

# **PARTNERING EFFECTS ON CONSTRUCTION PROJECTS**

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Abstract

This research paper is about a subject that is becoming important in construction industry. All parties involved in construction projects can save time and money by following the concept of partnering. However, this concept enhances trust, and develops communication by establishing partnering workshops to achieve a shared vision. This commitment can lead to enormous financial benefits and reduce claims, disputes and litigations that might be floated to the surface during construction process. For this reason, I propose to do research on the subject of Partnering Effects in Construction Projects.

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## 1. INTRODUCTION

In construction projects, there is usually an adversarial attitude between contractor and designer, or owner. Many researchers show that this unhealthy environment will lead to lose both time and money because of unsettled disagreements and disputes between the parties. Disputes might be expanded to litigations under the lack of effective communication. This paper research aims to highlight the effect of the partnering that is becoming important to solve such problems and to lead the reader how to apply partnering in projects administration effectively up to its ultimate. However, not all partnering projects are successful, so people who are in managerial level should have a solid background in partnering. Also, awareness of all dimensions in implementing partnering is highly required in order to get best results.

## 2. BACKGROUND

The history proves that the results will be really unacceptable either financially or professionally without cooperation relationships in construction between projects participants. The number of litigations and disputes due to construction delay or cost over runs has risen dramatically in the last decades in the construction field in the United States. From this point the need for change has appeared. Some people thought disputes in construction is unavoidable because of the high risk charged to construction field in the confrontational and adversarial environment. The need to replace confrontational by cooperative is become necessary, by inventing the new concept of partnering, to rescue the construction field from a real disaster and sufferance that cost projects participants a lot of money, time and effort. The first introduction of the idea of partnering was by the U.S. Army Corps of Engineers in the late of 1980. Later in 1988, the chief of construction in Mobile, Alabama, could apply partnering successfully to a single private project. In 1990, a recommendation to use partnering came from the Chief Engineer in the U.S. Army at that time, Lieutenant General H.J. Hatch. In 1991, partnering in construction project has been strongly advised and supported by Major General Peter Offringa, Director of Military Program; Charles Schroer, Chief of Construction; and Laster Edelman, Chief Counsel. (1: xvii-xxi)

## 2.1. Definition

There are lots of definitions for the term partnering created by international leading organizations in construction field, such as those created by Construction Industry Institute (CII), the U.S Army Corps of Engineers, Association of General Contractor (AGC), American Consulting Engineering Council (ACEC), and American Institute of Architecture (AIA). All partnering definitions are based on the relationship of win-win attitude. (8:34)

In general, partnering can be defined as a strategic commitment between companies or firms in order to develop their performance in a mutual project. Partnering exists to attain and reach a specific goal and target by following a determined procedure. The main target of partnering is to develop the efficiency and skills of the teamwork. This development will of course be reflected positively on the outcome of the project. There are specific processes to lead the participant companies to the partnering. They also support the relationship and improve the performance of the involved companies. Partnering is completely different from any other collaboration between companies, for example joint venture relationship. This is because the owner has always a direct contact to the partnering organization. Partnering concept is relatively a new approach which requires companies to change their old traditional relationships and replace it with the idea of sharing, trust, transparency, and commitment to reach the determined mutual target. All companies must be open minded to understand the others expectations and requirement clearly. The most important thing to make partnering effective and successful is to start it in early stage of projects. (7:2)

## 2.2. Categories

Normally, partnering is divided into two categories:

- Long-term partnering: it is an arrangement between the owner and only one partner for a determined period to do works maybe for several projects. It also called (strategic alliancing).
- Project-specific partnering: It is an arrangement between the owner and several partners for a determined period to do works of usually only one single project but could be more than one project. (7:3)

### 2.3. Parties Involved in Partnering

There are three main parties that involve in partnering. They are the owner, designer, and contractor (see fig.1). There are many other stakeholders in partnering such as sub contractors, suppliers, labors, fabricators, etc. They have been ignored in the figure to make it clear and easy to understand. Each one of the main parties has surrounded by a thick boundary to show its limit. All of them can meet around the centralized point

