UNIVERSITAS INDONESIA

CONFLICT APPROACHES
OF
EFFECTIVE PROJECT MANAGER

THESIS

ADHI CAHYONO
0906585603

FACULTY OF ECONOMICS
MASTER OF MANAGEMENT PROGRAM
JAKARTA
JUNE 2011

UNIVERSITAS INDONESIA

CONFLICT APPROACHES
OF
EFFECTIVE PROJECT MANAGER

THESIS

Submitted to fulfill one of the requirements to obtain degree of

Magister Manajemen-Master of Business Administration

ADHI CAHYONO

0906585603

FACULTY OF ECONOMICS

MASTER OF MANAGEMENT PROGRAM

MANAGEMENT BUSINESS INTERNATIONAL

JAKARTA

JUNE 2011

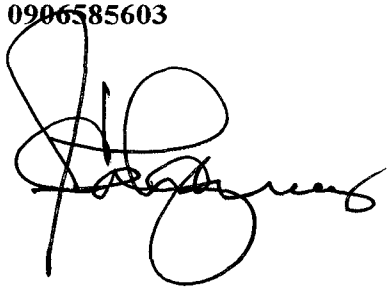
STATEMENT OF ORIGINALITY

This final paper represents my own effort, any idea or excerpt from other writers in this final paper, either in form of publication or in any other form of publication, if any, have been acknowledged in this paper in accordance to the academic standards or reference procedures

Name : **Adhi Cahyono**

Student Number : **0906585603**

Signature :



Date : **27 June, 2011**

LETTER OF APPROVAL

Proposed by	:	
Name	:	Adhi Cahyono
NPM	:	0906585603
Study Program	:	Management Business International
Title	:	

Conflict Approaches of Effective Project Manager

Has successfully presented the thesis in front of Board of Examiner and is already approved as one of the requirements to achieve the title Magister Management (MM) and Master of Business Administration (MBA) in Magister Management Study Program Faculty of Economics, University of Indonesia

BOARD OF EXAMINER

Counselor : Dr. Yanki Hartijasti, MBA ( )

Examiner : Dr. Ir. Tengku Ezni Balqiah, M.E. ( )

Examiner : Tigor Pangaribuan, MBA ( )

Place : Jakarta

Date : 27 June 2011

PREFACE

Praise and thank I pray toward the God Almighty, because of His blessings and grace, I could finish this thesis. Thesis was conducted in order to fulfill the requirements to achieve the title of Magister Manajemen - Master of Business Administration in Magister Manajemen Program, Faculty of Economics, Universitas Indonesia. I realize that, without the assistance and guidance from various parties, from the courses to the preparation of this thesis, it is very hard for me to finish this thesis. Therefore, I would like to thank:

1. Prof. Rhenald Kasali, Ph.D, as the Head of the Magister Manajemen Program, Faculty of Economics, Universitas Indonesia.
2. Dr. Yanki Hartijasti, MBA, as the counselor who has provided her time, energy, and mind to guide me in the preparation of this thesis.
3. My wife Ida Andriyani, my son Naufal Arrafi, my daughter Alya Abshara who always provide inspiration, prayers and encouragement wholeheartedly in everything for the author.
4. Friends of MM-MBA 2009 class which has shown togetherness and solidarity so far.

Finally, I wish God Almighty is pleased to return all the good favor of all parties that have assisted me. Hopefully, this thesis brings benefits to the development of science.

Jakarta, June 2011

Author

LETTER OF AGREEMENT TO PUBLISH THE THESIS FOR ACADEMIC PURPOSE ONLY

As a member of society of academicians of University of Indonesia, I have agreed as stated below:

Name	: Adhi Cahyono
NPM	: 0906585603
Study Program	: Management Business International
Faculty	: Economics
Assignment type	: Thesis

On behalf of science development, I have fully agreed to give the **Non-exclusive Royalty-Free** of the thesis to the University of Indonesia which titled:

Conflict Approaches of Effective Project Manager

Along with any related materials if needed. With this **Non-exclusive Royalty Free Right**, University of Indonesia has the right to keep, transform and manage in forms of database, distribute and publish it in the internet and other media as well for academic purpose only, even without permission as long as my name is mentioned and included as the sole writer/author and as the copyright holder.

Any form of lawsuit which possibly occur in the future event considered as copyright violation of this thesis will be my personal responsibility.

Sincerely I declare the statement above is true indeed.

Declared at Jakarta,
On 27 June 2011

(Adhi Cahyono)

ABSTRAK

Nama : Adhi Cahyono
Program Studi : Manajemen Bisnis Internasional
Judul : Conflict Approaches of Effective Project Manager

Konflik dapat mempengaruhi performa organisasi secara menguntungkan maupun merugikan terhadap performa organisasi. Fokus dari tesis ini adalah untuk mencari hubungan antara pendekatan Manajer Proyek terhadap konflik dan persepsi anggota tim proyek tentang efektifitas Manajer Proyek dalam menangani konflik. Kuisioner didistribusikan kepada responden yang bekerja di sektor hulu industry minyak dan gas bumi di Indonesia. Manajer Proyek dipersepsikan efektif menangani konflik di dalam proyek jika menggunakan pendekatan kooperatif (*cooperative*) dan konfirmatif (*confirmative*). Sebaliknya, Manajer Proyek dipersepsikan tidak efektif dalam menangani konflik di dalam proyek jika menggunakan pendekatan kompetitif (*competitive*) dan menghindar (*avoidance*).

Kata kunci:
manajer proyek, konflik, manajemen konflik

ABSTRACT

Name : Adhi Cahyono
Study Program : Management Business International
Title : Conflict Approaches of Effective Project Manager

Conflict can be functional or dysfunctional to the organization's performance. This thesis focused on looking at the association between conflict approaches implemented by the Project Manager and project team member's perception on the effectiveness of the Project Manager in managing project's conflict. Questionnaires were distributed to the respondents work in the upstream sector of the Oil and Gas industry in Indonesia. Project Manager is perceived to be effective in managing project conflict when implementing cooperative and confirmative approaches. Project Manager is perceived to be in-effective in managing project conflict when implementing competitive and avoidance approaches.

Key words:
project manager, conflict, conflict management approaches

TABLE OF CONTENT

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDIXES

CHAPTER 1
INTRODUCTION

1.1. BACKGROUND

Traditionally, conflict is viewed as a negative phenomenon within any organizations, regardless of whether the organization is in the form of an on-going operation or a project. Nowadays, modern organization theorists recognize that conflict is not only inevitable in organization life but also as contributing factor of organization success, if managed properly.

