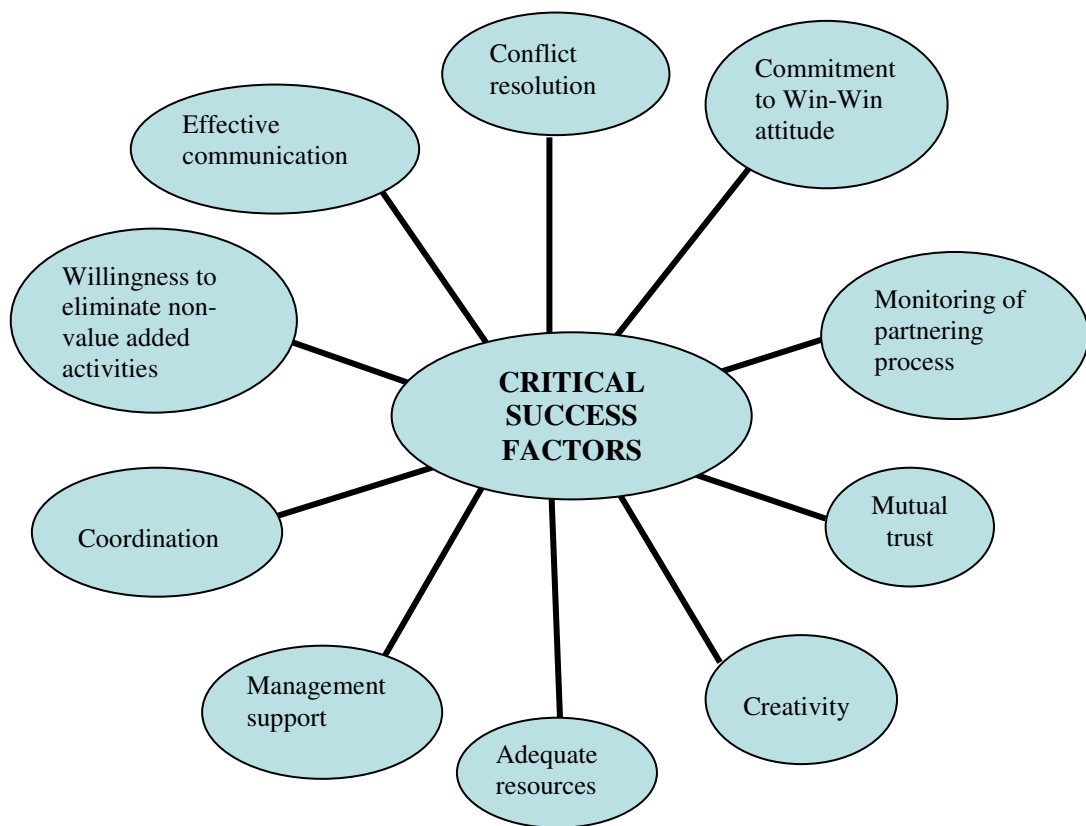


Figure 8. Critical Success Factors: The success of partnering
[Adopted by Cheng et al.2004]

3.1.2 Pre-Questionnaire

The questionnaire was designed in accordance with a detailed literature survey composed of 3 parts. Those 3 parts are as follows;

- General Information about Participants
- Factors Considered In the Selection of Partners
- Critical Factors for the Success of Partnering

In the first part, general information about the respondents was requested from the participants. In this part, the followings have been found out: “experience of participants in business life”, “approximate value of business they have done”, “types of projects they are specialized in”, “ratio of national and international business done”, “whether they have established any partnering by now or not”, “whether they are now engaged in a partnering or not” and “the scores they have given themselves for establishing a partnering and maintaining it with success”. Participants were divided into specific categories according to their general characteristics. Identified critical factors resulting in the questionnaire were analyzed in accordance with the categories in which the participants are classified.

The second part seeks to determine important factors that participants consider before establishing a partnering. In other words, in this part, the answers to the question ‘What does a manager look for in a company when partnering is taken into consideration with?’ for the pre-period of establishing a partnering, have been found. The questions are divided into two groups as ‘Managerial’ and ‘Technical’ questions. Technical questions are questions related to the technical and administrative staff capacity, ongoing projects, fields of activity, capacity of the machinery park and the experience in business life of the company that is considered for partnering. Managerial questions are the questions related to image, financial power, relations in the sector, corporate culture and management type of the company that is considered for partnering.

In the third and final part, necessary factors for an established partnering to last longer, for maintaining the partnering with success and completing it were determined. In this part, 30 questions based on the critical factors (Figure 8) determined in the literature survey were prepared and the most important factors were sought to be identified.

3.1.3 Face-to-face interviews

The questionnaire prepared according to literature survey was revised in the light of the interviews with senior managers of 2 reputable firms which are considered as pioneers in the sector, before being delivered to the participants. The information obtained from these interviews is summarized below.

The first interview was made with Deniz Türkkan, CEO of Epik Construction Company (Epik İnşaat Mühendislik İç ve Dış Ticaret A.Ş.) Epik, which is a Turkish construction company, was established in the year 2000. Since then, it has been conducting various national and international projects. The firm has still been a partner to American Framaco firm and Turkish Metiş firm.

Deniz Türkkan states that Turkish construction companies neither establish long-term partnering nor seek for long-term partners. Türkkan, who claims that established partnerings are those which derived from specific needs, adds “As long as there are favorable opportunities for companies to carry out a project, and as long as they are able to meet their needs by themselves, they do not think of establishing a partnering.” In addition, Türkkan emphasizes the significance of bilateral agreements during the establishment process of a partnering, and adds that within this process, management type of the partnering and how the decision-making mechanism will function should be decided well. According to Deniz Türkkan, in the process of partnering, the most important factor for success is mutual trust. Moreover, another important factor affecting the success is well monitoring and reporting of the progress of the partnering.

The second interview was made with Bedri Sever, one of the founders and the current chairman of the board of directors of Metiş Construction and Trade Co. Inc. (Metiş İnşaat ve Ticaret A.Ş.), who has a very important place in the Turkish construction sector and who has made great efforts for the improvement of the sector.

Bedri Sever states that an established partnering is generally established due to financial and technical inadequacy. He also mentions that partnering in Turkey is mainly established on project basis, however; as long as it is beneficial to parties, the partnering can be maintained and last for a long-term. According to Sever, the most important factor for the success of an established partnering is definitely “confidence”. Sever also stated that type and purpose of the partnering and terms of reference in the partnering should be clearly defined with the agreements and contracts during the establishment process. He also emphasizes that with these definitions made, possible problems to arise during the partnering will be solved in an easier way and in a shorter time.

3.1.4 Final Questionnaire

The final questionnaire formed in the light of bilateral interviews after the literature survey is composed of 3 parts and 51 questions. In the survey conducted on the web, the questions in the first part were open-ended and the participants were asked to answer these questions in detail. The participants were asked to answer questions in the second and third part using five-point Likert scale (1=strongly disagree and 5 strongly agree) depending on their experience and opinions on partnering. The final questionnaire applied can be found in Appendix.

3.2. Conducting Questionnaire

The questionnaire is simply a systematical data collection method applied with question-answer technique (Kaptan, 1993). In other words, it is a method applied by asking appropriate questions for designate populations that were previously decided to work on. Questionnaires were available to be applied with various methods, such as phone calls and face-to-face interviews and more preferably e-mails. Actually, studies are now preferred to be carried out via internet, which has entered our lives rapidly, instead of the old-fashioned methods on account of the fact that it is possible to reach a higher number of participants in a shorter

time while conducting the questionnaires via internet. Moreover, it is faster to classify, analyze, interpret and publish data (Kuğu, 2003).

The questionnaire was published on the internet at www.koksalerentez.info so as to receive responses faster and reach a larger population. Target group chosen in line with the aim of our study is Turkish construction firms. Participants were sought for our study both by means of bilateral relations with Turkish Contractors Association and by directly contacting the firms. As a result of the researches, 51 answered questionnaires were delivered to us and 2 of these were deemed invalid due to various reasons. Detailed information on the profiles of the participants is presented in the following part.

3.3. Analysis of Questionnaire Results

Tests used for the analysis of data in statistics are classified as parametric and non-parametric tests. Parametric tests are inflexible statistical methods that make calculations based on a specific distribution and variance (Karagöz and Ekici 2004). Non-parametric tests are flexible statistical methods that make calculations not based on a specific distribution and variance, but based on rank scores of the data instead of the data itself (Özdamar 2002; Karagöz and Ekici 2004).

As N value of the data analyzed in our study is 49 and they are not normally distributed non-parametric “Kruskall-Wallis” and “Mann Whitney U” tests were applied. Along with these two analyses, analyses were also made by using “Mean Value” method.

Kruskall-Wallis test is used to compare measurements of two or more independent groups related to a dependent variable and to test whether there is a significant difference between two distributions or not. In this test and other non-parametric tests, while comparing measurements of the groups, median value is

used instead of arithmetic mean. Median is the middle value of an array from high to low or vice versa (www.istatistikanaliz.com).

It is possible to consider Mann Whitney U test non-parametric equivalent to T test. There is no condition introduced for this test on the distribution of data. However, the data should be randomly collected. With Mann Whitney U test, hypothesis that two independent groups are derived from the same primary masses is tested, and this test should be applied when the conditions are not favorable for T test. Kruskal-Wallis test gives the same result for two groups with Mann Whitney U test. Therefore, if a significant difference between groups is found as a result of the comparison of distributions for three or more groups, the groups can be compared in pairs of two with Mann Whitney U test so as to find the source of the difference (www.istatistikanaliz.com).

Analysis of values obtained from the questionnaire results were assessed by using SPSS 15 statistical package program. In the tests, level of significance is accepted to be $P < 0.05$, confidence interval is accepted to be 95%.

CHAPTER 4

FINDINGS AND ANALYSIS OF SURVEY RESULTS

4.1 Profiles of Participants and Classified Categories

49 participants who took part in our study by giving answers to the questionnaire were classified according to their membership levels to different categories. These categories can be seen in Tables 4, 5, 6, 7, 8, and 9 in details and are as follows:

1. Experience of Participants in Business Life,
2. Approximate Value of Business Done by the Participants,
3. Whether the participants have established partnerings by now or not
4. Whether the participants are now engaged in a partnering or not,
5. Scores participants have given themselves for ‘Establishing a Partnering’.

The participants are classified under 4 categories according to their Experience in Business Life. These are classified as participants;

- a. Having (1–5) years of experience
- b. Having (6–15) years of experience
- c. Having (16–25) years of experience
- d. Having (26-above) years of experience

Table 4. Classification of participants by their experience in business life

		Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Valid	1–5 years	5	10,2	10,2	10,2
	6–15 years	13	26,5	26,5	36,7
	16–25 years	7	14,3	14,3	51,0
	26 years-above	24	49,0	49,0	100,0
	Total	49	100,0	100,0	

The participants are also classified under 4 categories according to approximate value of business they have done. These categories are as follows:

- a. (0–1) Billion USD
- b. (1–5) Billion USD
- c. (5–10) Billion USD
- d. (10-above) Billion USD.

Table 5. Classification of participants by approximate value of business they have done

		Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Valid	0-1.000.000\$	22	44,9	46,8	46,8
	1.000.000\$-5.000.000\$	13	26,5	27,7	74,5
	5.000.000\$-10.000.000\$	6	12,2	12,8	87,2
	10.000.000\$-above	6	12,2	12,8	100,0
	Total	47	95,9	100,0	
<i>Missing System</i>		2	4,1		
<i>Total</i>		49	100,0		

Responses to the question “Have you ever established a partnering by now?” and the classification of participants accordingly are shown in Table 6.

Table 6. Classification of participants as to whether they have established a partnering or not

		Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Valid	Yes, I Have	41	83,7	87,2	87,2
	No, I Haven't	6	12,2	12,8	100,0
	Total	47	95,9	100,0	
<i>Missing System</i>		2	4,1		
<i>Total</i>		49	100,0		

The results in Table 7 were obtained when the participants, who have established a partnering, are grouped as to whether they are now engaged in a partnering or not.

Table 7. Classification of participants having established partnerings as to whether they are now engaged in a partnering or not

		Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Valid	Yes, engaged in a partnering now	31	75,6	79,5	79,5
	No, not engaged in a partnering now	8	19,5	20,5	100,0
	Total	39	95,1	100,0	
<i>Missing System</i>		2	4,9		
<i>Total</i>		41	100,0		

Responses of the participants to the question ‘How successful do you find yourself in establishing a partnering and maintaining it with success?’ are presented in Table 8.

Table 8. Classification of participants by their responses to the statement ‘Score yourself for establishing a partnering and maintaining it with success’

		Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Valid	1	1	2,0	2,2	2,2
	2	2	4,1	4,4	6,7
	3	7	14,3	15,6	22,2
	4	24	49,0	53,3	75,6
	5	11	22,4	24,4	100,0
	Total	45	91,8	100,0	
<i>Missing System</i>		4	8,2		
<i>Total</i>		49	100,0		

For the statement ‘Score yourself for establishing a partnering and maintaining it with success’ directed to participants and analyzed in the Table 8, the mean score was found to be 3,93. Taking into consideration this mean score, this statement is sub-categorized in 2 categories as:

- a. Category#1 Those scoring themselves (1+2+3)
- b. Category#2 Those scoring themselves (4+5) (Table 9).

Table 9. Classification of participants under 2 categories by their responses to the statement ‘Score yourself for Establishing a Partnering and Maintaining It with Success’

		Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Valid	Category#1 (1+2+3)	10	20,4	22,2	22,2
	Category#2 (4+5)	35	71,4	77,8	100,0
	Total	45	91,8	100,0	
<i>Missing System</i>		4	8,2		
<i>Total</i>		49	100,0		

4.2 Comparisons of Participants According to Defined Categories

Comparison of *whether participants have established a partnering by now* and *whether they are now engaged in a partnering to years of experience in business life* and *approximate value of business they have done* was made respectively with a statistical method and the analysis as to whether there is a correlation or not was conducted. Table 10 shows the comparison between “whether participants have established a partnering by now or not” and “years of experience in business life.”