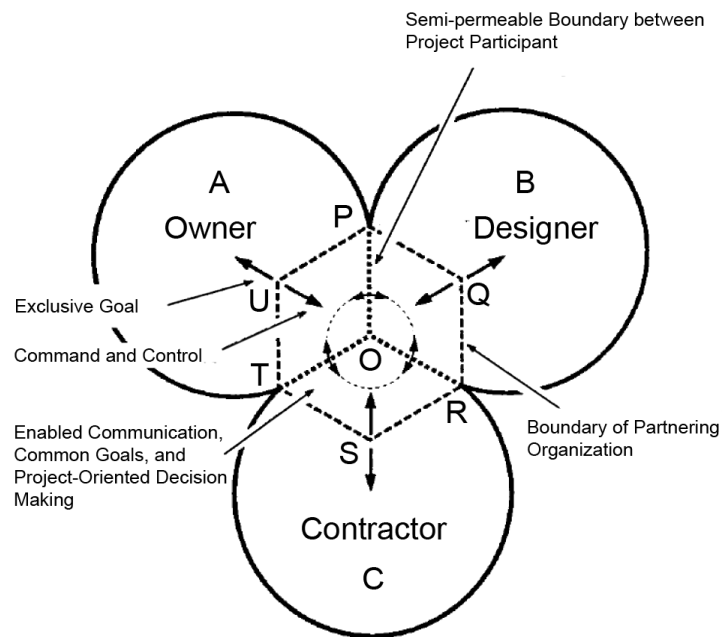


Figure 1. The three project parties in partnering (8:36)

O. The area around the point O is defined by dotted line PQRSTU. This area divided into 3 equal spaces for each party by the lines OR, OT, and OP. This can show how strongly they are separated, but they also have common areas to meet and work as a team under the umbrella of partnering to accomplish common goals. However, partnering make the boundaries of traditional relationship dissolved and get them closer. (8:36)

### 3. UNDESTANDING OF PARTNERING

Construction management has some trends that became popular for a period of time and then disappeared. But on the other hand there are some good practices that stay and become as theories. In the construction industry, partnering has proved its successfulness throughout the last two decades. (1:2)

Also, the written partnering charter neither eliminates nor adds more obligations to ones that had been mentioned in the contract. Therefore, the partnering charter states mutual and common goals of the parties and to reduce time-consuming and cost that might be paid in case of disputes. Signing the charter does not add any risks to the construction officer by any means and it never changes the terms of the signed contract. (1:3)

From financial point of view, establishing the partnering workshop is not expensive at all. It generally needs only one to three days at the start of a multi-year project to attend the workshop. Any party can pay the cost of the workshop, but usually all parties share the cost equally. (1: 6)

The written charter contains elements such as commitment to team work, standards of quality, budgetary goals, problem-solving techniques, and so on. However, there is no rigid form to write it but it should be written as per project needs. (1:139)

### **3.1. Seven Pillars of Partnering**

- **Strategy:** It aims to plan for a long-term target in an organizational teamwork. Such as minimizing project cost and construction time with no defects.
- **Membership:** Contributing to develop multidisciplinary team to ensure the ultimate experience and to push the efforts to its extreme. Also to put every member of the project team in the place that he can make a considerable share to the success.
- **Equity:** This is to let the teams of the project focus on making the project successful for everyone involved in it. And this can be maintained by affecting the idea of strategic team and it requires preventing disputes over money. Simultaneously, the share of the construction company should be higher to ensure a reliable profit.
- **Integration:** There are many things that companies might involve in partnering should integrate. For example, standards, procedures, process, and methods and keep improving them to achieve successful partnering.
- **Benchmark:** As known, the main target of partnering is to improve the performance. So, benchmark uses as a factor to compare the performance of a company with other companies in the market. It can help the company in improvement issues.
- **Project process:** Any company should rise up the level of standards and procedures in order to get a higher level of performance.
- **Feedback:** It is really important to control and monitor the improvement of the performance using the feedback and see if it meets the required quality or it needs to be developed. (4:13)

### 3.2. Model Validation

Trust, Long term commitment, and shared vision all lead to the partnering model as reported by Construction Industry Institute (CII). Trust can develop the communication between parties and make it open unlike the traditional relationship (see fig.2). There are two companies X and Y. In figure (a), it is clearly shown the total separation between the two companies by the boundaries QO and PO, illustrating the traditional relationship. In figure (b), the trust establishes confidence between the two companies and allows them to have a single merged line of boundary between them. After that, a new area gathering resources from each company has been created as a common area. In figure (c), finally, there is a direct contact between the companies allow them to exchange ideas, resources, and solve mutual problems. (8:37)