According to Project Management Institute (2004), project is defined as a temporary endeavor undertaken to create a unique product or service. Projects are often implemented as a means of achieving an organization's strategic plan or to respond to the needs beyond enterprise's normal operation capacity. Operations and projects differ primarily in that operations are ongoing and repetitive while projects are temporary and unique. Projects have a definite beginning and ending from the timeline perspective, typically within a few weeks, months, one year or more whilst operations are meant for longer period of time, for not saying forever. Unique means that created product or service is somehow different from all other products or services.

Project management considers scope, time and cost or budget as project constraints and project quality is affected by balancing of these three constraints (Project Management Institute, 2004, p. 8). Turner and Muller (2003) also stated that these project constraints or features create pressures to the Project Manager and the undertaking organization. These pressures are created because of the facts that, firstly projects are subject to uncertainty as to no one can provide a guarantee that the plans would deliver the required project outcomes or desired beneficial changes. Secondly, projects create a need for integration of the required project resources. Lastly, projects are undertaken subject to urgency which is delivering the desired outcomes within the

desired time scales. Turner and Muller (2003) further emphasized that “it is these three pressures that are special to project management, not the management of time, cost and quality, which is shared with routine operations management” (p. 1).

These project constraints also introduce conflicts within the project organization some of which are as result of changes arisen during project execution, concentration of professionals of diverse disciplines & cultures, limited means to satisfy divergent interests, conflicts associated with different priorities between team members, etc. Verma (1998) highlighted that it is virtually impossible for people with diverse background skills and norms to work together; make decisions, and try to meet project goals and objectives without conflict.

Literature reviews showed that at least there are three studies that have been so far conducted to identify source of conflicts in a project environment (Thamhain and Wilemon, 1975; Posner, 1986; Hyvari, 2006). Results of these studies showed that there are seven major contributors of conflicts in a project environment. Such source of conflicts include conflicts over man-power resources, cost objectives, project schedules, personality conflicts, project priorities, technical conflicts and conflict over administrative procedures.

Because of the importance of conflict management and its impact to the organization’s performances, scholars have also studied and developed typologies of conflict management. One of such typologies was developed and proposed by Thomas and Kilmann (1974) and further supported by Rahim (1983, 1992). Barker et al. (1988) also proposed one typology which consists of cooperative, confirmative, competitive and avoidance approaches. Despite the attempts of some scholars to develop and propose typologies to manage conflicts that can be referred by Project Manager in managing project conflicts, Verma (1998) emphasized that it is difficult to recommend the best conflict resolution approaches considering that each conflict situation is unique and dynamic.

Literature review also suggests that project performances are not only affected by successful implementation of project management tools and methods, however it also significantly affected by people-related factors (Anantatmula, 2010). Barker et al. (1988) mentioned that attention to project management has been shifted from project management tools to human behavior issues. Hyvari (2006) emphasized that because the advancement of the development of technical project management tools and methods, it is time to turn the focus on developing leadership skills. Anantatmula (2010) stated that many project fails because of underlining Project Manager's role, especially his/her leadership role in motivating people and creating an effective working environment.

From the perspective of project organization structure, Project Manager has the responsibility to set-up a cohesive and aligned project team, set-out project goals, lead the project team to perform planning, executing and controlling activities. In the context of conflict management, Project managers must identify, analyze, and evaluate both positive and negative values of conflict and their effect on performance, subsequently seeking resolution of any conflicts arisen during project execution. Attitudes and conflict management styles play an important role in determining whether such conflict will lead to destructive or mutually beneficial outcomes including meeting the schedule, budget and customer's quality requirement.

In Indonesia, particularly in the upstream sector of the Oil and Gas industry, Oil and Gas companies utilize project approach in developing its onshore and offshore production facilities. The project environment in this sector in Indonesia also shares the same pressures exerted by characteristic of projects to the undertaking organization, Project Managers and project team members. In fact, source of the conflicts identified by several scholars such as man-power resources, cost objectives, project schedules, personality conflicts, project priorities, technical conflicts and conflict over administrative procedures (Thamhain and Wilemon, 1975; Posner, 1986; Hyvari, 2006), are also applicable to the projects in this sector in Indonesia. In

the following paragraph, some examples of project conflicts are described to provide a better picture on how does conflict surface during project execution.

Based on observation, man-power resources have always been a significant contributing source of conflicts in Indonesian projects. Type of project organization structure chosen by contractor contributes to the conflict over man-power resources. Most of the contractors choose to implement a matrix organization structure and this is in line with the literature review (Gray, 1990; Chuad et al., 1995; Turner et al., 1998; Hyvari, 2006). In matrix organization, man-power resources are under functional manager's control instead of directly under Project Manager's control.

Conflict over man-power resources is typically experiencing by the project during early stage of project when Project Manager is setting up his/her project team. Negotiation between Project Manager and functional manager usually takes place in identifying, selecting and assigning personnel from functional department to project. The conflict intensity increases particularly when several projects are being executed at the same period of time so that functional manager runs out of resources.

In addition, client typically imposes contractual requirement to have the project team be completely set-up within certain period of time, typically 30 days after date of award, also contributes to the increasing intensity of the conflict over man-power resources as usually this contractual requirement is related to a liquidated damage's provision. Such provision gives leverage to the client side for imposing financial penalty to the contractor's side should contractor fails to set-up a project team on time. Over time, the intensity of the conflict over man-power resources is decreasing as project progressing towards its completion.

Other factor that contributes to the conflict over man-power resources in a project in Indonesia is that there seems to be a perception of project team members that working for client's side is more attractive compared to working for contractor's side for various reasons. Such reasons could be perceptions that client offers better

remuneration package, better working environment in the sense that it is perceived to be less stressful, it is more prestigious to work on the client's side relative to work on the contractor's side.

Scarcity of the skilled and experience project team members also often becomes a reason as to why a battle of acquiring skilled and experience project team members between contractor and other client takes place. Bear in mind that the needs to set-up a project team is not only applicable to the contractor side but it also applicable to the client side.

Conflict over cost objectives has always been part of the projects in the upstream sector of the Oil and Gas industry in Indonesia. Such conflicts could be involving both contractor and client sides, Project Manager and higher management, project team and suppliers or subcontractors and also limited only within the project team.