Table 10. Percentage of participants by years of experience in business life compared to whether they have established a partnering or not

			Have you ever established a partnering by now?		Total
			Yes, I Have	No, I Haven't	
Experiences of participants in business life	1-5 years	Number	3	2	5
		Percentage %	60,0%	40,0%	100,0%
	6-15 years	Number	11	2	13
		Percentage %	84,6%	15,4%	100,0%
	16-25 years	Number	5	1	6
		Percentage %	83,3%	16,7%	100,0%
	26-above	Number	22	1	23
		Percentage %	95,7%	4,3%	100,0%
TOTAL		Number	41	6	47
		Percentage %	87,2%	12,8%	100,0%

Our data have been subject to assessment by making use of Kruskal-Wallis test, and the assessment is concluded as “‘Establishment of a partnering by participants or not’ is not correlated to the years of experience in business life.” (Asym. Sig. = 0,183>0,05) (Table 11).

Table 11. Comparison of years of experience in business life to whether participants have established a partnering or not

	1=1-5,2=6-15 3=16-25, 4=26-above	N	Mean Rank
Have you ever established a partnering by now?	1-5 Years	5	30,40
	6-15 Years	13	24,61
	16-25 Years	6	24,91
	26-Above	23	22,02
	Total	47	
Test Statistics (a, b)			
	1=Yes, I Have 2=No, I Haven't		
Chi-Square	4,85		
df	3		
Asymp. Sig.	0,183		
a) Kruskal Wallis Test			
b) Grouping Variable: 1=1-5,2=6-15 3=16-25,4=26-Above			

The data in Table 12 were obtained when the analysis as to *whether the participants, who have ever established partnering at least, are now engaged in a partnering or no* was made according to *the years of experience in business life*.

Table 12. Percentage of participants by years of experience in business life compared to whether they are now engaged in a partnering or not

			Are you now engaged in a partnering?		Total
			Yes	No	
Years of experience of participants in business life	1-5 years	Number	2	1	3
		Percentage %	66,7%	33,3%	100,0%
	6-15 years	Number	5	6	11
		Percentage %	45,5%	54,5%	100,0%
	16-25 years	Number	5	0	5
		Percentage %	100,0%	0,0%	100,0%
	26-above	Number	19	3	22
		Percentage %	86,4%	13,6%	100,0%
Total		Number	31	10	41
		Percentage %	75,6 %	24,4%	100,0%

When the figures in the Table 12 were analyzed with Kruskal-Wallis test, it is observed that there is a statistically significant difference (Asym. Sig.=0,040<0,05) (Table 13).

Table 13. Comparison of participants by years of experience in business life to whether they are now engaged in a partnering or not

	1=1-5,2=6-15 3=16-25,4=26-above	N	Mean Rank
Are you now engaged in a partnering?	1-5 Years	3	22,83
	6-15 Years	11	27,18
	16-25 Years	5	16,00
	26-Above	22	18,80
	Total	41	
Test Statistics (a,b)			
	1=Yes 2=No		
Chi-Square	8,338		
df	3		
Asymp. Sig.	0,040		
a) Kruskal Wallis Test			
b) Grouping Variable: 1=1-5,2=6-15 3=16-25,4= 26-Above			

Mann-Whitney-U Test was used so as to identify the statistically significant difference for the results in Table 13 obtained by Kruskal Wallis test between the categories there. According to the analysis made, it was found that there is a statistically significant difference between participants with an experience of (6–15 Years) and participants both with an experience of (26-above) years (Asymp. Sig.=0,02) and with an experience of (16–25) years (Asymp. Sig.=0,43). The critical duration is concluded as 15 years of experience (Table14, Table 15).

Table 14. Comparison of participants with an experience of (6-15) years to participants with an experience (26-above) years as to whether they are now engaged in a partnering or not

	1=1-5, 2=6-15, 3=16-25, 4=26-above	N	Mean Rank	Sum of Ranks
Are you now engaged in a partnering?	6-15 Years	11	20,95	230,50
	26-Above	20	13,28	265,50
	Total	31		
Test Statistics				
	(Yes, No)			
Mann-Whitney U	55,500			
Wilcoxon W	265,500			
Z	-3,105			
Asymp. Sig. (2-tailed)	0,002			
Exact Sig. [2*(1-tailed Sig.)]	0,023(a)			
a) Not corrected for ties.				
b)Grouping Variable: 1=1-5, 2=6-15, 3=16-25, 4= 26-above				

Table 15. Comparison of participants with an experience of (6-15) years to participants with an experience of (16-25) years as to whether they are now engaged in a partnering or not

	1=1-5, 2=6-15, 3=16-25, 4= 26-above	N	Mean Rank	Sum of Ranks
Are you now engaged in a partnering?	6-15 Years	11	9,86	108,50
	16-25 Years	5	5,50	27,50
	Total	16		
Test Statistics				
	(Yes, No)			
Mann-Whitney U	12,500			
Wilcoxon W	27,500			
Z	-2,023			
Asymp. Sig. (2-tailed)	,043			
Exact Sig. [2*(1-tailed Sig.)]	,090(a)			
a) Not corrected for ties.				
b) Grouping Variable: 1=1-5, 2=6-15, 3=16-25, 4=26-above				

Participants were also analyzed by *the approximate value of business they have done as to whether they have established a partnering or not*. The results are stated in Table 16 in detail.

Table 16. Percentage of participants by the approximate value of business they have done as to whether they have established a partnering or not

			Have you ever established a partnering by now?		Total
			Yes, I Have	No, I Haven't	
Approximate value of business done by participants	0-1.000.000\$	Number	17	5	22
		Percentage %	77,3%	22,7%	100,0%
	1.000.000\$-5.000.000\$	Number	12	0	12
		Percentage %	100,0%	0,0%	100,0%
	5.000.000\$-10.000.000\$	Number	4	1	5
		Percentage %	80,0%	20,0%	100,0%
	10.000.000\$-above	Number	6	0	6
		Percentage %	100,0%	0,0%	100,0%
Total		Number	39	6	45
		Percentage %	86,7%	13,3%	100,0%

As a result of the statistical analysis of the figures obtained from the table with Kruskal-Wallis test, it is concluded that there is no correlation with the “approximate value of business participants have done as to whether they have established a partnering or not” (Asym. Sig=0,209 > 0,05) (Table 17).

Table 17. Comparison of approximate value of business participants have done to whether they have established a partnering or not

	1=0-1; 2=1-5; 3=5-10; 4= 10-above	N	Mean Rank
Have you ever established a partnering by now?	0-1.000.000\$	22	25,11
	1.000.000\$-5.000.000\$	12	20,00
	5.000.000\$-10.000.000\$	5	24,50
	10.000.000\$- above	6	20,00
	Total	45	
Test Statistics (a, b)			
	Yes, No		
Chi-Square	4,538		
df	3		
Asymp. Sig.	0,209		
a. Kruskal Wallis Test			
b. Grouping Variable: 1=0-1; 2=1-5; 3=5-10; 4= more than 10 years			

Data regarding correlation between *approximate value of business done by participants, who have established at least one partnering in their business lives* and *whether they are now engaged in a partnering or not* are summarized in Table 18.

Table 18. Percentage of participants by approximate value of business they have done as to whether they are now engaged in a partnering or not

			Are you now engaged in a partnering?		Total
			Yes	No	
Approximate value of business done by participants	0-1.000.000\$	Number	10	7	17
		Percentage %	58,8%	41,2%	100,0%
	1.000.000\$-5.000.000\$	Number	9	3	12
		Percentage %	75,0%	25,0%	100,0%
	5.000.000\$-10.000.000\$	Number	4	0	4
		Percentage %	100,0%	0,0%	100,0%
	10.000.000\$-above	Number	6	0	6
		Percentage %	100,0%	0,0%	100,0%
Total		Number	29	10	39
		Percentage %	74,4%	25,6%	100,0%

According to statistical analysis obtained from Kruskal-Wallis test conducted in the light of this data, approximate value of business done is not an effective factor for participants who have established a partnering at least once in their business lives, in their decisions to maintain a partnering now or not (Asym. Sig.=0,141 >0,05) (Table 19).

Table 19. Comparison of participants by approximate value of business they have done as to whether they are now engaged in a partnering or not

	Approximate value of business done by participants	N	Mean Rank
Are you now engaged in a partnering?	0-1.000.000\$	17	23,03
	1.000.000\$-5.000.000\$	12	19,88
	5.000.000\$-10.000.000\$	4	15,00
	10.000.000\$-above	6	15,00
	Total	39	
Test Statistics(a,b)			
	Are You Now Engaged In A Partnering?		
Chi-Square	5,459		
df	3		
Asymp. Sig.	0,141		
a. Kruskal Wallis Test			
b. Grouping Variable: 1=0-1; 2=1-5; 3=5-10; 4= 10-above			

4.3 Identifying Critical Factors in Selecting Partners

Data for identifying major critical factor in selecting partners are summarized in the tables below and it is aimed to analyze all critical factors in detail in the following part of this section.

4.3.1 Major Critical Factors in Selecting Partner

Responses to the question “Does the partner I look for should have experience in similar fields to the characteristics of the project for which the partnering is to be established; or should the partner be an acquaintance and having a similar corporate culture to mine; or are both important?” were summarized in Table 20.

As it may be observed from these tables, “Both project characteristics and similar corporate culture” rank the first by 50%. “Project Features” ranks the second by 31% and “Similar Corporate Culture” ranks the third by 19%.

Table 20. Major critical factors for participants in the selection of partners

		Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Major critical factors that participants consider in selection of partner	Project Characteristics	15	% 30,6	% 31,3	% 31,3
	Similar Corporate Culture	9	% 18,4	% 18,8	% 50,0
	Both	24	% 49,0	% 50,0	% 100,0
	Total	48	% 98,0	% 100,0	
<i>Missing Data</i>		<i>1</i>	<i>2,0</i>		
<i>Total</i>		<i>49</i>	<i>% 100,0</i>		

We also wanted to find out whether the responses in Table 20 vary or not according to the groups we categorized by analyzing each one individually. When major critical factors in the selection of partners are analyzed as to *whether participants have established a partnering or not*, responses obtained are parallel to the responses given to this question by general participants. The most important factor is again found to be “Both Project Characteristics and Similar Corporate Culture” (Table 21).

Table 21. Major critical factors for participants in the selection of partners as to whether they have established a partnering or not

			Major critical factors for participants in the selection of partners			Total
			Project Characteristics	Similar Corporate Culture	Both	
Have you ever established a partnering by now?	Yes	Count	14	8	19	41
		%	34,1%	19,5%	46,3%	100,0%
	No	Count	1	1	4	6
		%	16,7%	16,7%	66,7%	100,0%
Total		Count	15	9	23	47
		%	31,9%	19,1%	48,9%	100,0%

Major critical factors for participants do not change as to *whether they are now engaged in a partnering or not* (Table 22).

Table 22. Analysis of main factors in the selection partners for participants who are now involved in a partnering or not

			Major critical factors for participants in the selection of partners			Total
			Project Characteristics	Similar Corporate Culture	Both	
Are you now engaged in a partnering?	Yes	Count	12	5	14	31
		%	38,7%	16,1%	45,2%	100,0%
	No	Count	2	3	3	8
		%	25,0%	37,5%	37,5%	100,0%
Total		Count	14	8	17	39
		%	35,90 %	20,5%	43,6%	100,0%

Major critical factors for participants in the selection of partners do not vary according to *their experience in business life* and the most important factor for the participants is again “Both Project Characteristics and Similar Corporate Culture” (Table 23). Unlike the responses of general participants, 25 participants

having an experience up to 25 years attached equal importance to “Project Characteristics” and “Similar Corporate Culture”; however, participants with more than 25 years of experience find “Project Characteristics” more important than “Similar Corporate Culture”.

Table 23. Analysis of major critical factors in the selection of partners for participants according to their experience in business life

			Major critical factors for participants in the selection of partners			Total
			Project Characteristics	Similar Corporate Culture	Both	
Years of experiences of participants in business life	1-5 Years	Count	1	1	3	5
		%	20,0%	20,0%	60,0%	100,0%
	6-15 Years	Count	4	4	5	13
		%	30,8%	30,8%	38,5%	100,0%
	16-25 Years	Count	1	1	5	7
		%	14,3%	14,3%	71,4%	100,0%
	25-above	Count	9	3	11	23
		%	39,1%	13,0%	47,8%	100,0%
Total		Count	15	9	24	48
		%	31,3 %	18,8%	50,0%	100,0%

When major critical factors for participants in the selection of partners are compared to *the approximate value of business they have done*, it can be observed that there is a difference in responses of the participants who have done business of (1–5) Billion \$. Out of these 13 participants 61,50% stated that “Project Characteristics” is the most important factor (Table 24).

Table 24. Analysis of major critical factors in the selection of partners for participants according to approximate value of business they have completed

			Major critical factors for participants in the selection of partners			Total
			Project Characteristics	Similar Corporate Culture	Both	
Approximate value of business done by the participants	0-1.000.000\$	Count	4	4	14	22
		%	18,2%	18,2%	63,6%	100,0%
	1.000.000\$-5.000.000\$	Count	8	2	3	13
		%	61,5%	15,4%	23,1%	100,0%
	5.000.000\$-10.000.000\$	Count	2	1	2	5
		%	40,0%	20,0%	40,0%	100,0%
	10.000.000\$-above	Count	1	1	4	6
		%	16,7%	16,7%	66,7%	100,0%
Total		Count	15	8	23	46
		%	32,6%	17,4%	50,0%	100,0%

When we analyze major factors in the selection of partners according to *participants who scored themselves for establishing a partnering* and who are divided into 2 categories, the figures stated in Table 25 have been obtained. When the table is analyzed, results are similar to general opinions. “Both Project Characteristics and Similar Corporate Culture” has been the most preferred response.

Table 25. Analysis of major critical factors for participants in the selection of partners according to the scores they have given themselves for establishing a partnering

			Major critical factors for participants in the selection of partners			Total
			Project Characteristics	Similar Corporate Culture	Both	
Score yourself from 1 to 5 for establishing a partnering.	Category #1 (1+2+3)	Count	2	4	4	10
		%	20,0%	40,0%	40,0%	100,0%
	Category #2 (4+5)	Count	12	5	18	35
		%	34,3%	14,3%	51,4%	100,0%
Total		Count	14	9	22	45
		%	31,1%	20,0%	48,9%	100,0%

4.3.2 Identifying Critical Factors for Selecting Appropriate Partners

Data are listed in Table 26 according to mean values of the assessment we have made with the purpose of identifying critical factors considered important by the participants in our research while selecting for an appropriate partner.