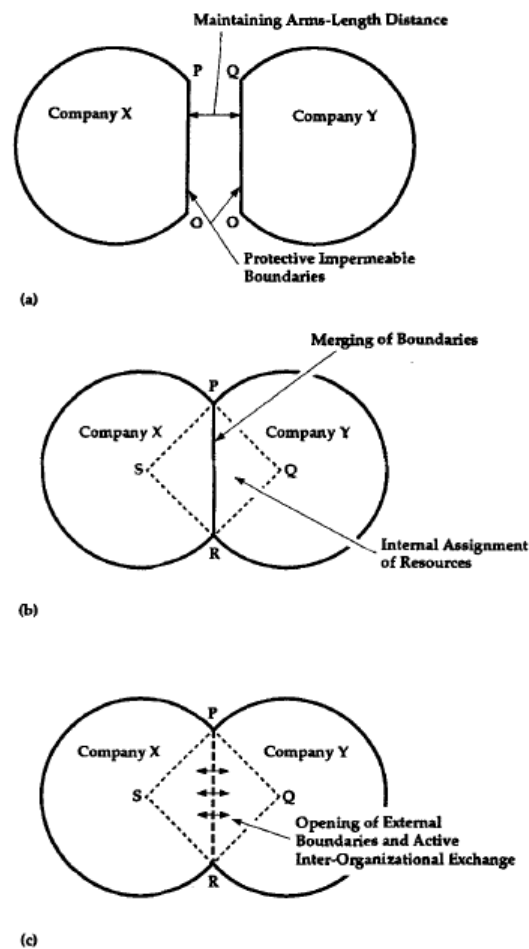


Figure 2. Growth of partnering relationship (8:37)

### 3.3. Partnering Principles

There are some principles that should be taken under consideration to achieve an affective partnering. Sharing financial hazards including profits and losses, exchanging knowledge and resources are essential at any stage of partnering. All involved parties are also required to state their common goals and support trust between them. Problems fixing technique is mandatory to be improved from time to time. Also, there are two important partnering tools that are useful when adopting partnering. First tool is the partnering charter which used to reduce disputes, while the second tool is the workshop that used to monitor the implementation the charter. (9:165)

### 3.4. Ingredients of Successful Partnering

- |                   |  |
|-------------------|--|
| Positive Attitude | <ul style="list-style-type: none"> <li>• <u>Commitment</u>: all parties must fulfill and respect the charter of partnering especially in the management level. Everyone have to start the relationship with win-win attitude.</li> <li>• <u>Trust</u>: if there is no trust then there is no teamwork. The trust can be obtained by dealing with each another in a clear and transparent transaction.</li> <li>• <u>Understanding</u>: to understand the other side it needs listening, respecting other's thoughts, and different views.</li> <li>• <u>Excellence</u>: parties of partnering shall provide the maximum quality of services to give a good reputation and it needs to maximize the standards of work.</li> </ul> |
| Preparation       | <ul style="list-style-type: none"> <li>• <u>Clear Expectation</u>: parties involved in partner must be open minded and communicate either shared or individual targets. This kind of contribution can be done not only during partnering meetings, but it could be extended throughout the whole project duration.</li> <li>• <u>Mutual Goals and Objective</u>: all participants must clear up and clarify their goals and objectives of the project in all respects. Then, the mutual interest can be identified later during the follow-up meeting to establish a common basic to solve problems and reach intended goals.</li> </ul>   |
| Perseverance      | <ul style="list-style-type: none"> <li>• <u>Execution and Responsiveness</u>: successful work can't be done away from perseverance in a timely basis using open ongoing communication. The good communication has to follow a known protocol to all participants.</li> <li>• <u>Communication and Feedback</u>: starting partnering is not enough to earn benefit. Continues communication and getting the feedback and then analyze it are essential for successful partnering. (5:14, 15)</li> </ul>   |

## 4. CHARTERS AND WORKSHOPS

The charter is a joint recognition of each party's tasks. It should be a written agreed, committed and implemented by the workgroup. The support and enhancement of the top management for the charter is required in order to enhance the commitment. Such enhancement is crucial and necessary to ensure the implementation of the charter and to solve any possible disputes. The charter binds those



who involved in a contract to achieve the agreed points in all project stages. It is also named “issue escalation ladder”. (10:228)