Conflict over cost between contractor and client sides is typically related to the project changes. It is widely known and understood that during early stage of the project, cost of changes is low compared to the cost of changes at a later stage of the project. Based on this fact, typically project stakeholder's influences including client side are at its highest level. The lowest cost of changes gives the client incentives to do so. It is of the client's interests to influence the project so that their expectations are met and at the same time maintaining their project's budget. On the other side, contractor also has the interest to get additional budget from the client side in the case one particular task is interpreted to be outside of the project scope. As progressive elaboration is one inherent characteristic of the project, it should be noted that not every single requirement can be clearly stipulated in the contract or project's scope of work in writing by client. Differences in perception and understanding on the project scope between contractor and client often happens even though during tender process such possible differences have been addressed and minimized. Such conflict over cost or budget is typically being resolved through a negotiation between contractor and client by referring to the applicable contract's provision.

Conflict over cost between Project Manager and higher management is typically happens because higher management has the interest and responsibility to oversee, maintain or even improve the overall performance of the organization while Project Manage only focus on the performance of his/her project. Reducing or minimizing financial risk exposure of the organization is part of the higher management interest and responsibility. Particularly, under situation in which one project is experiencing difficulties or expose into higher risk exposures compared to other projects, a trade-off between projects often being exercised by higher management in order to reduce, minimize, maintain or even improve overall organization financial risks exposures or performances.

Conflict over cost between project and its suppliers or subcontractors is typically because the same reasons contribute to the conflict over cost between contractor and client. Negotiation over such conflict by referring to the applicable purchase order or subcontract agreement's provision is the typical way of resolving such conflict.

Conflict over cost between the project team is typically because of project changes and its budget allocation or rectification cost required by other group of the project team due to revisions or changes introduced by other group within the project team. For example, construction group has constructed a column by following construction drawings developed by engineering group. For some reasons, engineering changes their design so that construction group has to repair the column to follow the new design. In order to repair it, construction group requires additional budget for performing the required rectification processes.

Conflict over project schedules in a project definitely exists considering the nature and characteristic of the project; it has a definite beginning and an end. Contract typically defines certain sets of progress milestones and completion dates. These milestone and completion dates are typically linked to a financial penalty provision which is commonly called as liquidated damage provision. By having this provision

Oil and Gas company can minimize their risk exposures and transfer some of the project risk to the contractor.

Personality conflict is also definitely part of the project regardless of industrial sector. As project team consists of different people with diverse personality, cultural background, values and other factors, personality conflict would always be part of the project.

Conflict over project priorities also often experienced during project execution in the Oil and Gas project. Project consists of several groups performing certain tasks and activities which are interrelated to each other. Deliverables of one group become inputs for different group and interdependencies between groups, in the end make-up the project schedule. Each group tends to have their own priorities in completing their tasks and activities which sometime does not in line with other groups' priorities. Sometimes conflict over project priorities also involving Oil and Gas company as client as some of the tasks and activities also depends on client's provided information and data.

Conflict over technical issues surely part of daily life in the project. Project consists of several groups and as each group within the project has to comply to certain technical codes, standards and specifications, difference interpretation over these technical codes, standards and specifications often experienced in the project.

Conflict over administrative procedures also often particularly between the groups in a project, such conflicts include relation between the groups, battery limit of project tasks and activities between the groups and flow of information between the groups. Administrative conflicts also often happens and involving both contractor and Oil and Gas company as their client. However as project management tools have been reached an advance stage and widely used, conflict over administration procedures tends to decrease in terms of its frequency and intenstity.

Based on the above examples of project conflicts and its sources, it becomes apparent that Project Manager has a very complex and delicate tasks to perform. Project Manager has to manage all project stakeholders' expectations including client, higher management, suppliers, subcontractors and also project team member including conflicts among them and at the same time performing regular duties such as planning, executing, monitoring and controlling project to achieve project goals and objectives which are traditionally viewed as being on time, within budget and meeting client's technical and functional specifications. It is no wonder if Turner (1996) once stated that project management is the art and science of converting vision into reality.

1.2. PROBLEM FORMULATION

The Oil and Gas industry is experiencing surge of demand. Limited proven resources, increasing global demand, strained infrastructures and other factors signify the needs to increase global production. Oil and Gas producers in their pursuit of increasing the production has been spending huge amount of capital expenditure. The International Energy Agency estimates that meeting global energy needs would require investing more than $17 trillion by 2030 (Van der Veer, 2006).

Oil and Gas producers implement project approach in exploring and developing their oil and gas reserves globally including in Indonesia. Typically they engage Engineering, Procurement and Construction contractors to develop the required infrastructures and production facilities. Such facilities can either be located onshore or offshore.

Development projects in Indonesia typically be covered by a contract executed by both parties i.e. Oil & Gas company and contractor. Such binding contract includes liquidated damage, maintaining cost objectives and facilities performance guarantees' provisions and some other contractual liabilities. Liquidated damage provision

typically imposing a requirement such that contractor in undertaking the project given the technical and functional specifications, can complete the project at a certain date. This date is usually related to the Oil and Gas company's delivery commitment to their customers. In the case that contractor could not complete the project on time; financial penalty would be imposed to the contractor. Facilities performance guarantees provisions are usually related to the intended throughput of the production facilities and its life-time. If during the certain period of time after project completion and facilities being handed over to the Oil and gas company, such facilities' performances could not be met, another liabilities which also might include financial penalty have to be fulfilled or paid by the contractor. Failures to meet the completion dates, cost objectives and facilities performance guarantees are sometimes highly publicized and can negatively impact the credibility of the contractor as to its ability and capacity to fulfill its commitments to the market.

The project environment in the upstream sector of the Oil and Gas industry including in Indonesia also share the same characteristics and pressures compared to other project environment in different sector of the industry, however it is noted that on top of these common characteristics and pressures, contract liabilities put the contractor into a more complex and riskier situation relatively to the other sectors. Bear in mind the amount of capital spending that Oil and Gas company has to invest to develop their production facilities which typically ranging from hundreds of millions up to billions of dollars so that the amount of the financial risks transferred to the contractor are considerably huge. Huge enough so that it can drag the contractor into a bankruptcy condition, if the projects are not well managed.

As conflicts in a project environment are inevitable so that one of primary responsibilities of Project Manager is to manage it and fail to manage conflicts endangers project to achieve its goals and objectives. Considering also the fact that Project Manager could not be possible executing the project and achieving the project goals and objectives by himself, he/she has to set-up a cohesive and aligned project

team. Such project team consists of people with diverse background of educational, nationalities, discipline of expertise, cultures and values, the question is then how does Project Manager, in the upstream sector of the Oil and Gas industry, approaches such conflicts so that he/she can manage it effectively.