Table 26. Critical factors considered important by the participants while selecting for an appropriate partner

Critical Factors Considered Important by the Participants While Selecting for an Appropriate Partner	Sum	Mean	Standard Deviation
<i>Experience of the company in similar projects to the project in question</i>	213	4,347	0,948
<i>Image of the company</i>	213	4,347	0,779
<i>Relations of the company with its employers</i>	207	4,313	0,748
<i>Financial power / capability of the company</i>	202	4,208	0,743
<i>Technical and administrative staff capacity of the company</i>	201	4,102	0,743
<i>Project types conducted by the company</i>	196	4,083	0,846
<i>Capacity of resources to be allocated to partnership by the company</i>	194	3,959	0,706
<i>Employing agencies and institutions the company worked with in the past</i>	193	3,939	0,922
<i>Corporate structure of the company management</i>	189	3,857	0,866
<i>Company having a similar "corporate culture" to yours</i>	185	3,776	0,941
<i>Geographical area of activity of the company</i>	180	3,673	1,179
<i>Whether the company have established partnerships before or not, if yes, the performance of the company in this partnership</i>	162	3,306	1,084
<i>Size of the machinery park owned by the company</i>	161	3,286	0,913

As a result of the analysis of data in Table 26, important top 3 factors while selecting for an appropriate partner is as follows respectively;

1. Experience of the company -in similar projects to the project in question-
2. Image of the company
3. Relations of the company with its employers.

The least important factor is the size of Machinery Park owned by the company.

Critical factors considered important by the participants while selecting for an appropriate partner are individually analyzed according to the following criteria respectively: their experience in business life; approximate value of business they have done; whether they are now engaged in a partnering or not and the score they have given themselves. The differences between responses to the questions in different categories were determined.

Due to small number of participants in identified sub-categories of the categories, sub-categories were combined while making comparisons and the study was conducted according to these new sub-categories.

Participants were classified in 2 sub-categories according to the years of experience as those having an experience of (1-15) years and those having an experience more than 15 years. When critical factors considered important by the participants while searching for an appropriate partner are analyzed, for the participants with an experience of (1-15) years, the most important factors are “Image of the company” and “Relations of the company with its employers”. For the participants having an experience more than (15) years, the response was “Experience of the company – in similar projects to the project in question-” (Table 27).

It is assessed by Mann-Whitney U test whether there is a significant difference between the answers given or not among categories. It is concluded that there is a significant difference between categories for the response given to the question “Experience of the company –in similar projects to the project in question-” (Asym. Sig. 2-tailed=0,008<0,05). Participants with an experience more than (15) years find this critical factor more important when compared to the participants with an experience of (1-15) years (Table 28).

Table 27. Analysis of the critical factors considered important by the participants while selecting for an appropriate partner according to the years of experience in business life

[illegible]

Table 28. Comparison of the responses to critical factors considered important by the participants while selecting for an appropriate partner according to the years of experience in business life

	Mann-Whitney Test	N	Mean Rank	Sum of Ranks
Ba	1-15 Years	18	27,08	487,50
	15-above	31	23,79	737,50
Bb	1-15 Years	18	21,94	395,00
	15-above	31	26,77	830,00
Bc	1-15 Years	18	25,61	461,00
	15-above	31	24,65	764,00
Bd	1-15 Years	18	24,75	445,50
	15-above	31	25,15	779,50
Be	1-15 Years	18	21,28	383,00
	15-above	30	26,43	793,00
Bf	1-15 Years	18	27,64	497,50
	15-above	31	23,47	727,50
Bg	1-15 Years	18	18,78	338,00
	15-above	31	28,61	887,00
Bh	1-15 Years	18	25,36	456,50
	15-above	31	24,79	768,50
Bi	1-15 Years	18	21,67	390,00
	15-above	31	26,94	835,00
Bj	1-15 Years	18	28,83	519,00
	15-above	31	22,77	706,00
Bk	1-15 Years	18	27,47	494,50
	15-above	30	22,72	681,50
Bl	1-15 Years	18	27,97	503,50
	15-above	31	23,27	721,50
Bm	1-15 Years	17	21,59	367,00
	15-above	31	26,10	809,00

Test Statistics(a)				
	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2 tailed)
Ba	241,500	737,500	-0,862	0,389
Bb	224,000	395,000	-1,204	0,229
Bc	268,000	764,000	-0,241	0,809
Bd	274,500	445,500	-0,102	0,919
Be	212,000	383,000	-1,351	0,177
Bf	231,500	727,500	-1,045	0,296
Bg	167,000	338,000	-2,632	0,008
Bh	272,500	768,500	-0,141	0,888
Bi	219,000	390,000	-1,360	0,174
Bj	210,000	706,000	-1,487	0,137
Bk	216,500	681,500	-1,250	0,211
Bl	225,500	721,500	-1,173	0,241
Bm	214,000	367,000	-1,139	0,255

a. Grouping Variable: 1=1-15 Year, 2= 15-above

Participants were classified into 2 categories according to the approximate value of business they have done as (0–1) Billion USD and more than 1 Billion USD. According to these categories, when the critical factors considered important by the participants while selecting for an appropriate partner are analyzed, the most important critical factor for the participants with (0–1) Billion USD approximate value of business done is “Image of the company”. For the participants with an approximate value more than 1 Billion USD for the business they have done, “Relations of the company with its employers” is found to be the most important criteria (Table 29).

When the responses given are analyzed with Mann-Whitney-U test, it is observed that there is a statistically significant difference in the factor “Project types conducted by the company” (Asym. Sig. 2-tailed=0,045<0,05). Participants with an approximate value of more than 1 Billion USD for the business they have done find this critical factor more important when compared to those with an approximate value less than 1 Billion USD for the business they have done (Table 30).

Table 29. Analysis of critical factors considered important by the participants while selecting for an appropriate partner according to the approximate value of business they have done

[illegible]

Table 30. Comparison of responses to critical factors considered important by the participants while selecting for an appropriate partner according to the approximate value of business they have done

Mann-Whitney-U Test		N	Mean Rank	Sum of Ranks
Ba	(0-1)Billion \$	22	24,50	539,00
	(1-above) Billion \$	25	23,56	589,00
Bb	(0-1)Billion \$	22	22,09	486,00
	(1-above) Billion \$	25	25,68	642,00
Bc	(0-1)Billion \$	22	20,93	460,50
	(1-above) Billion \$	25	26,70	667,50
Bd	(0-1)Billion \$	22	20,25	445,50
	(1-above) Billion \$	25	27,30	682,50
Be	(0-1)Billion \$	22	22,14	487,00
	(1-above) Billion \$	24	24,75	594,00
Bf	(0-1)Billion \$	22	26,64	586,00
	(1-above) Billion \$	25	21,68	542,00
Bg	(0-1)Billion \$	22	23,43	515,50
	(1-above) Billion \$	25	24,50	612,50
Bh	(0-1)Billion \$	22	21,64	476,00
	(1-above) Billion \$	25	26,08	652,00
Bi	(0-1)Billion \$	22	21,16	465,50
	(1-above) Billion \$	25	26,50	662,50
Bj	(0-1)Billion \$	22	24,82	546,00
	(1-above) Billion \$	25	23,28	582,00
Bk	(0-1)Billion \$	22	21,70	477,50
	(1-above) Billion \$	24	25,15	603,50
Bl	(0-1)Billion \$	22	22,73	500,00
	(1-above) Billion \$	25	25,12	628,00
Bm	(0-1)Billion \$	22	19,64	432,00
	(1-above) Billion \$	24	27,04	649,00

Test Statistics(a)				
	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Ba	264,00	589,00	-0,26	0,792
Bb	233,00	486,00	-0,94	0,345
Bc	207,50	460,50	-1,52	0,127
Bd	192,50	445,50	-1,92	0,054
Be	234,00	487,00	-0,73	0,467
Bf	217,00	542,00	-1,31	0,190
Bg	262,50	515,50	-0,30	0,762
Bh	223,00	476,00	-1,16	0,246
Bi	212,50	465,50	-1,46	0,145
Bj	257,00	582,00	-0,40	0,690
Bk	224,50	477,50	-0,96	0,337
Bl	247,00	500,00	-0,63	0,527
Bm	179,00	432,00	-2,00	0,045

a. Grouping Variable: approximate \$

When we make a comparison between the critical factors considered important by the participants while selecting for an appropriate partner to whether they are now engaged in a partnering or not, values in Table 31 are obtained. As it can be seen in this table, for the participants who are now engaged in a partnering, we can say that the most important critical factor considered is “Experience of the company – in similar projects to the project in question-“. Participants who are not engaged in a partnering now stated that the most important factor is “Relations of the company with its employers” (Table 31).

When we statistically assess the responses with Mann-Whitney U test in order to find whether there is a significant difference or not, it is observed that there is a statistically significant difference among categories for the factors “Company having a similar corporate culture to yours” (Asym. Sig. 2-tailed=0,019<0,05) and “Relations of the company with its employers” (Asym. Sig. 2-tailed=0,005<0,05). Both of these two factors are considered to be more important for the participants who are not engaged in a partnering now. Although “Relations of the company with its employers” factor is the most important first factor for the participants who are not involved in a partnering now, it is considered to be the sixth critical factor for the participants who are now engaged in a partnering (Table 32).

Table 31. Analysis of critical factors considered important by the participants while selecting for an appropriate partner as to whether they are now involved in a partnering or not

Are You Now Engaged in a Partnership?		<i>Ba</i>	<i>Bb</i>	<i>Bc</i>	<i>Bd</i>	<i>Be</i>	<i>Bf</i>	<i>Bg</i>	<i>Bh</i>	<i>Bi</i>	<i>Bj</i>	<i>Bk</i>	<i>Bl</i>	<i>Bm</i>
		Image of the company	Corporate structure of the company management	Size of machinery park owned by the company	Technical and administrative staff capacity of the company	Financial power / capability of the company	Company having a similar corporate culture to yours	Experience of the company - in similar projects to the project in question-	Whether the company has established partnerships before, if yes, the performance of the company in this partnership	Capacity of sources to be allocated to partnership by the company	Geographical area of activity of the company	Relations of the company with its employers	Employing agencies and institutions the company worked with in the past	Project types conducted by the company
YES	Mean	4,16	3,74	3,29	4,13	4,19	3,52	4,45	3,32	3,87	3,55	4,07	3,74	4,16
	N	31	31	31	31	31	31	31	31	31	31	30	31	31
	Std. Deviation	0,860	0,815	1,039	0,763	0,792	0,962	0,768	0,871	0,670	1,234	0,785	0,893	0,860
	Minimum	2	2	1	2	2	2	3	2	3	1	2	2	2
	Maximum	5	5	5	5	5	5	5	5	5	5	5	5	5
NO	Mean	4,50	3,75	3,00	3,88	3,88	4,38	4,50	2,63	3,75	3,88	4,88	4,38	3,75
	N	8	8	8	8	8	8	8	8	8	8	8	8	8
	Std. Deviation	0,535	0,886	0,535	0,641	0,641	0,518	0,756	1,598	0,463	0,991	0,354	0,744	0,707
	Minimum	4	2	2	3	3	4	3	1	3	3	4	3	3
	Maximum	5	5	4	5	5	5	5	5	4	5	5	5	5

Table 32. Comparison of responses to critical factors considered important for the participants while selecting for an appropriate partner as to whether they are now involved in a partnering or not

	Mann-Whitney-U Test	N	Mean Rank	Sum of Ranks
Ba	YES	31	19,23	596
	NO	8	23	184
Bb	YES	31	19,79	613,5
	NO	8	20,81	166,5
Bc	YES	31	20,82	645,5
	NO	8	16,81	134,5
Bd	YES	31	20,87	647
	NO	8	16,63	133
Be	YES	31	21,06	653
	NO	8	15,88	127
Bf	YES	31	17,97	557
	NO	8	27,88	223
Bg	YES	31	19,9	617
	NO	8	20,38	163
Bh	YES	31	21,1	654
	NO	8	15,75	126
Bi	YES	31	20,32	630
	NO	8	18,75	150
Bj	YES	31	19,55	606
	NO	8	21,75	174
Bk	YES	30	17,1	513
	NO	8	28,5	228
Bl	YES	31	18,42	571
	NO	8	26,13	209
Bm	YES	31	21,31	660,5
	NO	8	14,94	119,5

Test Statistics(a)

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Ba	100,000	596,000	-0,915	0,360
Bb	117,500	613,500	-0,242	0,809
Bc	98,500	134,500	-0,931	0,352
Bd	97,000	133,000	-1,038	0,299
Be	91,000	127,000	-1,249	0,212
Bf	61,000	557,000	-2,350	0,019
Bg	121,000	617,000	-0,120	0,904
Bh	90,000	126,000	-1,249	0,212
Bi	114,000	150,000	-0,396	0,692
Bj	110,000	606,000	-0,505	0,613
Bk	48,000	513,000	-2,798	0,005
Bl	75,000	571,000	-1,808	0,071
Bm	83,500	119,500	-1,518	0,129

a. Grouping Variable: 1=yes 2=no

Participants were asked to score themselves on a scale of 1 to 5 for establishing a partnering and maintaining it with success and the results obtained were grouped under 2 categories. According to these 2 categories identified, when the critical factors considered important by the participants are compared, 10 participants who scored themselves 1,2 or 3 considered “Relations of the company with its employers” the most important factor, and 35 participants who scored themselves 4 or 5 stated that the most important factor for them is “Experience of the company –in similar projects to the project in question” (Table 33).

When we statistically assess whether there is a significant difference between the responses with Mann-Whitney U test, it can be concluded that there is a significant difference between the categories for the factor “Company having a similar ‘corporate culture’ to yours” (Asym. Sig. 2-tailed=0,017<0,05). Participants who scored themselves 1,2 or 3 consider this factor more important when compared to participants who scored themselves 4 or 5 (Table 34).