Partnering workshop is a useful tool that can be utilized in the interactive communication between the partnering workgroups. This can help in understanding each other’s point of view and interests. This workshop is a collection of successive meetings. The meetings should be supported by senior managers to ensure its successfulness. The continuity of utilizing partnering is strongly linked to holding meetings in timely manner for monitoring and controlling purpose. Also, the main objective of holding these meetings is the problem-solving and monitoring the performance of partnering charter. It is important to select the members of partnering that would participate in the workshops. (10:227)

## 5. PARTNERING STARTING

Partnering is best starting of course in an early stage of project’s age. Even though, starting partnering in late stage is better than not starting it at all at least to avoid disputes, so better late than never. But, it works better when starting as soon as the concept for the project is well known. This is

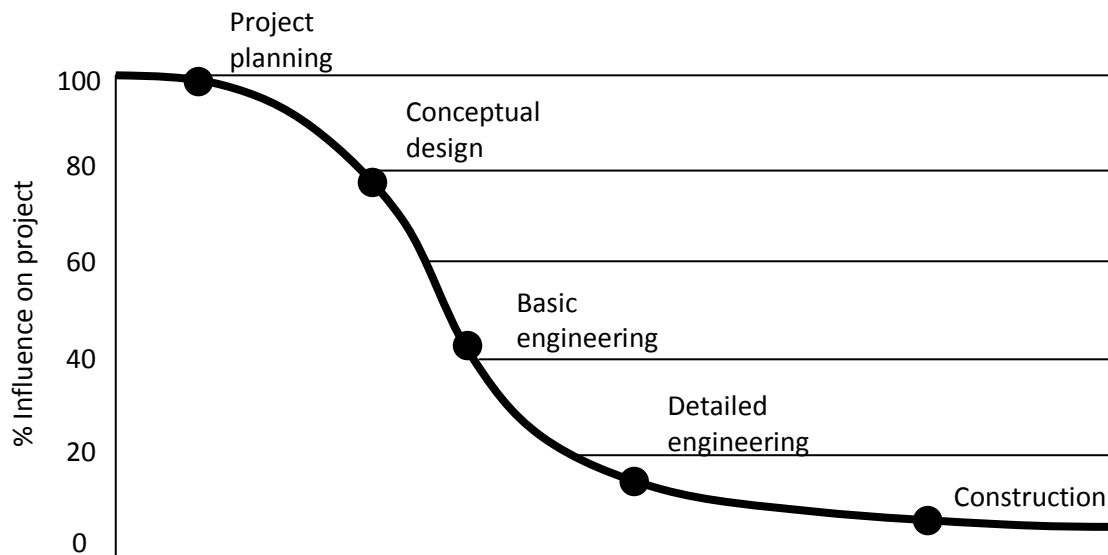


Figure 3. An influence curve of partnering (7:4)

because the outcome and benefits of applying partnering have a positive relationship with carrying out partnering in early stage of projects (see fig.3). Those who are newly involved in partnering suppose partnering starts in the first meeting but actually it is not. Some participants in the first workshop try to jump quickly from one step to another. This thing might irritate others and it will be

seen on their faces even if they try to pretend comfortable. All can notice the indicators that the partnering has started. When the discussion moves free beyond what planned for, and no place for emotions in discussing their opposite views, participants start thinking of achievements before they worry about their own wishes and desires, group dynamics, then we can say partnering has taken place and started. (2:71-73)

### 5.1. Procedure and Process

The partnering participants must work as a one integrated set and to be involved in an open and straightforward communication about their goals and objectives. Sometimes, the participants customize a model for their own partnering but the basic elements remain almost the same. They must work together in order to build up an ideal agenda for scheduled meetings. In this stage, a list of question can be prepared to ask each other about in the next session. Later, the group can lead a brainstorming session to identify the strength points related to their responsibilities to be utilized and the weakness points to be solved. Usually, hot topics are discussing in this stage for early training and development to achieve an extraordinary accomplishment. After that, follow-up meeting agendas along with a set of surveys are important to keep partnering working, improve it, evaluate their progress in the process, and to take any necessary actions. (2:104,105)

As known, no two projects are exactly the same due to differences in geography, materials used, scale, schedule and specific conditions. So, goals and objectives are affected by the previous situations. But, it is still a unique partnering relationship can be applied to different projects. The procedure of establishing a partnering relationship can be condensed into consequence steps: specify management commitment, hold a joint partnering workshop, develop the partner charter, plan for ongoing partnering relationship, then implement partnering and solve any problems that may encountered. (1:81)

### 5.2. Selection Firms For Partnering

When choosing companies to enter into a partnering relationship with, participants supposed to accept the principles of partnering. In other words, they would never look after