Studying and investigating project team members' perception on the different possible impacts of conflict management approaches to the conflict intensity, constructiveness of the conflict and effective project management would be an interesting topic and hopefully benefitting for the Project Managers in answering such question.

.

1.3. OBJECTIVE OF THE STUDY

This research is intended to seek project team members' perception on which style of approaches towards conflicts an effective project manager chooses in managing the conflicts in a project. The importance of such expectation and perception is based on the understanding that most of conflicts in a project organization are from and/or involving project team members.

This research mainly refers to a journal prepared and developed by Jeffrey Barker, Dean Tjosvold, I. Robert Andrews and published in the *Journal of Management Studies* 25:2 March 1988. Barker et al. (1988) concluded that in project teams where the managers used a combination of co-operative and confirming approaches to conflict, conflicts were judged to have a constructive impact and management was judged to be effective. Conflicts were seen as counterproductive and management was seen as ineffective when the project manager relied upon a combination of competitive and avoiding approaches to conflict.

This research would like to seek if Barker et al. (1988) findings are applicable even though sample population of the respondents comes from a different sector of

industry and country. Barker et al. (1988) respondents were from an engineering group of one company serves the utility sector in Western Canada while this research will be involving respondents from various groups (engineering, procurement, construction and supporting) of more than one company from the upstream Oil and Gas sector in Indonesia. To be more specific, this research would like to seek if the following Barker et al. (1988) findings are applicable in the upstream sector of Oil and Gas industry in Indonesia:

- Cooperative approach towards project conflicts is positively associated with constructive conflict and effective project management
- Confirmative approach towards project conflicts is positively associated with constructive conflict and effective project management
- Competitive approach towards project conflicts is negatively associated with constructive conflict and effective project management
- Avoidance approach towards project conflicts is negatively associated with constructive conflict and effective project management
- Looking for correlation between conflict intensity with cooperative, confirmative, competitive and avoidance approaches without offering predictions on the possible impacts of the conflict approaches to the conflict intensity variable
- Project Manager is perceived by project team members to be effective in managing project conflicts when Project Manager implement cooperative or confirmative or combination of both cooperative and confirmative approaches
- Project Manager is perceived by project team members to be in-effective in managing project conflicts when Project Manager implement competitive or avoidance or combination of both competitive and avoidance approaches

1.4. BENEFIT OF THE STUDY

The first benefiting point would be providing some recommendation to the Project Managers work in the upstream Oil & Gas sector in Indonesia on how they shall

approach and manage conflicts in their projects. Henceforth, such recommendation hopefully could be of beneficial for his/her organization, project team member, clients and project stake holder at large including the industry itself.

The second benefitting point would be enriching the research and study over the same topics i.e. conflict management and project management.

1.5. SCOPE OF THE RESEARCH

Literatures on conflict management reveal that there are several approaches toward conflict, hence this research would be based on the conflict management approaches suggested by Barker, Tjosvold, and Andrews (1988) in a paper titled Conflict Approaches of Effective and Ineffective Project Managers: A Study Field Study in a Matrix Organization published in the *Journal of Management Studies* 25:2 March 1988.

Literature review also suggests that there are some other factors contribute to the effective management of the conflict in a project environment. Some of them are leadership style of the Project Manager, cultural dimensions of the project team members or Project Manager, stage of the project cycle, communication and negotiation skills of the Project Manager etc, however these contributing factors and its correlation with effectiveness of project management in managing conflict, conflict intensity and constructiveness of the conflicts are outside the scope of this research.

1.6. METHOD OF THE RESEARCH

This research is conducted with the following sequences which are inter-related to each others:

- Literature Review

Literature review was conducted on several major topics such as conflict management and project management. This review provided the framework in developing this research as a whole, references in analyzing and providing recommendations.

- Media research

  Media research was also conducted by seeking any relevance information either from internet, newspaper, and other type of publications.

- Survey Questionnaire

  Questionnaire was modified from Barker et al. (1988) and distributed to the respondents which comprise of engineers and technologist of EPC (Engineering, Procurement & Construction) Contractors serving the upstream Oil & Gas sector in Indonesia

CHAPTER 2
LITERATURE REVIEW

2.1. CONFLICT AND ORGANIZATION

Understanding and acknowledging the existences of conflict(s) in an organization is very important. Some studies, researches and surveys have been conducted to assess how much time a manager has to spend dealing with workplace conflict. Ramsey (1997) reports that 150 executives surveyed spend an average of about 18 percent of their work time "acting as a peacekeeper, referee, and mediator" for employees engaged in conflict.

In a study sponsored by the American Management Association (AMA), Thomas & Schmidt (1976) showed some interesting findings such as:

- The chief executive officers, vice presidents, and middle managers spent about 18 percent, 21 percent, and 26 percent of their time, respectively, in dealing with conflict.
- The respondents felt that ability to manage conflict has become more important over the past 10 years.
- They rated conflict management as equal to or slightly higher in importance than the topics taught in AMA programs (which include planning, communication, motivation, and decision making).

In addition, Allison (1971) pointed out that of the twenty-five skills and personality factors of managers, the ability to handle conflict was the most positively related to managerial success. Baron (1990) highlighted that one of the important topic for both scientists and managers interested in the nature of organizational behavior and processes is actually organizational conflict. Moreover, Rahim (1981) indicated that based on his analysis on the syllabi on organizational behavior courses for master of business administration (MBA) students, conflict was the fifth most frequently

mentioned among 65 topics. All of these findings were meant to say that it is generally accepted to say that conflict in an organization is inevitable and it has a detrimental and costly to the organization if not managed well.

But what is conflict? Conflict may be explained in various ways, Webster dictionary (1994) offers several synonyms, such as:

- to clash, disagree
- a battle or struggle
- antagonism or opposition
- incompatibility or interference, and
- a mental struggle

While some of scientific literatures offer these descriptions:

- Deutch (1973) defined conflict as it exists whenever incompatible activities occur.
- Donohue and Kolt (1992) defined conflict as it is a situation in which interdependent people express (manifest or latent) differences in satisfying their individual needs and interests, and they experience interference from each other in accomplishing these goals.
- Wilmot and Hocker (2001) defined conflict as an expressed struggle between at least two interdependent parties who perceive incompatible goals, scarce resources, and interference from others in achieving their goals.
- Swanström and Weissmann (2005) suggested that conflict is perceived differences in issue positions between two or more parties at the same moment in time.
- Conflict refers to any situation in which there are incompatible goals, thoughts, or emotions within or between individuals or groups that lead to opposition and disagreements. In other words, conflict occurs when

individuals or groups have incompatible goals, and when they block each other's efforts to attain those goals (Schmidt and Kochan, 1972).