Table 33. Analysis of critical factors considered important by the participants while selecting for an appropriate partner according to scores they have given themselves for establishing a partnering and maintaining it with success

[illegible]

Table 34. Comparison of responses to critical factors considered important by the participants while selecting for an appropriate partner according to scores they have given themselves for establishing a partnering and maintaining it with success

	Mann-Whitney Test	N	Mean Rank	Sum of Ranks
Ba	1+2+3	10	23,5	235
	4+5	35	22,86	800
Bb	1+2+3	10	21,85	218,5
	4+5	35	23,33	816,5
Bc	1+2+3	10	20,85	208,5
	4+5	35	23,61	826,5
Bd	1+2+3	10	21,25	212,5
	4+5	35	23,5	822,5
Be	1+2+3	10	18,45	184,5
	4+5	35	24,3	850,5
Bf	1+2+3	10	31,2	312
	4+5	35	20,66	723
Bg	1+2+3	10	22,8	228
	4+5	35	23,06	807
Bh	1+2+3	10	20,6	206
	4+5	35	23,69	829
Bi	1+2+3	10	18,4	184
	4+5	35	24,31	851
Bj	1+2+3	10	21,05	210,5
	4+5	35	23,56	824,5
Bk	1+2+3	10	26	260
	4+5	34	21,47	730
Bl	1+2+3	10	24,75	247,5
	4+5	35	22,5	787,5
Bm	1+2+3	10	16,3	163
	4+5	34	24,32	827

Test Statistics(b)			
	Mann-Whitney U	Wilcoxon W	Asymp. Sig. (2-tailed)
Ba	170,00	800,00	-0,150
Bb	163,50	218,50	-0,333
Bc	153,50	208,50	-0,621
Bd	157,50	212,50	-0,522
Be	129,50	184,50	-1,366
Bf	93,00	723,00	-2,387
Bg	173,00	228,00	-0,062
Bh	151,00	206,00	-0,691
Bi	129,00	184,00	-1,403
Bj	155,50	210,50	-0,554
Bk	135,00	730,00	-1,072
Bl	157,50	787,50	-0,509
Bm	108,00	163,00	-1,857

4.4 Critical Success Factors for Partnering

A more detailed questionnaire with 29 questions has been prepared with the aim of identifying “critical success factors” for successful maintenance, management and continuity of an established and active partnering, and responses given by 49 participants and results are summarized in Table 35.

Table 35. Critical success factors considered important by the participants for an established partnering to be successful

		Mean	Standard Deviation	Variance	Sum	Frequency				
						5	4	3	2	1
1	The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage	4,833	0,377	0,142	232	40	8	0	0	0
2	All team members have to accept their own responsibilities and accountability	4,813	0,445	0,198	231	40	7	1	0	0
3	All parties should rely on the others to cooperate in the partnering process	4,688	0,624	0,390	225	36	10	1	1	0
4	Trust established between organizations is critical to the partnering relationship. There should be a relationship of trust between all parties	4,667	0,394	0,156	231	39	9	0	0	0
5	Roles and responsibilities should be defined in the beginning of partnering process	4,667	0,559	0,312	224	34	12	2	0	0
6	All parties have to contact each other when the things are not clear	4,625	0,489	0,239	222	30	18	0	0	0
7	Concept of partnering should be fully understood by the participants	4,583	0,710	0,504	220	34	8	6	0	0
8	Ideas and visions should be exchanged with in the partners	4,563	0,649	0,422	219	31	13	4	0	0
9	All parties have to establish coordination with other parties to avoid any misunderstanding	4,553	0,686	0,470	214	31	11	5	0	0
10	Risk and rewards should be shared fairly	4,543	0,751	0,565	209	30	13	1	2	0
11	Control and resolution mechanism have to be developed to deal with problems	4,521	0,545	0,297	217	26	21	1	0	0
12	All parties should provide each other with sufficient information to execute program	4,417	0,647	0,418	212	23	23	1	1	0
13	Participants should achieve a continuity of open and honest communication	4,396	0,792	0,627	211	27	14	6	1	0

Table 35 (Continue)

		Mean	Standard Deviation	Variance	Sum	Frequency				
						5	4	3	2	1
14	There should be no weak link in team members	4,354	0,729	0,531	209	24	17	7	0	0
15	All parties have to brake down from the win-lose mind set to win-win attitude	4,188	0,734	0,539	201	18	21	9	0	0
16	All parties should agree to eliminate waste and barriers to improvement	4,106	0,699	0,488	193	13	27	6	1	0
17	Each party should trust that its partner's decisions would be benefical to its business	4,106	0,787	0,619	193	17	18	12	0	0
18	Each party should commit to improving communication	4,021	0,863	0,744	193	15	21	11	0	1
19	All parties should understand that partnering relationship would provide them a competitive advantage	3,917	0,871	0,759	188	13	21	11	3	0
20	Partnering process and team performance should be evaluated on a regular basis	3,913	0,694	0,481	180	8	27	10	1	0
21	Top management should show their support for formation of partnering by providing all parties with sufficient resources, including time, money, manpower, authority,etc.	3,867	1,140	1,300	174	16	15	8	4	2
22	Continuous improvement should be maintained in the partnering process	3,854	0,743	0,553	185	9	24	14	1	0
23	Organizations should be desirous to change to an integrating culture	3,638	1,112	1,236	171	14	9	19	3	2
24	Partnering team should like to use advanced techniques to initiate their creative thinking, such as the use of value engineering and benchmarking	3,604	0,962	0,925	173	6	24	14	1	3
25	Partnering teams should always think novel ideas	3,542	1,237	1,530	170	11	18	10	4	5
26	Each party should share resources with other parties	3,404	0,970	0,942	160	6	16	17	7	1
27	Top management should agree that formation of partnering is a strategic affair not only project based but also have long term impacts	3,292	1,091	1,190	158	5	18	15	6	4
28	A proper training on partnering approach should be given by top management	3,250	1,021	1,043	156	4	17	17	7	3
29	Partnering workshops have to be organized to facilitate communication	2,702	1,140	1,301	127	3	9	13	15	7

The most popular 3 responses obtained from the questionnaire as it can be observed from Table 35 are as follows respectively;

1. The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage.
2. All team members have to accept their own responsibilities and accountability.
3. All parties should rely on the others to cooperate in the partnering process.

The least important response is 'Partnering workshops have to be organized to facilitate communication'.

Critical success factors considered important by the participants for an established partnering were analyzed in 2 categories as participants with an experience of (1-5) years in business life and participants with an experience more than (15) years in business life. When responses are analyzed according to the identified categories, the most important factor for the participants with an experience of (1–15) years is “Trust established between organizations is critical to the partnering relationship. There should be a relationship of trust between all parties”. Participants with more than 15 years of experience considered “The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage” the most important factor (Table 36).

When an assessment with Mann-Whitney U test was made to determine whether there is a difference between responses given among categories, for the statements “Each party should share resources with other parties” (Asym. Sig. 2-tailed=0,018<0,05) and “Partnering team should like to use advanced techniques to initiate their creative thinking, such as the use of value engineering and benchmarking” (Asym. Sig. 2-tailed=0,024<0,05) , it is concluded that there is a significant difference between categories in terms of the responses provided. Participants with an experience of (1-15) years consider both factors more important when compared to participants with an experience more than 15 years (15-Above) (Table 37).

Table 36. Critical success factors considered important by the participants for an established partnering according to their experience in business life

Experiences of the participants	C101	C102	C103	C104	C105	C106	C107	C108	C109	C110	C111	C112	C113	C114	C115	C116	C117	C118	C119	C120	C121	C122	C123	C124	C125	C126	C127	C128	C129	
	Control and resolution mechanism have to be developed to deal with problems	The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage	Concept of partnering should be fully understood by the participants	All parties have to brake down from the win-lose mind set to win-win attitude	Ideas and visions should be exchanged with in the partners	All team members have to accept their own responsibilities and accountability	Risk and rewards should be shared fairly	Partnering process and team performance should be evaluated on a regular basis	Roles and responsibilities should be defined in the beginning of partnering process	Continuous improvement should be maintained in the partnering process	Trust established between organizations is critical to the partnering relationship.	There should be a relationship of trust between all parties.	There should be no weak link in team members	All parties should rely on the others to cooperate in the partnering process	Each party should trusts that its partner's decisions would be beneficial to its business	All parties should understand that partnering relationship would provide them a competitive advantage	All parties should agree to eliminate waste and barriers to improvement	Each party should share resources with other parties	All parties should have provided each other with sufficient information to execute program	Organizations should be desirous to change to an integrating culture	Top management should show their support for formation of partnering by providing all parties with sufficient resources, including time, money, manpower, authority etc.	Top management should agree that formation of partnering is a strategic affair not only project based but also have long term impacts	A proper training on partnering approach should be given by top management	All parties have to establish coordination with other parties to avoid any misunderstanding	All parties have to contact with each other when the things are not clear	Partnering teams should always think novel ideas	Partnering team should like to use advanced techniques to initiate their creative thinking, such as the use of value engineering and benchmarking.	Partnering workshops have to be organized to facilitate communication.	Participants should achieve a continuity of open and honest communication	Each party should commit to improving communication.
1-15 Years	Mean	4,67	4,78	4,61	4,11	4,50	4,41	3,94	4,61	3,72	4,89	4,28	4,72	4,33	3,72	4,22	3,83	4,56	3,94	4,06	3,17	3,22	4,41	4,50	3,28	3,94	3,12	4,56	4,28	
	N	18	18	18	18	18	17	18	18	18	18	18	18	18	18	18	18	18	18	17	18	18	17	18	18	18	17	18	18	
	Std. Deviation	0,485	0,428	0,698	0,758	0,618	0,870	0,725	0,608	0,669	0,323	0,752	0,752	0,767	0,958	0,647	0,985	0,511	1,029	1,029	1,150	0,943	0,795	0,514	1,674	0,998	1,364	0,856	0,752	
	Minimum	4	4	3	3	3	2	3	3	3	4	3	2	3	2	3	2	4	2	2	2	1	2	3	4	1	1	1	2	3
	Maximum	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
15-Above Years	Mean	4,43	4,87	4,57	4,23	4,60	4,62	3,89	4,70	3,93	4,77	4,40	4,67	3,97	4,03	4,03	3,14	4,33	3,47	3,75	3,37	3,27	4,63	4,70	3,70	3,40	2,47	4,30	3,87	
	N	30	30	30	30	30	29	28	30	30	30	30	30	29	30	29	29	30	30	28	30	30	30	30	30	30	30	30	30	
	Std. Deviation	0,568	0,346	0,728	0,728	0,675	0,677	0,685	0,535	0,785	0,430	0,724	0,547	0,778	0,809	0,731	0,875	0,711	1,137	1,206	1,066	1,081	0,615	0,466	0,877	0,894	0,937	0,750	0,900	
	Minimum	3	4	3	3	3	2	2	3	2	4	3	3	3	3	2	2	1	2	1	1	1	1	3	4	2	1	1	3	1
	Maximum	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	

Table 37. Comparison of responses to critical success factors considered important by the participants for an established partnering according to their experience in business life

	1=1-15 years, 2=more than 15 years	N	Mean Rank	Sum of Ranks		1=1-15 years, 2=more than 15 years	N	Mean Rank	Sum of Ranks			Mann- Whitney U	Wilcoxon W	Z	Asymp. Sig. (2- tailed)
C101	1-15 Years	18	27,67	498,00	C116	1-15 Years	18	25,83	465,00		C101	213,000	678,000	-1,395	0,163
	15-above	30	22,60	678,00		15-above	29	22,86	663,00		C102	246,000	417,000	-0,792	0,429
C102	1-15 Years	18	23,17	417,00	C117	1-15 Years	18	29,72	535,00		C103	263,000	728,000	-0,187	0,852
	15-above	30	25,30	759,00		15-above	29	20,45	593,00		C104	246,000	417,000	-0,552	0,581
C103	1-15 Years	18	24,89	448,00	C118	1-15 Years	18	26,78	482,00		C105	238,500	409,500	-0,796	0,426
	15-above	30	24,27	728,00		15-above	30	23,13	694,00		C106	268,500	733,500	-0,049	0,961
C104	1-15 Years	18	23,17	417,00	C119	1-15 Years	17	27,32	464,50		C107	216,500	369,500	-0,816	0,415
	15-above	30	25,30	759,00		15-above	30	22,12	663,50		C108	247,500	653,500	-0,114	0,909
C105	1-15 Years	18	22,75	409,50	C120	1-15 Years	17	24,97	424,50		C109	251,000	422,000	-0,510	0,610
	15-above	30	25,55	766,50		15-above	28	21,80	610,50		C110	224,000	395,000	-1,066	0,286
C106	1-15 Years	18	24,58	442,50	C121	1-15 Years	18	22,81	410,50		C111	237,000	702,000	-1,039	0,299
	15-above	30	24,45	733,50		15-above	30	25,52	765,50		C112	245,000	416,000	-0,585	0,558
C107	1-15 Years	17	21,74	369,50	C122	1-15 Years	18	23,81	428,50		C113	237,500	702,500	-0,917	0,359
	15-above	29	24,53	711,50		15-above	30	24,92	747,50		C114	193,500	628,500	-1,574	0,115
C108	1-15 Years	18	23,75	427,50	C123	1-15 Years	17	21,94	373,00		C115	221,000	392,000	-1,110	0,267
	15-above	28	23,34	653,50		15-above	30	25,17	755,00		C116	228,000	663,000	-0,814	0,416
C109	1-15 Years	18	23,44	422,00	C124	1-15 Years	18	21,50	387,00		C117	158,000	593,000	-2,365	0,018
	15-above	30	25,13	754,00		15-above	30	26,30	789,00		C118	229,000	694,000	-0,988	0,323
C110	1-15 Years	18	21,94	395,00	C125	1-15 Years	18	23,53	423,50		C119	198,500	663,500	-1,318	0,187
	15-above	30	26,03	781,00		15-above	30	25,08	752,50		C120	204,500	610,500	-0,821	0,412
C111	1-15 Years	18	26,33	474,00	C126	1-15 Years	18	29,92	538,50		C121	239,500	410,500	-0,680	0,497
	15-above	30	23,40	702,00		15-above	30	21,25	637,50		C122	257,500	428,500	-0,279	0,780
C112	1-15 Years	18	23,11	416,00	C127	1-15 Years	17	28,18	479,00		C123	220,000	373,000	-0,927	0,354
	15-above	30	25,33	760,00		15-above	30	21,63	649,00		C124	216,000	387,000	-1,371	0,170
C113	1-15 Years	18	26,31	473,50	C128	1-15 Years	18	28,00	504,00		C125	252,500	423,500	-0,388	0,698
	15-above	30	23,42	702,50		15-above	30	22,40	672,00		C126	172,500	637,500	-2,254	0,024
C114	1-15 Years	18	27,75	499,50	C129	1-15 Years	18	28,33	510,00		C127	184,000	649,000	-1,625	0,104
	15-above	29	21,67	628,50		15-above	30	22,20	666,00		C128	207,000	672,000	-1,504	0,133
C115	1-15 Years	18	21,78	392,00							C129	201,000	666,000	-1,572	0,116
	15-above	30	26,13	784,00											

Critical success factors considered important by the participants for an established partnering are also analyzed according to approximate value of business they have done in 2 categories as (0–1) Billion USD ; more than 1 Billion USD. When responses are analyzed according to identified categories, the most important factors for the participants with less than 1 Billion USD approximate value of business done are “All team members have to accept their own responsibilities and accountability” and “Trust established between organizations is critical to the partnering relationship. There should be a relationship of trust between all parties”; the most important factor for the participants with more than 1 Billion USD approximate value of business done is “The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage” (Table 38).