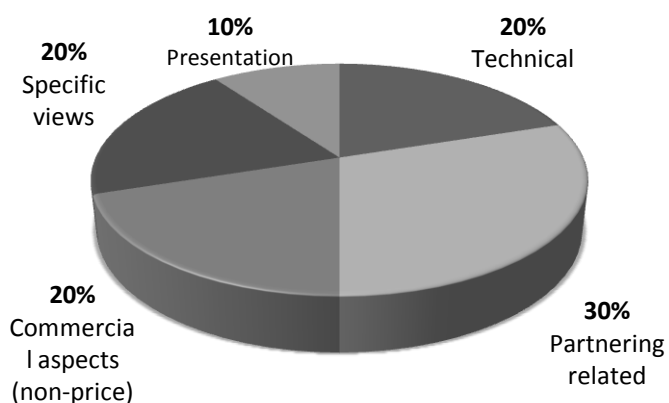


Figure 4. An example of selection criteria weightings (7:59)

their own interest and neglect other's interests. Furthermore, they would take care of all parties' revenue to be fair enough. So, the selection process must take into account the need or demand of being working as an integrated team. In the management and decision making level, participants can ask themselves about what the selected company roles are, and what they are required to do. This approach will establish the criteria of selection (see fig. 4). And it should be noticed that there is an

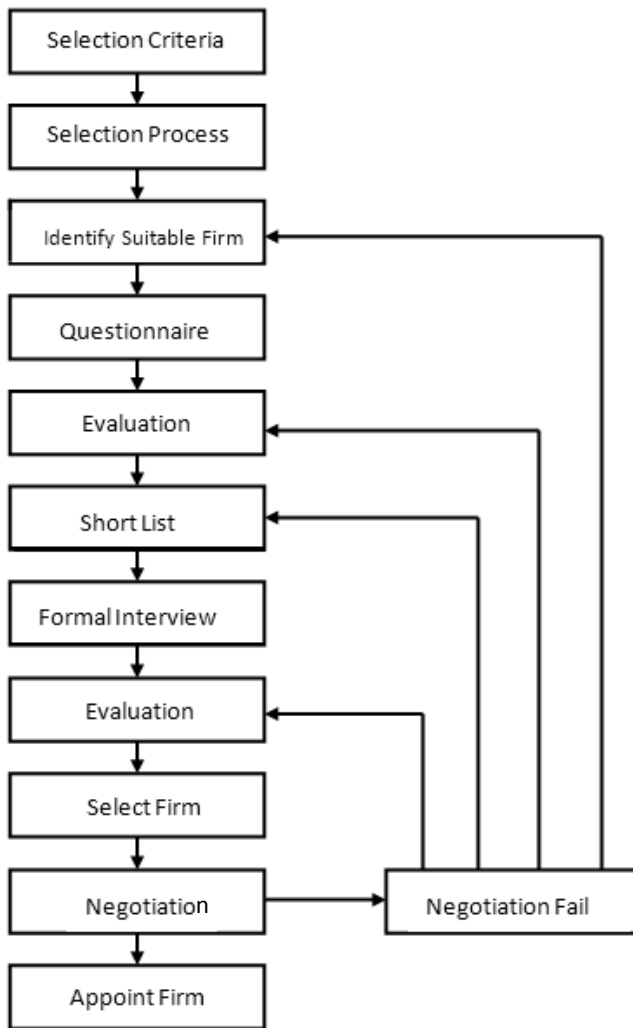


Figure 5. Stages in the selection process (6:33)

intersection between the objectives and the project organization requirements. It is important to select a firm with the required culture to create a well-matched and supportive team. It is also essential to put into consideration that the selected firm must be capable to meet with the client's views and can satisfy them. The partnering firm should not contain a major weakness that might defects the project but the company must be able to support and enhance the knowledge and skills of the teamwork. For technical competence, the selected company must be an experienced one with successfully completion of projects similar to the client's projects. In case of unusual projects, the selection will focus on firms that have a creativity feature to deal with the situations smoothly and innovatively

manner. The amount of work, the size of the project, the technology needed, future possible projects and cooperation all should kept in mind during the process of selection. The first step in the process of selection is to identify suitable firm (see fig. 5). Then give them the necessary information about the project along with a questionnaire contains questions of the criteria that can determine how enthusiastic they are about the project they suppose to work in. The answers evaluation will limit the selection up to three companies maximum. Then, these companies are to be invited formally to an

interview that will be held by the client and company already appointed. After taking a decision of what company to select, then all can get into further negotiation in details to form the shape of their relationships. (6:25-28, 31)