- As applied to human behavior, conflict can also be a disagreement between individuals that can range from a mild disagreement to a win-lose emotion-packed confrontation (Adams and Kirchof, 1982).
- Rahim (2001) defined conflict as an interactive process manifested in incompatibility, disagreement, or dissonance within or between social entities (i.e., individual, group, organization, etc.).

Baron (1990) pointed out that after reviewing a number of definitions of conflict, concluded that although definitions are not identical, these definitions of conflict overlap with respect to the following elements:

- Conflict includes opposing interests between individuals or groups in a zero-sum situation;
- Such opposed interests must be recognized for conflict to exist;
- Conflict involves beliefs, by each side, that the other will thwart (or has already thwarted) its interests;
- Conflict is a process; it develops out of existing relationships between individuals or groups and reflects their past interactions and the contexts in which these took place; and
- Actions by one or both sides do, in fact, produce thwarting of others' goals (p. 199).

Some studies have suggested that conflict introduces negative impacts to the organization. Organizational conflict theorists suggested that conflict was detrimental to organizational productivity (Pondy, 1967; Brown, 1983). Researches performed by Gladstein (1984) as well as Wall and Nolan (1986) have shown that conflict is associated with reduced productivity and dissatisfaction in groups.

In opposite to the negative views on conflict, Tjosvold (1991) as well as Van de and De Dreu (1994) theorized that conflict is beneficial to the organization under some circumstances. Furthermore, Eisenhardt and Schoonhoven (1990) offered evidence demonstrating that conflict within teams improves decision, planning, quality and strategic, financial performance and organizational growth. Other indications have been suggested by Wagner et al. (1984) as well as Eisenhardt and Schoonhoven (1990) such that conflict can be beneficial as well as detrimental to the organization.

Rahim (2001) has suggested the following possible impacts of conflict to the organization covering both views, functional and dysfunctional impacts as follows:

Functional Outcomes

- Conflict may stimulate innovation, creativity, and growth.
- Organizational decision making may be improved.
- Alternative solutions to a problem may be found.
- Conflict may lead to synergistic solutions to common problems.
- Individual and group performance may be enhanced.
- Individuals and groups may be forced to search for new approaches.
- Individuals and groups may be required to articulate and clarify their positions.

Dysfunctional Outcomes

- Conflict may cause job stress, burnout, and dissatisfaction.
- Communication between individuals and groups may be reduced.
- A climate of distrust and suspicion can be developed.
- Relationships may be damaged.
- Job performance may be reduced.
- Resistance to change can increase.
- Organizational commitment and loyalty may be affected.

Verma (1998) provided the elaboration of the evolution of views on conflict. According to him, there were three views of conflict, traditional, contemporary or behavioral and interactionist views. Such elaboration is adapted below.

Traditional view of conflict assumed that conflict is bad, always introducing a negative impact, and as the level of conflict increases it leads to declines in performance. Therefore conflict must always be avoided. Conflict is closely associated with irrationality, destruction and violence terms.

The behavioral or contemporary view argued that conflict is natural and inevitable in all organizations. The way conflict is handled will be the key factor as to it would be positively or negatively affecting the organization. It also argues that performance may increase with conflict, but only up to certain level, subsequently declining if conflict is allowed to increase further or is unresolved. This view advocates for organization to accept conflict and rationalizes it.

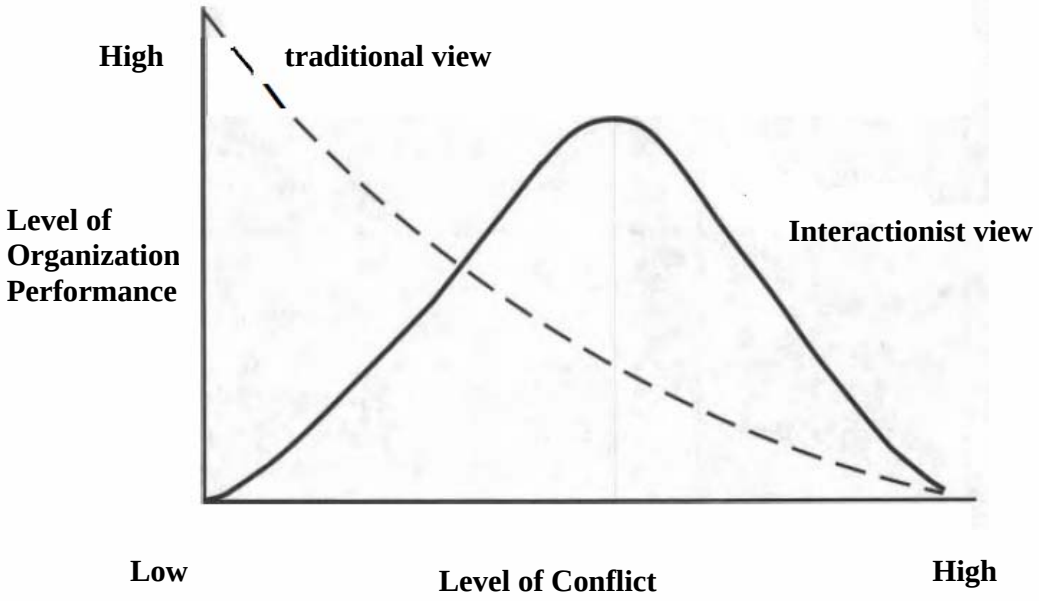


FIGURE 2.1. CONFLICT AND PERFORMANCE RELATIONSHIP
Source: Starke and Sew (1992, p. 474)

The interactionist view assumed that conflict is necessary to increase performance. In contrast to the behavioral view, the interactionist view encourages conflict up until an appropriate level of conflict enough to keep organizations self critical, creative, viable and innovative and avoiding it becomes apathetic, stagnant, static and unable to respond to change and innovation.