With Mann-Whitney-U test, it is assessed whether there is a difference between identified categories according to the responses given by the participants. As a result of the analysis made, in responses to statements “Concept of the partnering should be fully understood by the participants” (Asym. Sig. 2-tailed=0,032<0,05) , “Ideas and visions should be exchanged with in the partners” (Asym. Sig. 2-tailed=0,023<0,05), “Roles and responsibilities should be defined in the beginning of partnering process” (Asym. Sig. 2-tailed=0,025<0,05) and “There should be no weak link in team members” (Asym. Sig. 2-tailed=0,007<0,05) there are significant differences between the categories (Table 39). Participants with more than 1 Billion USD of approximate value for business done considered these four factors more important when compared to other participants.

Table 38. Critical success factors considered important by the participants for the success of an established partnering according to approximate value of business they have done.

[illegible]

Table 39. Comparison of responses to critical success factors considered important by the participants for an established partnering according to approximate value of business they have done

		N	Mean Rank	Sum of Ranks			N	Mean Rank	Sum of Ranks	Test Statistics(a)				
										Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	
C101	(0-1)Billion \$	22	23,77	523,00	C116	(0-1)Billion \$	21	21,98	461,50					
	(1-above) Bllion \$	24	23,25	558,00		(1-above) Bllion \$	24	23,90	573,50					
C102	(0-1)Billion \$	22	21,77	479,00	C117	(0-1)Billion \$	21	22,64	475,50	C101	258,000	558,000	-0,152	0,880
	(1-above) Bllion \$	24	25,08	602,00		(1-above) Bllion \$	24	23,31	559,50	C102	226,000	479,000	-1,343	0,179
C103	(0-1)Billion \$	22	20,09	442,00	C118	(0-1)Billion \$	22	24,45	538,00	C103	189,000	442,000	-2,146	0,032
	(1-above) Bllion \$	24	26,63	639,00		(1-above) Bllion \$	24	22,63	543,00	C104	214,500	467,500	-1,174	0,241
C104	(0-1)Billion \$	22	21,25	467,50	C119	(0-1)Billion \$	21	25,79	541,50	C105	177,000	430,000	-2,279	0,023
	(1-above) Bllion \$	24	25,56	613,50		(1-above) Bllion \$	24	20,56	493,50	C106	251,000	504,000	-0,459	0,647
C105	(0-1)Billion \$	22	19,55	430,00	C120	(0-1)Billion \$	19	21,13	401,50	C107	212,500	443,500	-0,818	0,413
	(1-above) Bllion \$	24	27,13	651,00		(1-above) Bllion \$	24	22,69	544,50	C108	221,000	452,000	-0,546	0,585
C106	(0-1)Billion \$	22	22,91	504,00	C121	(0-1)Billion \$	22	25,43	559,50	C109	186,000	439,000	-2,240	0,025
	(1-above) Bllion \$	24	24,04	577,00		(1-above) Bllion \$	24	21,73	521,50	C110	207,000	460,000	-1,355	0,175
C107	(0-1)Billion \$	21	21,12	443,50	C122	(0-1)Billion \$	22	24,70	543,50	C111	260,000	513,000	-0,134	0,893
	(1-above) Bllion \$	23	23,76	546,50		(1-above) Bllion \$	24	22,40	537,50	C112	154,500	407,500	-2,681	0,007
C108	(0-1)Billion \$	21	21,52	452,00	C123	(0-1)Billion \$	21	22,95	482,00	C113	242,000	495,000	-0,651	0,515
	(1-above) Bllion \$	23	23,39	538,00		(1-above) Bllion \$	24	23,04	553,00	C114	234,500	465,500	-0,426	0,670
C109	(0-1)Billion \$	22	19,95	439,00	C124	(0-1)Billion \$	22	21,05	463,00	C115	219,500	519,500	-1,048	0,295
	(1-above) Bllion \$	24	26,75	642,00		(1-above) Bllion \$	24	25,75	618,00	C116	230,500	461,500	-0,553	0,580
C110	(0-1)Billion \$	22	20,91	460,00	C125	(0-1)Billion \$	22	22,59	497,00	C117	244,500	475,500	-0,180	0,858
	(1-above) Bllion \$	24	25,88	621,00		(1-above) Bllion \$	24	24,33	584,00	C118	243,000	543,000	-0,523	0,601
C111	(0-1)Billion \$	22	23,32	513,00	C126	(0-1)Billion \$	22	23,57	518,50	C119	193,500	493,500	-1,404	0,160
	(1-above) Bllion \$	24	23,67	568,00		(1-above) Bllion \$	24	23,44	562,50	C120	211,500	401,500	-0,424	0,672
C112	(0-1)Billion \$	22	18,52	407,50	C127	(0-1)Billion \$	21	24,43	513,00	C121	221,500	521,500	-0,984	0,325
	(1-above) Bllion \$	24	28,06	673,50		(1-above) Bllion \$	24	21,75	522,00	C122	237,500	537,500	-0,615	0,538
C113	(0-1)Billion \$	22	22,50	495,00	C128	(0-1)Billion \$	22	22,11	486,50	C123	251,000	482,000	-0,027	0,978
	(1-above) Bllion \$	24	24,42	586,00		(1-above) Bllion \$	24	24,77	594,50	C124	210,000	463,000	-1,439	0,150
C114	(0-1)Billion \$	21	22,17	465,50	C129	(0-1)Billion \$	22	22,14	487,00	C125	244,000	497,000	-0,460	0,646
	(1-above) Bllion \$	24	23,73	569,50		(1-above) Bllion \$	24	24,75	594,00	C126	262,500	562,500	-0,036	0,971
C115	(0-1)Billion \$	22	25,52	561,50						C127	222,000	522,000	-0,708	0,479
	(1-above) Bllion \$	24	21,65	519,50						C128	233,500	486,500	-0,754	0,451
										C129	234,000	487,000	-0,707	0,479

a. Grouping Variable: tutarkod

When critical success factors considered important for an established partnering by the participants who are now engaged in a partnering or not are analyzed, the most important factor for the participants who are now engaged in a partnering is “The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage”. In addition to this, “Trust established between organizations is critical to the partnering relationship. There should be a relationship of trust between all parties” is also stated to be the most important factors for the participants who are not involved in a partnering now (Table 40).

There is a statistically significant difference between responses of the participants in both of the categories who considered “The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage” the most important factor when compared to their response to the statement “Organizations should be desirous to change to an integrating culture” (Asym. Sig. 2-tailed=0,011<0,05). While participants who are now engaged in a partnering do not pay a lot attention to this factor, the participants who are not engaged in a partnering now consider it more important (Table 41).

Table 40. Critical success factors considered important by the participants for an established partnering as to whether they are now engaged in a partnering or not

		C101	C102	C103	C104	C105	C106	C107	C108	C109	C110	C111	C112	C113	C114	C115	C116	C117	C118	C119	C120	C121	C122	C123	C124	C125	C126	C127	C128	C129
PARTICIPANTS WHO ARE/AREN'T NOW ENGAGED IN A PARTNERSHIP		Control and resolution mechanism have to be developed to deal with problems	The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage	Concept of partnering should be fully understood by the participants	All parties have to brake down from the win-lose mind set to win-win attitude	Ideas and visions should be exchanged with in the partners	All team members have to accept their own responsibilities and accountability	Risk and rewards should be shared fairly	Partnering process and team performance should be evaluated on a regular basis	Roles and responsibilities should be defined in the beginning of partnering process	Continuous improvement should be maintained in the partnering process	Trust established between organizations is critical to the partnering relationship. There should be a relationship of trust between all parties.	There should be no weak link in team members	All parties should rely on the others to cooperate in the partnering process	Each party should trusts that its partner's decisions would be beneficial to its business	All parties should understand that partnering relationship would provide them a competitive advantage	All parties should agree to eliminate waste and barriers to improvement	Each party should share resources with other parties	All parties should have provided each other with sufficient information to execute program	Organizations should be desirous to change to an integrating culture	Top management should show their support for formation of partnering by providing all parties with sufficient resources, including time, money, manpower, authority etc.	Top management should agree that formation of partnering is a strategic affair not only project based but also have long term impacts	A proper training on partnering approach should be given by top management	All parties have to establish coordination with other parties to avoid any misunderstanding	All parties have to contact with each other when the things are not clear	Partnering teams should always think novel ideas	Partnering team should like to use advanced techniques to initiate their creative thinking, such as the use of value engineering and benchmarking.	Partnering workshops have to be organized to facilitate communication.	Participants should achieve a continuity of open and honest communication	Each party should commit to improving communication.
YES	Mean	4,42	4,81	4,55	4,16	4,48	4,77	4,50	3,73	4,65	3,81	4,74	4,26	4,61	3,87	3,81	4,00	3,23	4,32	3,30	3,67	3,10	3,06	4,55	4,61	3,42	3,45	2,40	4,26	3,87
	N	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	30	31	30	30	31	31	31	31	31	31	30	31	31
	Std. Deviation	0,564	0,402	0,723	0,688	0,677	0,497	0,682	0,640	0,608	0,749	0,445	0,729	0,558	0,763	0,910	0,683	1,006	0,702	1,088	1,213	1,044	1,031	0,675	0,495	1,177	0,888	1,070	0,815	0,846
	Minimum	3	4	3	3	3	3	2	2	3	2	4	3	3	3	2	2	1	2	1	1	1	1	3	4	1	1	1	2	1
	Maximum	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
NO	Mean	4,63	4,88	4,50	4,25	4,38	4,75	4,25	3,88	4,63	3,63	4,88	4,13	4,63	4,38	4,00	4,00	3,63	4,63	4,38	4,00	3,25	3,25	4,29	4,50	3,38	3,63	3,25	4,50	4,13
	N	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	8	8	8	8	8	8
	Std. Deviation	0,518	0,354	0,756	0,707	0,744	0,463	1,165	0,641	0,518	0,744	0,354	0,835	1,061	0,744	0,756	0,756	0,744	0,518	0,744	0,926	1,035	1,035	0,951	0,535	1,598	1,188	1,035	0,756	0,835
	Minimum	4	4	3	3	3	4	2	3	4	3	4	3	2	3	3	3	3	4	3	2	1	2	3	4	1	1	2	3	3
	Maximum	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5

Table 41. Comparison of responses to critical success factors considered important by the participants for an established partnering as to whether they are now engaged in a partnering or not

	IS THERE AN ONGOING PARTNERSHIP?	N	Mean Rank	Sum of Ranks		IS THERE AN ONGOING PARTNERSHIP?	N	Mean Rank	Sum of Ranks		Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
C101	YES	31	19,26	597,00	C116	YES	31	20,06	622,00	C101	101,000	597,000	-0,912	0,362
	NO	8	22,88	183,00		NO	8	19,75	158,00	C102	115,500	611,500	-0,445	0,657
C102	YES	31	19,73	611,50	C117	YES	30	18,63	559,00	C103	118,500	154,500	-0,230	0,818
	NO	8	21,06	168,50		NO	8	22,75	182,00	C104	115,500	611,500	-0,325	0,745
C103	YES	31	20,18	625,50	C118	YES	31	19,08	591,50	C105	113,500	149,500	-0,413	0,680
	NO	8	19,31	154,50		NO	8	23,56	188,50	C106	118,000	154,000	-0,297	0,766
C104	YES	31	19,73	611,50	C119	YES	30	17,23	517,00	C107	116,000	152,000	-0,164	0,870
	NO	8	21,06	168,50		NO	8	28,00	224,00	C108	108,500	573,500	-0,482	0,630
C105	YES	31	20,34	630,50	C120	YES	30	18,93	568,00	C109	116,500	152,500	-0,323	0,747
	NO	8	18,69	149,50		NO	8	21,63	173,00	C110	104,500	140,500	-0,738	0,460
C106	YES	31	20,19	626,00	C121	YES	31	19,60	607,50	C111	107,500	603,500	-0,786	0,432
	NO	8	19,25	154,00		NO	8	21,56	172,50	C112	113,000	149,000	-0,413	0,679
C107	YES	30	19,63	589,00	C122	YES	31	19,77	613,00	C113	101,000	597,000	-0,991	0,322
	NO	8	19,00	152,00		NO	8	20,88	167,00	C114	80,000	576,000	-1,631	0,103
C108	YES	30	19,12	573,50	C123	YES	31	19,97	619,00	C115	112,000	608,000	-0,446	0,656
	NO	8	20,94	167,50		NO	7	17,43	122,00	C116	122,000	158,000	-0,080	0,936
C109	YES	31	20,24	627,50	C124	YES	31	20,45	634,00	C117	94,000	559,000	-0,980	0,327
	NO	8	19,06	152,50		NO	8	18,25	146,00	C118	95,500	591,500	-1,118	0,264
C110	YES	31	20,63	639,50	C125	YES	31	19,81	614,00	C119	52,000	517,000	-2,550	0,011
	NO	8	17,56	140,50		NO	8	20,75	166,00	C120	103,000	568,000	-0,635	0,525
C111	YES	31	19,47	603,50	C126	YES	31	19,26	597,00	C121	111,500	607,500	-0,461	0,645
	NO	8	22,06	176,50		NO	8	22,88	183,00	C122	117,000	613,000	-0,255	0,799
C112	YES	31	20,35	631,00	C127	YES	30	17,77	533,00	C123	94,000	122,000	-0,638	0,524
	NO	8	18,63	149,00		NO	8	26,00	208,00	C124	110,000	146,000	-0,571	0,568
C113	YES	31	19,26	597,00	C128	YES	31	19,32	599,00	C125	118,000	614,000	-0,217	0,828
	NO	8	22,88	183,00		NO	8	22,63	181,00	C126	101,000	597,000	-0,896	0,371
C114	YES	31	18,58	576,00	C129	YES	31	19,40	601,50	C127	68,000	533,000	-1,937	0,053
	NO	8	25,50	204,00		NO	8	22,31	178,50	C128	103,000	599,000	-0,799	0,425
C115	YES	31	19,61	608,00						C129	105,500	601,500	-0,702	0,483
	NO	8	21,50	172,00										

When critical success factors considered important by the participants for an established partnering according to the scores they have given themselves for establishing a partnering and maintaining it with success are analyzed, for the participants who scored themselves 1, 2, or 3 considered factors, and figured out that “The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage”, “Each partner should be aware of financial and administrative responsibilities”, “Trust established between organization is critical to the partnering relationship. There should be a relationship of trust between all parties” are the most important ones. According to the participants who scored themselves 4 or 5, the most important factor is found to be “The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage” (Table 42).