**5.3. Potential Barriers to Partnering**

In construction field, the main barriers to partnering are two, Organizational and Individual Barriers as listed down under each category (see fig.6). First of all, projects team members are unable to imagine that they can get rid of the adversarial relationship between them. As soon as this obstacle falls, they can go through the organizational and individual barriers that minimize the value that can be earned by partnering relationship. (1:42)

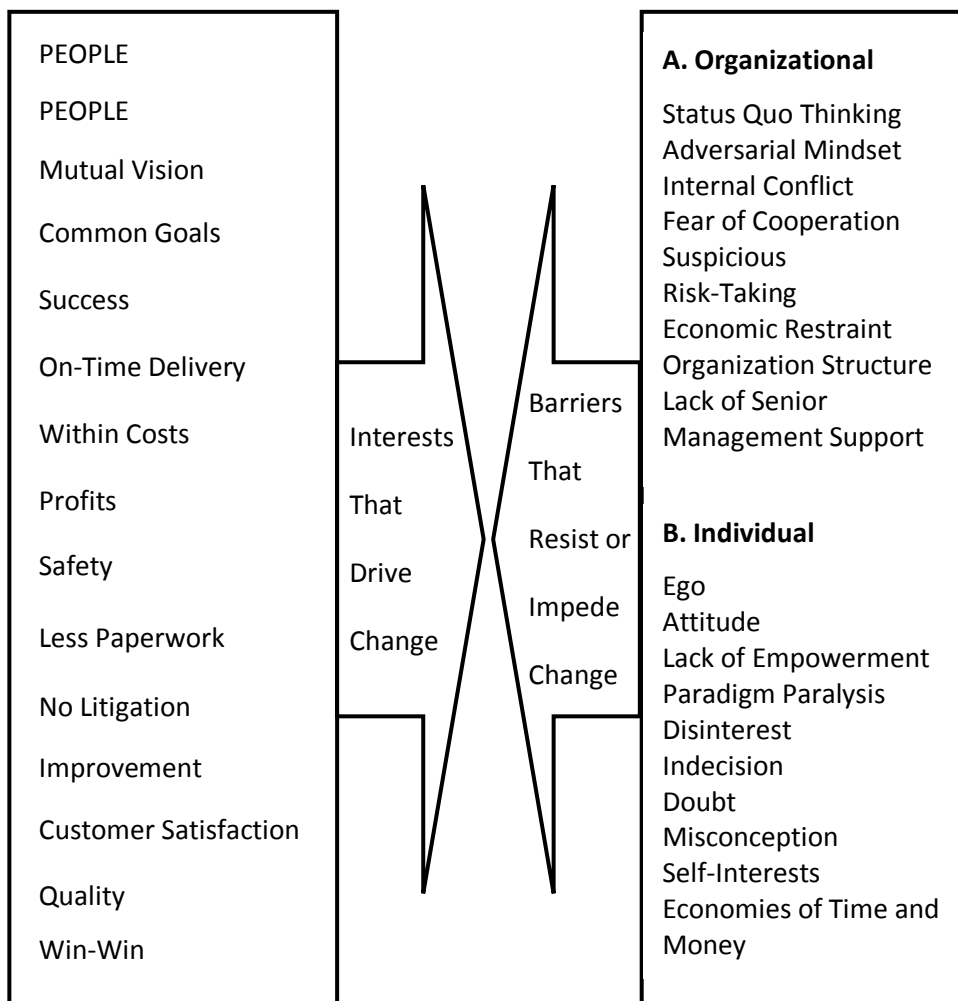


Figure 6. Forces that must be considered (1:50)

**5.4. Applications**

Every project has its own requirements. So, the organization and boundaries have to be modified accordingly. The following are applications of partnering that increase the knowledge of and add experience to the participants. (8:38)

**5.4.1. Sensitive Project Information**

Some information considered to be confidential. This kind of information is at risk of leakage in partnering relationship if not taking care of it properly. For example, if a designer deals with two competing owners in two different projects (see fig.7).

The work with two owners simultaneously means availability of accesses to their confidential and sensitive information.