Figure 2.1. shows the correlation of actual level of conflict and organization's performance while below table summarized the differences between these views based on actual and desired levels of conflict within an organization. According to the traditional view, conflict is bad and should therefore be avoided: the desired level is always zero. If actual conflict rises above zero, it should be resolved. The behavioral view differs only in terms of the desired level of conflict, which could be above zero. However, the managerial implications are the same as those in the traditional view, i.e., "do nothing" or "resolve the conflict." If the desired level of conflict is above zero, then there are three possible outcomes:

1. Actual level of conflict is greater than the desired level (A>D)
2. Actual level of conflict is equal to the desired level (A=D)
3. Actual level of conflict is less than the desired level (A<D)

This third possibility, which was completely overlooked by both the traditional and behavioral views, is addressed by the interactionist view of conflict. In this view, conflict management implies not only conflict resolution but also conflict stimulation. According to both the behavioral and interactionist views, there is an optimal level of conflict that maximizes project/organizational performance. A project with no conflict whatsoever has little incentive for innovation, creativity or change because its participants are comfortable with the status quo and they are not concerned about improving their performance (Verma, 1998, p. 90).

TABLE 2.1. COMPARISON BETWEEN TRADITIONAL, BEHAVIORAL AND INTERACTIONIST VIEWS ON CONFLICT

VIEW	POSSIBLE STATES	MANAGERIAL ACTIONS
Traditional	A = D, where D = 0	Do nothing
	A > D, where D = 0	Resolve conflict
Behavior	A = D, where D > 0	Do nothing
	A > D, where D > 0	Resolve conflict
Interactionist	A = D, where D > 0	Do nothing
	A > D, where D > 0	Resolve conflict
	A < D, where D > 0	Stimulate conflict

Note: A = actual level of conflict, D = desired level of conflict

Conflict can also be viewed based on its different levels. As conflict in an organization involving human being and their interaction, conflict should also be analyzed ranging from individuals to that of the group. According to Hellreigel, Slocum, and Woodman (1996), conflict can occur at the following four levels in an organization:

1. **lntrapersonal conflict,** also known as role conflict, stems from unfulfilled personal or professional expectations within the individual. This level of conflict may not negatively affect the organization so long it does not other member of the organization negatively. Nevertheless, it shall be noted that it still can reduce the motivation and productivity of the individual in concerned. An example of this level of conflict is an individual is required to perform certain activities in which it conflicts with his/her personal values or beliefs.
2. **Interpersonal conflict** occurs between certain or specific team members or between one person and the entire group within the organization. This level of conflict is most often caused by differences in personality, style, communication skills, or competing personal ambitions. Analyzing such

conflict present in group members may help determine why individuals try to block the attainment of each other's goals.

3. **lntragroup conflict** is a conflict between a single person and a group of people. It may occur, for example, in a group when what an individual wants to do is against what the group norm, vision, mission, culture or value dictates. Such level of conflict can also occur, for example when what supervisor of the group wants differs from what a group of subordinates want. In such examples, the group has the ability to block any individual's goal attainment than vice versa.
4. **Intergroup conflict** may arise between groups of individuals within the organization or between the organization and groups outside the organization.

Rahim (2001) also suggested the same types of conflicts based on its levels, however providing some differences of elaboration as follows:

a. Intrapersonal Conflict

Intrapersonal conflict is also known as intraindividual or intrapsychic conflict. Source of such conflict is incompatibility between an organizational member's expertise, interests, goals and values with certain tasks the organization required him/her to perform. Lewin (1948) further classified this conflict into three types of **intrapersonal conflict** as follows:

- **Approach–Approach Conflict**

  This conflict occurs when a person has to choose between two attractive alternatives. Examples of such conflict are, Manager having two attractive alternatives or offers from different financial institution to finance corporate expansion plant. An employee having two attractive job offers from different potential employers at the same period of time.

- **Approach–Avoidance Conflict**

  This type of conflict occurs when a person has to deal with a situation that possesses both positive as well as negative aspects, that is, when a

person feels similar degrees of attraction and repulsion toward a goal or competing goals.

- **Avoidance–Avoidance Conflict**

  This type of conflict occurs when each of the competing alternatives possesses negative consequences, that is, they are equally repulsive. A manager will be in this type of conflict if he or she has to decide between laying off some of the labor forces or quitting his or her job. The manager is possibly distressed in his or her attempt to decide upon the lesser of the two negative alternatives. Perceived incompatibilities or in-congruencies frequently occur when an organizational participant is required to perform a task that does not match her or his expertise, interests, goals, and values. Such a conflict also occurs if there is a significant mismatch between the role that a person expects to perform and the role that is demanded of the person by the organization. The latter has been classified as role conflict by some researchers.

b. Interpersonal Conflict

This is also known as *dyadic* conflict. It refers to conflict between two or more organizational members of the same or different hierarchical levels or units. The studies on superior–subordinate conflict relate to this type of conflict.

c. Intragroup Conflict

This type of conflict is also known as intradepartmental conflict. This conflict involving members of a group or between two or more subgroups within a group in connection with its goals, tasks, procedures, and so on. Such a conflict may also occur as a result of incompatibilities or disagreements between some or all the members of a group and its leader(s).

d. Intergroup Conflict

This type of conflict is also known as interdepartmental conflict. This conflict is involving two or more units or groups within an organization. Conflicts

between line and staff, production and marketing, and headquarters and field staffs are examples of this type of conflict. On special type of intergroup conflict is between labor and management.

Another way of viewing conflict is by classifying it based on its sources. In this regards Rahim (2001) mentioned such classification based on its sources is often made on the basis of the antecedent conditions that lead to conflict. He further pointed out that it is appropriate to classify conflict based on its sources for proper understanding of its nature and implications. The classifications along with its brief are as follows:

- **Affective Conflict**

  Some other researchers labeled this type of conflict as psychological conflict, relationship conflict, emotional conflict and interpersonal conflict. Such conflict often characterized by anger, frustration and other negative feelings as group members have interpersonal clashes. It occurs when two interacting social entities, while trying to solve a problem together, become aware that their feelings and emotions regarding some or all the issues are incompatible. This conflict is related with the feelings or emotions of the parties in conflict & it has nothing to do with task or business-related issues.

- **Substantive Conflict**

  Some other researchers labeled this type of conflict as task conflict, cognitive conflict and issue conflict. It refers to members of the group having disagreement on the ideas, opinions, and their tasks being performed. This conflict has no relation with the feelings and emotions of the parties in conflict.

- **Conflict of Interest**

  Conflict of interest is defined as inconsistency between two parties in their preferences in allocating the scarce resources.

- **Conflict of Values**

  When two social entities differ in their values or ideologies on certain issues, an *ideological* conflict is occurred.