In the comparison of responses given by the participants, it is observed that there is a difference between categories in terms of responses given to the statement “Organizations should be desirous to change to an integrating culture” (Asym. Sig. 2-tailed=0,022<0,05). Participants who scored themselves 1, 2 or 3 consider this factor more important when compared to participants who scored themselves 4 or 5 (Table 43).

Table 42. Critical success factors considered important by the participants for an established partnering according to the scores they have given themselves

[illegible]

Table 43. Comparison of responses to critical success factors considered important by the participants for establishing a partnering and maintaining it with success according to the scores

	SCORE YOURSELF FOR ESTABLISHING A PARTNERSHIP	N	Mean Rank	Sum of Ranks		SCORE YOURSELF FOR ESTABLISHING A PARTNERSHIP	N	Mean Rank	Sum of Ranks
C101	1+2+3	10	22,50	225,00	C116	1+2+3	9	24,44	220,00
	4+5	35	23,14	810,00		4+5	35	22,00	770,00
C102	1+2+3	10	24,75	247,50	C117	1+2+3	10	23,20	232,00
	4+5	35	22,50	787,50		4+5	34	22,29	758,00
C103	1+2+3	10	22,05	220,50	C118	1+2+3	10	22,10	221,00
	4+5	35	23,27	814,50		4+5	35	23,26	814,00
C104	1+2+3	10	22,35	223,50	C119	1+2+3	10	30,25	302,50
	4+5	35	23,19	811,50		4+5	34	20,22	687,50
C105	1+2+3	10	25,35	253,50	C120	1+2+3	9	20,61	185,50
	4+5	35	22,33	781,50		4+5	33	21,74	717,50
C106	1+2+3	10	24,80	248,00	C121	1+2+3	10	17,10	171,00
	4+5	35	22,49	787,00		4+5	35	24,69	864,00
C107	1+2+3	10	22,45	224,50	C122	1+2+3	10	22,95	229,50
	4+5	33	21,86	721,50		4+5	35	23,01	805,50
C108	1+2+3	9	20,61	185,50	C123	1+2+3	9	20,94	188,50
	4+5	34	22,37	760,50		4+5	35	22,90	801,50
C109	1+2+3	10	19,25	192,50	C124	1+2+3	10	20,75	207,50
	4+5	35	24,07	842,50		4+5	35	23,64	827,50
C110	1+2+3	10	25,95	259,50	C125	1+2+3	10	21,90	219,00
	4+5	35	22,16	775,50		4+5	35	23,31	816,00
C111	1+2+3	10	25,25	252,50	C126	1+2+3	10	19,55	195,50
	4+5	35	22,36	782,50		4+5	35	23,99	839,50
C112	1+2+3	10	22,40	224,00	C127	1+2+3	10	24,40	244,00
	4+5	35	23,17	811,00		4+5	34	21,94	746,00
C113	1+2+3	10	26,20	262,00	C128	1+2+3	10	25,80	258,00
	4+5	35	22,09	773,00		4+5	35	22,20	777,00
C114	1+2+3	9	25,17	226,50	C129	1+2+3	10	21,15	211,50
	4+5	35	21,81	763,50		4+5	35	23,53	823,50
C115	1+2+3	10	22,20	222,00					
	4+5	35	23,23	813,00					

	Mann- Whitney U	Wilcoxon W	Z	Asymp. Sig. (2- tailed)
C101	170,000	225,000	-0,156	0,876
C102	157,500	787,500	-0,721	0,471
C103	165,500	220,500	-0,318	0,751
C104	168,500	223,500	-0,191	0,848
C105	151,500	781,500	-0,749	0,454
C106	157,000	787,000	-0,740	0,459
C107	160,500	721,500	-0,152	0,879
C108	140,500	185,500	-0,434	0,664
C109	137,500	192,500	-1,266	0,206
C110	145,500	775,500	-0,882	0,378
C111	152,500	782,500	-0,886	0,375
C112	169,000	224,000	-0,179	0,858
C113	143,000	773,000	-1,133	0,257
C114	133,500	763,500	-0,745	0,457
C115	167,000	222,000	-0,233	0,816
C116	140,000	770,000	-0,571	0,568
C117	163,000	758,000	-0,206	0,837
C118	166,000	221,000	-0,278	0,781
C119	92,500	687,500	-2,284	0,022
C120	140,500	185,500	-0,256	0,798
C121	116,000	171,000	-1,686	0,092
C122	174,500	229,500	-0,014	0,989
C123	143,500	188,500	-0,478	0,633
C124	152,500	207,500	-0,724	0,469
C125	164,000	219,000	-0,311	0,756
C126	140,500	195,500	-1,021	0,307
C127	151,000	746,000	-0,551	0,582
C128	147,000	777,000	-0,846	0,397
C129	156,500	211,500	-0,540	0,589

4.5 Research Findings

Analysis of survey results can be summarized as follows:

- Participants concentrated on both ‘Project Characteristics and Similar Corporate Culture’ among the main factors for the selection of partners and half of all participants emphasized that these two are indispensable factors.

Responses to main important factors given by the participants for the selection of partners do not vary between identified categories. Only 13 participants who have done business with an approximate value of (1-5) Billion USD considered ‘Project Characteristics’ the most important factor. According to other categories and sub-categories, the most popular response was ‘Both Project Characteristic and Similar Corporate Culture’

As per these results we can say that the Turkish construction firms not only seek for partners who are able to meet the objectives and fulfill the requirements of the project, but also prefer to work with the companies they are acquainted with that share the same company culture so as not suffer from trust problems. It is very normal and desirable to want to have many positive criteria together. As a result it is expected for ‘Both Project Characteristic and Similar Corporate Culture’ to be the most important factor. The second important factor is the “Project Characteristics” and the third important factor is the “Similar Corporate Culture”. It was expected for “Similar corporate culture” to be preferred at a higher rate due to the structures of the Turkish construction firms. Only 13% of the participants serving in the sector for more than 25 years considered this option as the most important one. This ratio is 14% in the participants serving between 15 to 25 years. Participants having less than 15 years of experience, the ratio of the ones who consider “Similar Corporate Culture” important was increasing. Participants who consider themselves successful in establishing partnering

and give (4 or 5) points considered the “Similar Corporate Culture” having the least important factor with a ratio of 14%. According to these results, we can say that participants regarded as major in the sector, experienced and achieved successful partnering, due to their corporate identity and professional structure, seek partners who are able to meet the objectives and fulfill the requirements of the project, and prefer to work with the firms they are acquainted with that share the same company culture.

- Critical factors considered important by the participants while looking for an appropriate partner are as follows respectively;
- Experience of the company –in similar projects to the project in question-
 - Image of the company
 - Relations of the company with its employers.

The least important factor has been found to be:

- Size of the machinery park owned by the company.

Under the current economic conditions and strict competitive environment the aims of the companies are to have larger market shares, to be diversified and to rise in the sector. The situation is similar in the construction sector. For instance the complex projects, the number of which is increasing every day, force the companies - that are willing to grow - to abandon the rigid and inflexible forms and to undergo significant changes. Similarly the current conditions result in changes in the “large scaled” companies in the sector and lead such companies to quit their classical management forms. This change and diversification originated as an urge, improve through the interaction of the companies and exchange of experience in between.

The parties aim to gain both economic benefits and technical knowledge from the partnering established. It is very natural that none of the firms no matter in which sector they serve want to lose its commercial prominence in its own sector and regarded as bad and unsuccessful. As a result, the firms

which can become different with the partnering established or to be established want to have partners experienced in the projects in question. This is why 'Experience of the company –in similar projects to the project in question-' is regarded as the most important factor. In addition to these, in today's competitive environment the image of the firm is another important factor. Partnering is a sort of marriage and the parties have to choose the right partners in this togetherness. Establishing a partnering with a firm having a bad image may do harm to the image of the other partner.

'Relations of the company with its employers' is another factor considered as important. It is an important factor for the partner chosen to have a good relationship with the employer. This factor enables the partnering to be healthier and provide new benefits in the long term. The most important benefit of having a good relationship with the employer is the facilitation of the solution of possible problems. Being aware of the conditions required by the employer beforehand and preparing for it accordingly and acting in line with the requirements is valuable in terms of the success of the partnering. It was explained in previous parts that in our country, the lifetime of the partnering are mainly based on projects and it continues in the event that there is mutual benefit. The main benefit is the economic gain of the parties. New economic gains emerge with the realization of new projects. Good relations with the employers provide the realization of new projects.

Summarizing the analysis of the answers given to the critical factor questionnaire taken into account while choosing a partner according to the categories which we classified the participants, we can reach the following results:

- i. Participants having less than 15 years of experience deemed the 'Image of the company' and 'Relation of the company with its employers' factors as the most important ones. According to the participants having more than 15 years of experience, 'Experience

of the company –in similar projects to the project in question-’ is the most important factor.

Although ‘Experience of the company –in similar projects to the project in question-’ factor is deemed as the most important factor by the participants having more than 15 years of experience, this was not regarded as among the most important factors by the participants having less than 15 years of experience. It can be easily said that the firms experienced in the sector and having many successful partnering have a good image and are in good relations with the employers. The firms which are rather new can think about flourishing in the sector by making use of the image and good relations of the company with the employers that they plan to establish a partnering.

- ii. According to the participants the approximate value of business they have done of which is less than 1 Billion USD ‘Image of the company’ is the most important factor. The participants the approximate value of business they have done of which is more than 1 Billion USD regarded the ‘Relation of the company with its employers’ as the most important factor. There is a significant difference between these two categories in the factor namely, ‘Project types conducted by the company’ and the participants the approximate value of business they have done of which is more than 1 Billion USD found this factor much more important.

The firms the approximate value of business they have done of which is more than 1 Billion USD can be regarded as “major” firms in the sector having a successful history. Most of these firms are specialized in certain Project types and some of them do not realize projects of other types. It is very natural that these firms prefer firms which realized projects in their field of specialization

and gained experience therein. As a result, we can say that 'Project types conducted by the company' factor is regarded as among the important factors by the firms the approximate value of business they have done of which is more than 1 Billion USD.

- iii. Currently, the participants being a party to any partnering considered the 'Experience of the company –in similar projects to the project in question-' factor as the most important one. For the participants who are now engaged in a partnering the 'Relation of the company with its employers' factor is the most important one for the selection of a partner. When the answers given to the questionnaire related to the factors 'Relation of the company with its employers' and 'Company having a similar corporate culture to yours' were analyzed according to categories, there is a statistically significant difference. The participants who established partnering in the past but who are not now engaged in a partnering the considered these factors among the important ones but the participants who are a party to any partnering at the moment does not consider it important as much as other participants.

In order to make a healthy interpretation on this issue, the reason for termination of the ongoing partnering should be identified. Partnering can be completed as a result of a successful project or they can be terminated due to a challenge or a problem. When we make an interpretation on the terminated partnering due to reasons resulting from the problems among parties, it is very normal for participants who are not now engaged in a partnering the to consider 'Company having a similar corporate culture to yours' factor as an important one. In partnering which parties are acquainted with each other and having a similar corporate culture it can be expected that less problems may arise and the problems

may be settled smoothly. However disputes between parties which are not similar can bear results even leading to termination of the partnering.

- iv. For the participants who do not deem themselves successful in the establishment and pursuit of a partnering and give (1, 2 or 3) points, the most important factor for the selection of a partner is 'Relation of the company with its employers. For the participants who give (4 or 5) points to themselves, the most important factor is 'Experience of the company –in similar projects to the project in question-'. When differences in answers are statistically analyzed according to the categories, there seems to be a significant difference in the factor namely 'Company having a similar corporate culture to yours'. Although for the participants who do not deem themselves successful in establishment and pursuit of partnering successfully, this factor is the second most important factor; for the participants who deem themselves successful in establishing partnering, this is among the least important factors.

It is an expected situation for the participants who do not have self confidence in establishing partnering or not successful in their partnering to select partners having the similar corporate culture and this was also explained in the previous analysis. In the partnering established, parties may seem to be in harmony with each other but as time goes on, the coordination between them may decrease, disputes may arise and there may be some communication problems. One of the factors of the emergence of such problems may be the parties coming from different corporate cultures. Even though the firms successful in partnering have different corporate culture, they can solve their problems by means of the top line management, clear cut description of duties

and objectives and with effective organizations. We may say that the firms which do not fulfill these requirements and do not consider themselves successful in establishment and pursuit partnering, can prefer firms having similar corporate culture in order not to experience great problems in partnering.