Therefore, it is the designer responsibility to protect his client sensitive information. This mean it is necessary to create two secured zones to protect the sensitive information from going to the other competitor. The illustration shows the one way direction of information travel. (8:38)

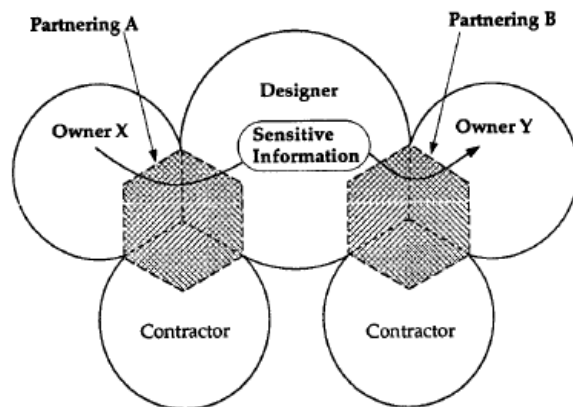


Figure 7.Potential leakage of sensitive information (8:38)

**5.4.2. Trade-Offs**

The argument between the involved parties regarding their own benefits is called trade-offs. Additional work means additional fees (see fig.8). The owner asks for minimizing the project's execution duration. This action forces the contractor to ask additional monies to be able to increase his efforts or add more resources and maintain profits. (8:38)

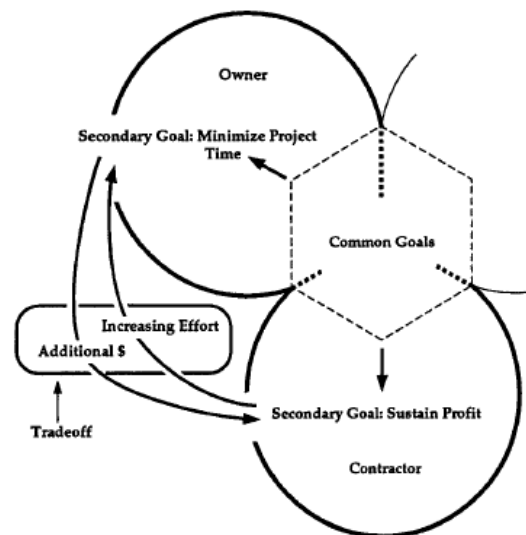


Figure 8.Example of trade-offs made during partnering (8:38)

## 5. DEVELOPING PARTNERING SKILLS

Training is the key word when talking about developing partnering skills. It needs hard efforts to change from the traditional way to the new trend of partnering. First of all, managers have to determine the sides that need to be developed. Also, managers have to enlighten the teamwork of the importance of training and spread awareness by giving an idea about how partnering can make the work easier and more economical. Managers must raise the confidence regarding training and encourage participants to consider seriously the partnering needs. So, the teamwork has to be well prepared to take the project to its extreme in all levels using the partnering concept. In order to take right decisions, the teamwork can be reinforced by including multi-skilled experts in it. It also can help to develop others and get experience along with training. (6:21-24)

## 6. EVALUATING THE BENEFITS OF PARTNERING

Managers tend to examine the value that comes to their business environment then they remove anything that does not add any value. In partnering evaluation, there are two types of benefits: direct and indirect benefits. The first one is measurable and quantifiable such as eliminating or minimizing claims and disputes, using time more efficiently, improving safety, increasing value-engineering. The second one is not easy to be measured but it comes as a result of partnering. It focuses on quality such as increasing the workers' experiences and customer satisfaction, and enhancing the good reputation of the firms. (1:55, 56)

Two major organizations in construction management both have used partnering. They are The U.S. Army Corps of Engineers (the largest civil engineering organization in the world, manages military construction for the U.S. Army and Air Force) and the Naval Facilities Engineering Command - NAVFAC (manages construction for the U.S. Navy). These organizations prepared studies that focus on cost saving value returned by using partnering. A study by the Corps in 1993 supports the value of partnering and proves statistically the obvious reduction in cost growth "*the percent difference between original and actual cost*" (see table 1, 2). Another study by the same organization has shown the benefit in reducing schedule growth "*the difference between estimated and actual time to project completion*". A study done by Major Jeffery Hills in 1996 in the work of Weston and Gibson examined 26 partnered versus 83 non-partnered projects in the Kansas city. He followed the same previous technique of using the two mentioned indicators, cost growth and schedule growth, to evaluate the

effect of partnering in the cost and time completion of the sampled projects. He came up with a marvelous positive result, 53 percent of reduction in cost growth and 54 percent of reduction in schedule growth. Also, other studies have been carried out by Professors Pocock and Liu, University of Illinois, in 1996 on military construction projects and they have returned with the same impression about the value and worth of using partnering. (1:62-65)