- **Goal Conflict**

  When a preferred outcome or an end-state of two social entities is inconsistent, a *goal* conflict is occurred. In rare cases it may involve divergent preferences over all of the decision outcomes, constituting a zero-sum game.

- **Realistic versus Nonrealistic Conflict**

  Realistic conflict refers to incompatibilities that have rational content (i.e., tasks, goals, values, and means and ends), it is also associated with rational or goal-oriented disagreement. While nonrealistic conflict occurs as a result of a party's need for releasing tension and expressing hostility, ignorance, or error and associated with an end in itself having little to do with goals.

- **Institutionalized versus Non-institutionalized Conflict**

  These type of conflicts are derived from the existences of three conditions are involved, the actors follow explicit rules, the actors display predictable behavior and their relationship has continuity. A conflict which involving these three conditions is said to be an *institutionalized* conflict.

- **Retributive Conflict**

  This conflict is characterized by a situation where the conflicting entities feel the need for a drawn-out conflict to punish the opponent. In other words, each party determines its gains, in part, by incurring costs to the other party (Saaty, 1990, p. 49). Examples of retributive conflicts are Northern Ireland and Palestinian– Israeli conflicts and the Cold War between the former superpowers.

- **Misattributed Conflict**

  This type of conflict relates to the incorrect assignment of causes (behaviors, parties, or issues) to conflict (Deutsch, 1977).

- **Displaced Conflict**

  It occurs when the conflicting parties either direct their frustrations or hostilities to social entities who are not involved in conflict or argue over secondary, not major, issues (Deutsch, 1977).

Organizational conflict as it stands now is considered legitimate and inevitable and a positive indicator of effective organizational management. It is now recognized that conflict within certain limits is essential to productivity. Conflict can be functional to the extent to which it results in the creative solution to problems or the effective attainment of subsystem or organizational objectives that otherwise would not have been possible. Little or no conflict in organizations may lead to stagnation, poor decisions, and ineffectiveness. On the other hand, organizational conflict left uncontrolled may have dysfunctional outcomes (Rahim, 2001, p. 12).

Rahim (2001) also emphasized that if today's organizations want to respond effectively to the challenge of intense global competition, they have to require their supervisors and employees to learn new behaviors.

2.2. PROJECT AS ONE FORM OF ORGANIZATION

2.2.1. PROJECT VS OPERATION

In achieving organization's set of objectives, organization may take some forms. There are at least two common forms that organization may select to do so. The first one is an on-going operation while the second is project. Project Management Institute (2004) noted that some common characteristic of these two forms are as follows:

- Performed by people
- Constrained by limited resources

- Planned, executed, and controlled

Project Management Institute (2004) further explained the differentiator between these two forms by saying that "projects and operations differ primarily in that operations are ongoing and repetitive, while projects are temporary and unique" (p. 6). It is therefore Project Management Institute (2004) defines project as "a temporary endeavor undertaken to create a unique product, service, or result" (p. 5).

There are some characteristics that Project has while on-going operation does not. According to Project Management Institute (2004) such characteristics are as follows:

- Project is temporarily in nature

  In short, project does have a definite beginning and an end while operation's intrinsic motive of existence is to last forever. However this does not mean that a business entity which has chosen operation as its means to achieve its objectives could not choose and perform a project. In some cases where an endeavor requires competencies and capacities that beyond operation limit of the organization, then such organization could set-up a project team either by assigning its internal resources or engaging other entity outside the organization to perform it.

  Consider a car manufacturing company which intends to expand its manufacturing plant by building a new facility. Manufacturing process is an on-going operation. Internally it has no competencies and capacities to perform detail engineering and build this new facility. Management of this car manufacturing company has the option to engage other service provider outside the organization to perform such specific activities.

  Consider the same car manufacturing company, at the end of year intends to launch a new product recently developed to the market in the pursuit of

acquiring more shares of the market. Management sees the need to set-up a dedicated team from within the organization to plan, execute and control the launching ceremony.

These two examples tell us that even an organization in which its profit generating activities are on-going operations could also at certain situation undertaking a project and the project teams can either be out-sourced from outside of or within the organization.

Project is considered to be ended when it has achieved its objectives, or else it is clear to the undertaking organization that the project objectives could not be met for some reasons.

Consider the same car manufacturing company's launching ceremony. The dedicated launching team was set-up by the management once the new product development's progress reaching 80%. Under this situation, the dedicated project team was established during that time and once the launching ceremony was successfully conducted, the same dedicated project team will be terminated and its resources were transferred back to their original respective functional organization. It has a definite beginning and an end, this explains why we call such dedicated team as a project team instead of operation team.

- Project creates unique products or services or results

  The key word here is unique. Unique signifies the difference between a project and an operation.

  Consider the same car manufacturing company is expanding its manufacturing facility. It intends to have this new facility be built nearby the current facility, with the same design and operating capacity compared to the current facility.

The current facility was built by Contractor X several years back and has been in operation for certain years without any significant disruption or un-planned shutdown or in other word, it meets the design & operating criteria set-out by the company.

The car manufacturing company does not have civil, mechanical and electrical engineers to perform detail design engineering with design and construction drawings as its deliverables. It also does not have the required heavy construction facilities to build such new facility. It will not be economically viable for them for setting-up a new engineering and construction teams, acquiring new heavy construction equipment while such resources are only required temporarily. It is therefore commonly and logically the car manufacturing company seeks other organization to undertake such activities through a tender process.

After conducting a tender process, apparently Contractor X whom built the current facility un-successfully participating in the tender process and Contractor Y awarded the contract. The same business processes, in this case, performing detail engineering, procurement and construction activities were undertaken by Contractor Y. During the execution Contractor Y has contractual obligations to follow and meet the technical and functional specifications or requirement including operation readiness deadline of the new facility set out by the car manufacturing company as their client.

This example tell us that even though an endeavor is having the same client, the same technical and functional specifications and requirement, the same construction location, however as it is executed by a different contractor it is still be considered as unique, therefore such endeavor is called as a project, a manufacturing expansion project instead of expansion operation.

- Project is always involving a progressive elaboration

  Project Management Institute (2004) explains progressive elaboration as "continuously improving and detailing a plan as more detailed and specific information and more accurate estimates become available as the project progresses, and thereby producing more accurate and complete plans that result from the successive iterations of the planning *process*" (p. 368).