- The most important factors for the success and continuity of an established partnering are as follows.
 - The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage
 - All team members have to accept their own responsibilities and accountability
 - All parties should rely on the others to cooperate in the partnering process

The least important factor is found to be:

- Partnering workshops have to be organized to facilitate communication

In order to identify the critical factors affecting the success of partnering, a questionnaire with 29 questions was prepared. From the answers obtained, the ones which are considered the most and the least important were explained above. When the results are statistically analyzed the factors ‘mutual trust’, ‘management support’ and ‘commitment to win-win attitude’ found to be the most important critical success factors.

According to the previous researches, bilateral interviews, interpretation of the experienced people of the sector and the findings included in the first part of this thesis, the result achieved in this part is in line with the expectations. Trust factor does not only important in partnering established or to be established but also indispensable in every field of life. Moreover this factor is the basis for many other factors. In previous years, in studies by many researchers, this factor was the leading one in the most important critical

success factors. It is an expected situation that ‘mutual trust’ which is considered very important, is one of the most important factors in our research. The top line management plays an important role for the success of partnering by defining aims, objectives and rules at the initial phase of the partnering and by developing strategies fulfilling these aims and objectives within the partnering process. In the partnering process the effective decision-solution mechanism as well as the effect of top line management is very important in terms of the settlement of possible problems between the partners. In the pre-questionnaire interviews, the importance of these two factors was underlined and considered as the first step towards a successful partnering. Another important factor for a successful partnering is ‘commitment to win-win attitude’. The parties should not forget that the parties act together for a common purpose. For this purpose it is very important to work together in a way that they benefit from each other and do not compete with each other. It should be remembered that partnering arises from needs and lasts so long as they are mutually beneficial.

According to the results of the questionnaire conducted by Black et al. (2000) in UK to determine the benefits for the partners and critical success factors, out of 19 factors, ‘mutual trust, effective communication, commitment from senior management’ are considered as the most critical three factors. The results of this study are similar to the results of our study. ‘Mutual trust’ and ‘management support’ are considered among the important factors in both of the studies.

In 2003 in Hong-Kong there was a study conducted by CII-HK on the pursuit of partnering. Chan et. al analyzed the research results in 2004 and obtained some findings. According to the obtained results ‘Mutual trust amongst the participants’, ‘Early implementation of partnering process’ and ‘Commitment to win-win attitude’ are considered as the three most important factors. The result of this study concerning the critical success factors is similar to the results of our study. ‘Early implementation of partnering process’ which was

not considered in our study is another factor which can be regarded as important for success. Achieving harmony between parties in the shortest extent possible will provide to have a team spirit and success in a very short time.

Another study was conducted by Chan et al. (2004) with 78 participants in Hong-Kong. According to the results of the study on which 12 critical factors are identified and analyzed, 'Establishment and communication of conflict resolution strategy', 'Willingness to share resources among project participants' and 'Clear definition of responsibilities' factors are considered as the three most important factors. In most of the studies conducted and in our study, 'mutual trust' as being one of the most important factors was not considered among the most important factors in the study conducted by Chan et. al in 2004. However, the following two factors as a result of this study are similar to the results of our study: 'willingness to share resources, facilities among project participants' and 'Clear definition of responsibilities'. It is an indication of development of the win-win attitude and realization of success for the parties who want to share their resources with their partners rather than hiding from them. 'Clear definition of responsibilities' is another factor providing success with the support of top line management.

Tang et al. (2006) conducted a study in China with 115 participants with the aim of identifying critical factors for a successful partnering. The most important critical success factors derived from the questionnaire was considered as 'mutual trust' and 'effective communication'. Besides 'mutual trust' which is a factor found similar in our results, 'effective communication' which is considered important by Tang et al. can be considered as an important factor affecting success in partnering. An effective communication between partners is an important factor which facilitates the smooth settlement of the possible problems and which increases productivity and performance.

In 2007 there was another study conducted by Chen and Chen in Taiwan in order to identify CSFs. The first three factors which were identified as important out of nineteen critical success factors are different from the success factors found in our study. These are as follows: 'effective communication', 'technical expertise' and 'consider with objectives'. According to the study conducted by Chen and Chen 'Mutual trust' is the sixth most important factor and 'Commitment from senior manager' is the eighth most important factor.

If the answers given to the questionnaire on important critical success factors that are important for a successful partnering are analyzed according to categorization of participants, we can reach the following results:

- i. According to the participants having less than 15 years of experience, the most important criterion for establishing partnering is 'Trust established between organizations is critical to the partnering relationship. There should be a relationship of trust between all parties', the participants having more than 15 years of experience considered 'The principles of partnering have to be endorsed consistency and publicly by top management in the partnering formation stage' as the most important criterion. There is a significant difference according to the categories in the answers given to 'Each party should share resources with other parties' and 'Partnering team should like to use advanced techniques to initiate their creative thinking, such as the use of value engineering and benchmarking''. The participants having less than 15 years of experience considered these two factors as more important.

It was stated several times before that partnering are established due to certain needs and continue so long as they are mutually beneficial. It is an expectable situation for the firms having less

than 15 years of experience in the sector to have much more technical and managerial needs when compared to the firms having more experience. As a result, we can say that these two factors are considered as important criteria for the participants having less than 15 years of experience, but it is not that much important for other participants.

- ii. The participants, the approximate value of business they have done of which is less than 1 Billion USD, considered the following criteria as the most important ones: “all team members have to accept their own responsibilities and accountability” and “trust established between organization is critical to the partnering relationship” and “there should be a relationship of trust between all parties”. For the participants the approximate value of business they have done of which is more than 1 Billion USD, the most important criterion is ‘The principles of partnering have to be endorsed consistency and publicly by top management in the partnering formation stage’.

When answers by participants to the criteria such as the ‘concept of the partnering should be fully understood by the participants’, ‘ideas and visions should be exchanged with in the partners’, ‘roles and responsibilities should be defined in the beginning of the partnering process’ and ‘there should be no weak link in the team members’ were analyzed, there is a statistically significant difference. These factors are indispensable for a successful partnering. According to the participants the approximate value of business they have done of which is more than 1 Billion USD, it is stated that those factors are more important. However it does not mean that the other participants considered these factors unimportant. The average of the points given to these questions by participants the approximate value of business they have done of

which is less than 1 Billion USD are high and the points are 4.45, 4.32, 4.50, 4.14, respectively. But these obtained results statistically caused the difference among the categories.

- iii. The participants who established partnering before and being a member to any partnering at the moment considered 'The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage' as the most important criteria, but the participants who are not engaged in a partnering now considered the following criteria as the most important one like the participants being a member to any partnering: 'the principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage' as well as 'Trust established between organization is critical to the partnering relationship and There should be a relationship of trust between all parties'. The factor namely 'Organizations should be desirous to change to an integrating culture' was considered among the important factors by the participants not being a member to any partnering but it is considered as unimportant by the participants who are a member of any partnering.
- iv. According to the participants who give (1, 2, 3) points to themselves the following factors were seemed to be the most important ones: 'the principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage', 'All team members have to accept their own responsibilities and accountability', 'Trust established between organization is critical to the partnering relationship and There should be a relationship of trust between all parties'. The participants who give (4, 5) points to themselves considered "The principles of partnering have to be endorsed consistently and

publicly by top management in the partnering formation stage” criterion as the most important one. When the answers were analyzed statistically there is a significant difference on this factor: ‘Organizations should be desirous to change to an integrating culture’. For the participants who do not consider themselves efficient in establishment and pursuit of partnering successfully, this factor was considered as an important one.

The tendency of a partnering towards an integrated culture can be an important factor in the development of that partnering but it may not be considered as among the most important factors. The partnering structures created by the participants having a successful history in terms of partnering and a successful vision decrease the effect of this factor in a successful partnering. However, it can be said that the participants who consider themselves unsuccessful in terms of partnering and can not continue with any partnering due to the problems they experienced can not provide communication among parties and mutual benefits and as a result they can not create an integrated culture. Therefore, the factor namely ‘Organizations should be desirous to change to an integrating culture’, was considered as one of the most important factors.

CHAPTER 5

CONCLUSION

The criteria considered for the selection of a partner for a project and the critical factors inevitable for the success of a partnering should be identified under the light of the ideas of the companies experienced in the sector so that the advantages brought by a partnering would be simply understood and that the possible challenges would be easily settled. Such evaluations will help to develop counter strategies against poor project performance. Besides they will significantly assist to improve the important project performance criteria such as quality, cost and time.

In this thesis a multi directional research was done on the concept of partnering in the Turkish construction sector. Under the guidance of the previous researches done in various countries, results of the questionnaire applied to the Turkish construction companies and the ideas and experiences of the sector pioneers, it was aimed to identify both the critical factors considered by the Turkish construction companies for the selection of partners and the critical factors inevitable for the success of a partnering.

Before the detailed description of the critical factors considered by the Turkish construction companies for the selection of partners, the thesis examined the most significant critical factor taken into consideration by the said companies. As per the data acquired it can be said that the most important critical factor considered by the participants of the thesis is not only the “Project Characteristics, but also the Company Culture”. According to the half of the participants both of the factors are equally important and inevitable for any

project. According to the responses the second important factor is the “Project Characteristics”. As per these results we can say that the Turkish construction companies base the life span of their partnering on the projects; and they not only seek for partners who are able to meet the objectives and fulfill the requirements of the project, but also prefer to work with the companies they are acquainted with that share the same company culture so as not suffer from trust problems.

13 important factors among the technical and managerial criteria were defined to identify the common important criteria sought by the participants. And the responses of the participants were evaluated. According to the results, the following three factors:

1. Experience of the company –in similar projects to the project in question-
2. Image of the company
3. Relation of the company with its employers

are selected by the participants as the most important 3 factors. ‘The Size of the machinery park owned by the company’ is selected by the participants as the least important factor.

The results of this section are similar to the critical factors considered for the selection of partner in the previous analysis. The participants considered in both of the questions that the company sought for partnering should possess experience and characteristics best fit to the project. Moreover it can be said that the participants attached equal importance for both technical and managerial criteria. Under the current economic conditions and strict competitive environment the aims of the companies are to have larger market shares, to be diversified and to rise in the sector. The situation is similar in the construction sector. For instance the complex projects, the number of which is increasing every day, force the companies - that are willing to grow - to abandon the rigid and inflexible forms and to undergo significant changes. Similarly the current conditions result in changes in the “large scaled” companies in the sector and lead such companies to quit their classical management forms. This change and diversification originated as an urge, improve through the interaction of the

companies and exchange of experience in between. Therefore the companies that are to grow through new partnering are willing to share any undertaking with experienced partners. That is why the ‘experience of the company –in similar projects to the project in question-’ is selected as the most important factor.

Under today’s competitive environment the image is another important factor for the companies. It is a possibility that the companies that failed previously may fail in new initiatives. It is evident that the companies targeting a successful partnering select their partners among the companies that have a success history in their past.

A questionnaire comprised of 29 questions was applied to the participants to identify the critical factors that are necessary for the success and successful management of an active partnering. The responses of the participants were evaluated. According to the responses the below given three factors were selected by the participants as the most important three factors:

1. The principles of partnering have to be endorsed consistency and publicly by top management in the partnering formation stage,
2. All team members have to accept their own responsibilities and accountability
3. All parties should rely on the others to cooperate in the partnering process

‘Partnering workshops have to be organized to facilitate communication’ was selected by the same group as the least important one.

It can be interpreted as per the responses that “management support, commitment to win-win attitude and mutual trust” are the most important critical factors.

Under the light of previous researches, bilateral interviews and the comments of the experienced companies in the sector, the result is in line with the expectations. The top line management plays an important role for the success of partnering by defining aims, objectives and rules at the initial phase of the partnering and by developing strategies fulfilling these aims and objectives

within the partnering process. Another inevitable factor for a successful partnering is the 'mutual trust'. In various researches done in other countries in the past "mutual trust" was considered among the most significant critical success factors. In a partnering the parties should not compete with each other and should go after a common purpose and underline mutual benefits. This is very important for the success of a partnering.

In accordance with the researches, questionnaires and bilateral interviews, it can be said that the concept of partnering is not deemed as a new and an effective management form by the Turkish construction companies. Rather Turkish companies consider partnering as a joint venture emerged as a result of project requirements and sustained unless it continues to bring advantages to the parties and ended after the requirements are met. The leading requirements are namely, funding of the project, minimization the high construction costs, provision of man power, mitigation of country related risk factors abroad. However, the country related and global economic conditions that are aggravated every year, the challenges in the sector market and the competitive conditions that are getting harder and harder should lead the Turkish construction companies to consider partnering as a new management form. In the vast majority of the partnering abroad an independently appointed group leads the partnering, communicates between the parties and helps to settle the problems smoothly. In short such groups carry out the coordination of the partnering. Such departments may be established under the body of the Turkish construction companies targeting partnering. Such departments may follow the partnering process from the very beginning to the end with all the details and may evaluate the project performance. Moreover such departments may identify the problems of the companies related to the partnering and may develop counter strategies. They may identify CSFs. Furthermore the structures and the project performances of the other partnering in the sector may also be examined. A further study may examine the benefits brought by and effects of the partnering on the project performance so as to facilitate the widespread use of partnering with a new management form.

REFERENCES

Anvuur, A.M., Kumaraswamy, M., 2007. "Conceptual Model of Partnering and Alliancing", *Journal of Construction Engineering and Management*, 133, 3, 225-234.

Australian Constructors Association (ACA), 1999. "Relationship Contracting-Optimising Project Outcomes", Australia.

Australian Standard (AS), 1999. "Risk Management", AS4360, Standards Association of Australia, Australia.

Badger, W.W., Mulligan, D.E., 1995. "Rationale and Benefits Associated with International Alliances", *Journal of Construction Engineering and Management*, 121, 100-111.

Baker, S., Ponniah, D., and Smith, S., 1999. "Survey of Risk Management in Major U.K. Companies", *Journal of Professional Issues in Engineering Education and Practice*, 125 (3), 94-102.

Bayramoğlu, S., 2001. "Partnering in Construction: Improvement Through Integration and Collaboration", *Leadership and Management in Engineering*, 1 (3), 39.