Project type	Estimate cost 'business as usual' (millions)	Approved investment (sanction) cost <sup>1</sup> (millions)	Actual final cost <sup>2</sup> (millions)
Offshore platform	£450	£373	£290
Refinery revamp	Not known	US \$295	US \$269
Addition to existing petrochemical plant	US \$175	US \$49	US \$133
Onshore gas terminal	£123	£119	£92
Offshore gas pipeline	£348	£319	£242
Refinery revamps:			
Hydrocracker	Not known	£41	£39
FCCU	Not known	£54	£47

FCCU, Fluidised-bed catalytic cracking unit.

<sup>1</sup>This cost is developed jointly with owner and the main contractors working together before seeking final investment approval.

<sup>2</sup>Actual cost before sharing of saving.

Table 1.Capital costs of a variety of alliance projects (4:57)

	Direct costs	Interaction costs	Overhead costs	Total costs
Traditional method	50	40	10	100
Early co-operation	45	25	10	80
Developed co-operation	38	15	7	60
Mature partnering	35	10	5	50

Table 2.Effect of partnering in the cost (4:57)

The real benefit of partnering is noted in the team work that participate a project. They as individuals will find themselves working without stresses in a comfortable environment without suspicious and ambiguity. It also reflects the satisfaction of the owner on the result of partnering (see fig.9). Furthermore, they can get the advantage of being working in a healthy environment sharing problem solving technique and realize the power of goal-oriented team. Finally, partnering indeed achieves benefits for all members of the teamwork and each organization's financial revenue directly connected to the bottom line. (1:68)

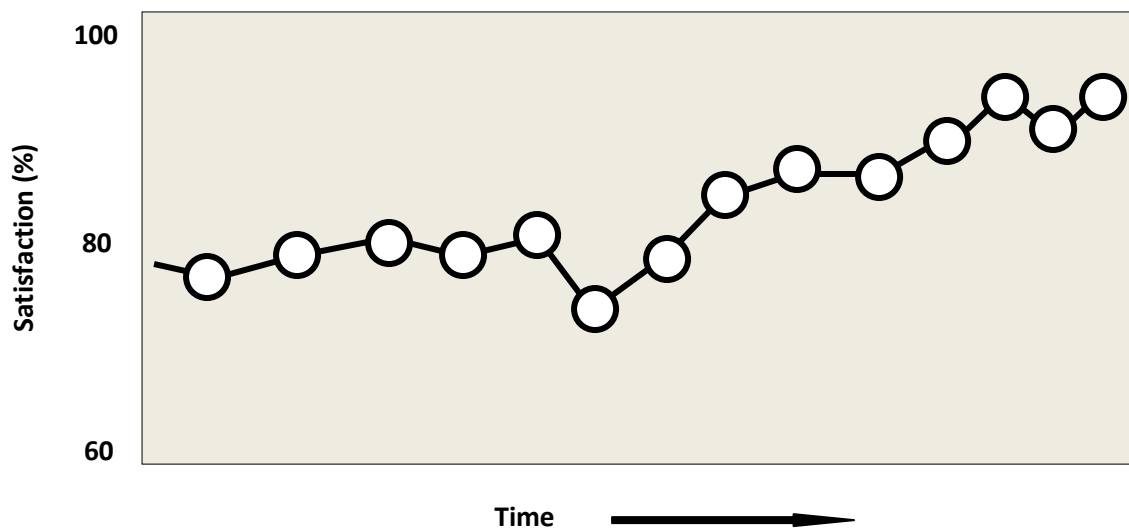


Figure 9. An example of relationship evaluation over time (7:114)

## 7. CONCLUSION

To conclude, the effective partnering in projects is only achievable when it applies on the beginning of projects. Therefore, to ascertain that partnering would achieve its purposes, it would be advised to apply partnering in the early stage of the contract. In this way, all parties would avoid any probability of wasting time and money. Hence, cost, time and quality are highly optimized under partnering. So, it reduces contractual risks, and works better than formal contracts in solving problems and achieving further mutual goals as long as the partnering charter is maintain and continuously monitored by establishing workshops. Finally, it is clear and acknowledged that partnering creates trust which helps in developing win-win attitude and making the project parties' life much easier.



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