Bennett, J., Jayes, S., 1998. "The Seven Pillars of Partnering: A Guide to Second Generation Partnering", Thomas Telford, London, England.

Black, C., Akintoye A., Fitzgerald E., 2000. "An Analysis of Success Factors and Benefits of Partnering in Construction", *International Journal of Project Management*, 18, 423-434.

Buck, J. R., 1989. "Economic Risk Decisions in Engineering and Management", Iowa State University Press, Ames, Iowa, USA.

Bresnen, M., and Marshall, N., 2000. "Motivation, Commitment and the Use of Incentives in Partnerships and Alliances", *Journal of Construction Management and Economics*, 18 (5), 587-598.

Carr, F., Hurtado, K., Lancaster, C., Markert, C., and Tucker, P., 1999. "Partnering in Construction – A Practical Guide to Project Success", American Bar Association, USA.

Chan, A.P.C., Chan, D.W.M., Ho, K.S.K., 2003. "Partnering in Construction: Critical Study of Problems for Implementation", *Journal of Management in Engineering*, 19, 126-135.

Chan, A.P.C., Chan, D.W.M., Chiang Y.H., Tang B.S., Chan E.H.W., Ho, K.S.K., 2004. "Exploring Critical Success Factors for Partnering in Construction Projects", *Journal of Construction Engineering and Management*, 130, 2, 188-198.

Chan, A.P.C., Chan D.W.M, Fan, L.C.N., Lam, P.T.I., Yeung J.F.Y., "Partnering For Construction Excellence- A reality or myth?", *Building and Environment*, 41,12,1924-1933.

Cheng, E.W.L., Li, H., Love, P.E.D., 2000. "Establishment of Critical Success Factors for Construction Partnering", *Journal of Management in Engineering*, 16, 84-92.

Cheng, E.W.L., Li, H., 2002. "Construction Partnering Process and Associated Critical Success Factors: Quantitative Investigation", *Journal of in Engineering*, 18, 194-202.

Cheng, E.W.L., Li, H., 2004. "Development of a Practical Model of Partnering for Construction Projects", *Journal of Construction Engineering and Management*, 130, 6, 790-798.

Chen, W.T., Chen, T.T., 2007. "Critical Success Factors for Construction Partnering in Taiwan", *International Journal of Project Management*, 25, 475-484.

Chini, A. R., Valdez, H.E., 2003. "ISO 9000 and U.S. Construction Industry" *Journal of Management in Engineering*, 19 (2), 69-77.

Cook, E.L., Hancher, D.E., 1990. "Partnering: Contracting for the Future", *Journal of Management in Engineering*, 6, 431-446.

Construction Industry Institute (CII), 1991. "In Search of Partnering Excellence", Special Publication No 17-1, Rep., Partnering Task Force of CII, Austin, Texas, USA.

Construction Industry Institute (CII), 1996. "Partnering: Models for Success", Publication No 8, Rep., Partnering Task Force of CII, Sydney, Australia.

Cox, A., Townsend, M., 1999. "Strategic Procurement in Construction: Towards Better Practice in the Management of Construction Supply Chain", Thomas Telford, London, England.

Cowan, C., Gray, C., Larson, E., 1992. "Project Partnering", *Project Management Journal*, 22, 5-11.

Crowley, L.G., Karim, M.A., 1995. "Conceptual Model of Partnering", *Journal of Management in Engineering*, 11, 33-39.

Hajidimitriou Y.A., Georgiou A.C., 2002. "A Goal Programming Model for Partner Selection Decisions in International Joint Ventures", *European Journal of Operational Research*, 138, 649-662.

Hanly, G., Valance, G., 1993. "Partnering: An Australian Perspective, Part 1- Partnering Explored", *Australian Construction Law Reporter*, 12 (2), 50-59.

Harback, H.F., Basham D.L., and Buhts, R.E., 1994. "Partnering Paradigm", *Journal of Management in Engineering*, 10 (1), 23-27.

Kaptan, S., 1993. "Bilimsel Araştırma ve İstatistik Teknikleri" Rehber Yayınevi, Ankara, Türkiye 138.

Karagöz, Y., Ekici, S., 2004. “Sosyal Bilimlerde Yapılan Uygulamalı Araştırmalarda Kullanılan İstatistiksel Teknikler ve Ölçekler”, Cumhuriyet Üniversitesi, İktisadi ve İdari Bilimler Dergisi, 5, 1, 25-43.

Kubal, M. T., 1994. “Engineered Quality in Construction: Partnering and TQM”, McGraw-Hill, New York, USA.

Kuğu, T. D., 2003. “Anket Yöntemi”, Celal Bayar Üniversitesi, İşletme Bölümü Muhasebe-Finansman Ana Bilim Dalı, Manisa, Türkiye.

Larson, E., 1995. “Project partnering: Results of Study of 280 Construction Projects”, Journal of Management in Engineering, 11 (2), 30-35.

Larson, E., Drexler, J.A., 1997. “Barriers to Project Partnering: Report for the Firing Line”, Project Management Journal, 28 (1), 46-52.

Li, D., Green, D., 1996. “Project Partnering in Australia”, Australian Project Management, 16 (3), 37-43.

Li, H., Cheng, E.W.L., Love, P.E.D., 2000. “Partnering Research in Construction”, Engineering, Construction and Architectural Management 7, 1, 76-92.

Lu, Y., Lu, J., 1998. “Project Risk Management”, Tsinghua University Press, Beijing, China.

Lu, S., Yan, H., 2007. “An Empirical Study of Incentives of Strategic Partnering in China: Views From Construction Companies”, International Journal of Project Management, 25, 241-249.

Lu, S., Yan, H., 2007. “A Model for Evaluating the Applicability of Partnering in Construction”, International Journal of Project Management, 25, 164-170.

Mohr, J., Spekman, R., 1994. “Characteristics of Partnership Success: Partnering Attributes, Communication Behavior and Conflict Resolution Techniques”, Strategic Management Journal, 15 (2), 135-152.

Ng, S. T., Rose, T. M., Mak, M., Chen, S. E., 2002. "Problematic Issues Associated with Project Partnering- The Contractor Perspective", International Journal of Project Management, 20, 437-449.

Özdamar, K., 2002. "Paket Programlar ile İstatistiksel Veri Analizi", Kaan Kitapevi, Eskişehir, Türkiye.

Pietroforte, R., 1997. "Communication and Governance in the Building Process", Construction Management and Economics, 15, 71-82.

Rockart, J. F., 1982. "The Changing Role of the Information Systems Executive: A Critical Success Factors Perspective", Sloan Management Rev., 24 (1), 3-13.

Romancik, D. J., 1995. "Partnership Toward Improvement", Project Management Journal, 26 (4), 14-20.

Ruskin, A. M., 1995. "What Every Engineer Should Know about Project Management", Dekker, New York, USA.

Sanders, S.R., Moore, M. M., 1992. "Perceptions on Partnering in the Public Sector", Project Management Journal, 22 (4), 13-19.

Scott, B., 2001. "Partnering in Europe-Incentive Based Alliancing for Projects", Thomas Telford, London, England.

"Statistical Analysis" [On-line] Available: 01.08.2007
<http://www.istatistikanaliz.com/>

Slater, T.S., 1998. "Partnering: Agreeing to Agree", Journal of Management in Engineering, 14 (6), 48-50.

Smith, N., 1999. "Managing Risk in Construction Projects", Blackwell, London, England.

Tang, W., Duffield, C.F., Young D.M., 2006. "Partnering Mechanism in Construction: An Empirical Study on the Chinese Construction Industry", *Journal of Construction Engineering and Management*, 132, 3, 217-229.

Thompson, P.J., Sanders, S.R., 1998. "Partnering Continuum", *Journal of Management in Engineering*, 14, 73-78.

Uher, E. T., 1999. "Partnering Performance in Australia". *Journal of Construction Procurement*, 5 (2), 163-176.

Walker, D. H. T., 1997. "Choosing an Appropriate Research Methodology" *Construction Management and Economics*, 15 (2), 149-159.

Warne, T. R., 1994. "Partnering for Success", America Society of Civil Engineers, New York, USA.

Watson, K., 1994. "No Hiding Place", *Construction Manager*, 1994, 2, 12-14.

Weston, D. C., Gibson, G. E., 1993. "Partnering-Project Performance in U.S. Army Corps of Engineers" *Journal of Management in Engineering*, 9 (4), 410-425.

Williamson, O., 1985, "The Economic Institutions of Capitalism", Free press, New York, USA.

Wong, E. S., Then, D., Skinmore, M., 2000. "Antecedents of Trust in Intra-Organizational Relationships with Three Singapore Public Sector Construction Project Management Agencies", *Construction Management and Economics*, 18 (7), 797-806.

Wong, P.S.P., Cheung S.O., 2005. "Structural Equation Model of Trust and Partnering Success", *Journal of Management in Engineering*, 21, 2, 70-80.

Zand, D. 1972. "Trust and Managerial Problem Solving", *Administrative Science Quarterly*, 17, 229-239.

APPENDIX A

THE FINAL QUESTIONNAIRE

A) GENERAL INFORMATION

1. General Information about yourself

- a) Years of experience in your business life:
- b) Approximate value of business you have done:
- c) Types of projects you are specialized in:
- d) Ratio of national and international business you have done:

2. Partnering Experiences

- a) Questions about partnering that you have established:

In which geographical area have you established partnering?

In what kind of projects have you established partnering?

By which nationality have you established partnering with?

- b) If you are engaged in a partnering now, please answer:

In which geographical area?

In what kind of projects?

With which nationality?

- c) Please score yourself about establishing a partnering and maintaining it with success? ○1 ○2 ○3 ○4 ○5

(1 very unsuccessful – 5 very successful)

B) IMPORTANT FACTORS ABOUT SELECTING APPROPRIATE PARTNER

1. Please give your opinions about criteria which are about selecting an appropriate partner (1 less important – 5 most important)

- | | | | | | |
|--|----|----|----|----|----|
| ● Image of the company | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Corporate structure of the company management | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Size of machinery park owned by the company | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Technical and administrative staff capacity of the company | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Financial power / capability of the company | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Company having a similar corporate culture to yours | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Experience of the company –in similar projects to the project in question- | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Whether the company has established partnership before if yes, the performance of the company in the partnership | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Capacity of sources to be allocated to partnership by the company | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Geographical area of activity of the company | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Relations of the company with its employer's | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Employing agencies and institution the company worked with in the past | ○1 | ○2 | ○3 | ○4 | ○5 |
| ● Project types conducted by the company | ○1 | ○2 | ○3 | ○4 | ○5 |

2. Does the partner you look for should have experience in similar fields to the characteristics of the project for which the partnering is to be established; or should the partner be an acquaintance and having a similar corporate culture to yours; or are both important?

☐ Project Characteristic ☐ Similar Corporate Culture ☐ Both

C) CRITICAL SUCCESS FACTORS

Please give your opinions about critical success factors which were determined by literature survey (1 strongly disagree – 5 strongly agree)

●Control and resolution mechanism have to be developed to deal with problems.

○1 ○2 ○3 ○4 ○5

●The principles of partnering have to be endorsed consistently and publicly by top management in the partnering formation stage.

○1 ○2 ○3 ○4 ○5

●Concept of partnering should be fully understood by the participants.

○1 ○2 ○3 ○4 ○5

●All parties have to brake down from the win-lose mind set to win-win attitude.

○1 ○2 ○3 ○4 ○5

●Ideas and visions should be exchanged with in the partners.

○1 ○2 ○3 ○4 ○5

●All team members have to accept their own responsibilities and accountability.

○1 ○2 ○3 ○4 ○5

●Risk and rewards should be shared fairly.

○1 ○2 ○3 ○4 ○5

●Partnering process and team performance should be evaluated on a regular basis.

○1 ○2 ○3 ○4 ○5

- Roles and responsibilities should be defined in the beginning of partnering process.
 - 1 ○2 ○3 ○4 ○5
- Continuous improvement should be maintained in the partnering process.
 - 1 ○2 ○3 ○4 ○5
- Trust established between organizations is critical to the partnering relationship. There should be a relationship of trust between all parties.
 - 1 ○2 ○3 ○4 ○5
- There should be no weak link in team members.
 - 1 ○2 ○3 ○4 ○5
- All parties should rely on the others to cooperate in the partnering process.
 - 1 ○2 ○3 ○4 ○5
- Each party should trust that its partner's decisions would be beneficial to its business.
 - 1 ○2 ○3 ○4 ○5
- All parties should understand that partnering relationship would provide them a competitive advantage.
 - 1 ○2 ○3 ○4 ○5
- All parties should agree to eliminate waste and barriers to improvement.
 - 1 ○2 ○3 ○4 ○5
- Each party should share resources with other parties.
 - 1 ○2 ○3 ○4 ○5
- All parties should have provided each other with sufficient information to execute program.
 - 1 ○2 ○3 ○4 ○5
- Organizations should be desirous to change to an integrating culture.
 - 1 ○2 ○3 ○4 ○5
- Top management should show their support for formation of partnering by providing all parties with sufficient resources, including time, money, manpower, authority etc...
 - 1 ○2 ○3 ○4 ○5
- Top management should agree that formation of partnering is a strategic affair not only project based but also have long term impacts.
 - 1 ○2 ○3 ○4 ○5
- A proper training on partnering approach should be given by top management
 - 1 ○2 ○3 ○4 ○5

- All parties have to establish coordination with other parties to avoid any misunderstanding.
 - 1 ○2 ○3 ○4 ○5
- All parties have to contact with each other when the things are not clear.
 - 1 ○2 ○3 ○4 ○5
- Partnering teams should always think novel ideas.
 - 1 ○2 ○3 ○4 ○5
- Partnering team should like to use advanced techniques to initiate their creative thinking, such as the use of value engineering and benchmarking.
 - 1 ○2 ○3 ○4 ○5
- Partnering workshops have to be organized to facilitate communication.
 - 1 ○2 ○3 ○4 ○5
- Participants should achieve a continuity of open and honest communication.
 - 1 ○2 ○3 ○4 ○5
- Each party should commit to improving communication.
 - 1 ○2 ○3 ○4 ○5