  Consider a situation in which Oil Company intends to develop one of its exploration blocks by constructing a gas production facility. This block is located offshore and it is expected that it can produce gas at certain volume per day and be further transported via subsea pipeline to the end user's receiving terminal located onshore. Commonly before proceeding with conducting a tender process, Oil Company has already acquired some basic information related to the block. Such basic information includes water depth, soil condition, seabed surface condition, crossing point with existing subsea pipeline or cable, if there is any, characteristic of the gas, etc. All such basic information are usually be referred and compiled as what commonly called as Design Basis and/or Company Provided Information. Beside this basic information, Oil Company also has set out technical and functional specifications and requirement including the expected facility's performance or throughput and facility's life time.

  It is then the responsibility of the awarded Contractor to perform the progressive elaboration efforts during execution of the project. One example of the progressive elaboration is performing a site survey to double check if all provided information is correct or acquiring some additional information so that detail engineering activities can be performed correctly by also taking into account any findings found during the site survey. In certain cases, such progressive elaboration efforts revealed some information that potentially

> change the subsequent works, for example change the subsea pipeline routing or location (geographical coordinates) of the gas processing facility. The process of counter checking and validating all the provided information along with efforts to meet the technical and functional specifications and requirement is an example of what it is called as progressive elaboration.

Because of the project characteristics i.e. temporary, unique and involving progressive elaboration, it is widely known that project always has to deal with triple-constraint which consists of project scope, time and cost while project quality is affected by balancing these three constraints (Project Management Institute, 2004, p. 8).

These three constraints are affecting each other. The change in subsea pipeline routing is a good example for explaining the relationship between these three constraints. Such routing change will affect the total quantity of pipeline material Contractor has to purchase, it can be more or less, depends on the situation as to whether the results of the routing design optimization are favorable or not. Regardless of the final quantity of pipeline material that has to be purchased, the scope of the project is changed. The consequences on the time constraint is also obvious as the final quantity of the pipeline material will affect its delivery time and in the end it also affects the overall project schedule, particularly the completion date in which typically a penalty or liquidated damage provision is associated with. In this regards the required time to complete the project would also change, it can be shorter or the worst case is becoming longer. Under the situation that the final quantity is increased, project has to spend more budgets to cope with the additional quantity of the pipeline material, then the budget or cost is also changed or affected. Project Management Institute (2004) mentioned that “the relationship among these factors is such that if any one of the three factors changes, at least one other factor is likely to be affected” (p. 8).

Because of the degree of complexity resulting from the nature of relationship between these three project constraints, the uncertainties involved and project stakeholders' various expectations, it is then understandable that project success is typically defined as meeting the defined scope, schedule, budget and customer's quality requirements.

The question is then when an organization should implement or invoke into project approach instead of routine operation? Turner and Muller (2003) tried to provide practical guidelines to answer such question. Both of them developed a table outlining the features that project has and based on this table organization may assess it's intend and objectives they would like achieve and make a decision. Table 2.2 is the table developed and suggested by them.

TABLE 2.2. FEATURES OF THE PROJECT

AIM	FEATURES	PRESSURES	PROCESSES
To deliver	Unique	Uncertainty	Flexible
Beneficial	Novel	Integration	Goal oriented
Change	Transient	Transience	Staged

Source: Turner and Muller (2003)

Turner and Muller (2003) further suggested that "an endeavor that had many of those features would be better managed as a project, but that one that had only a few would be better managed as a routine operation" (p. 1). A combination between project and routine approaches might want to be considered under the circumstances that if the endeavor in concerned only has some of the features.

Turner and Muller (2003) also stated that these project features create pressures to the Project Manager and the undertaking organization and such pressures are as follows:

- Projects are subject to uncertainty: we cannot be certain that our plans will deliver the required project outcomes or desired beneficial change.
- They create a need for integration: of the resources to do the project, between different parts of the project, and of the project into the business.

- They are undertaken subject to urgency: of delivering the desired outcomes within the desired time scales (p. 1).

Turner and Muller (2003) further emphasized that “it is these three pressures that are special to project management, not the management of time, cost and quality, which is shared with routine operations management” (p. 1).

2.2.2. PROJECT’S LIFE CYCLE

In order to better manage & control a project, commonly Project Manager or the undertaking organization’s management divides project into several phases. The completion and approval of certain project deliverables usually considered as a milestone of a project phase. These phases, collectively, are defined as project life cycle. The project life cycle connects the beginning and the end of the project.

There are several ways in determining the project life cycle. Some organization set out a policy standardizing such project life cycle and imposes that it is applicable to all projects they are executing. Some other organizations provide room of flexibility to the project team member to choose and define their own project life cycle applicable to their specific project’s requirement and environment. Another factor involving in selecting and defining the project life cycle is industry common practices. The later tends to drive more the project team to select and define the project life cycle following the preferred life cycle within the industry.

Project Management Institute (2004) specified that most of the project life cycles share some common characteristics. Such characteristics are:

- Phases are generally sequential and are usually defined by some form of technical information transfer or technical component handoff.
- Cost and staffing levels are low at the start, peak during the intermediate phases, and drop rapidly as the project draws to a conclusion.

- The level of uncertainty is highest and, hence, risk of failing to achieve the objectives is greatest at the start of the project. The certainty of completion generally gets progressively better as the project continues.
- The ability of the stakeholders to influence the final characteristics of the project's product and the final cost of the project is highest at the start, and gets progressively lower as the project continues. A major contributor to this phenomenon is that the cost of changes and correcting errors generally increases as the project continues (p. 21).

In order to provide more clarity on the concept of the project cycle, let's consider again the case in which Oil Company intends to develop one of its blocks so that the gas reserve can be lifted, processed and transported to the end user's receiving terminal or facility. In such construction project situation, commonly the project is divided into detail engineering, procurement and construction phases.

Certain deliverables are expected to be produced by the detail engineering team. Such deliverables include calculations, datasheets, drawings and material take-off. Some of the deliverables would be considered as an input for the following phases. For example, the material take-off would be considered by the procurement team as an input for them to start the solicitation or inquiry process.

Subsequently after proposals are received from suppliers, both technical and commercial evaluations are being conducted. Once conclusion has been decided a purchase order or an agreement is then issued and executed by the parties involved and manufacturing of the goods is then started.

The detail drawings produced by the detail engineering team as well as materials delivered to the construction site would be the deliverables considered by the construction team as their input to start the construction phase of the project.

This illustration gives us an example of transferring process of technical information as well as technical component handoff. The material take-off and detail drawings are considered as technical information while the materials delivered to the construction site is technical component handoff.

At the start of the project, highest risk of not completing the project on time and within the budget looks very obvious. This is understandable considering one of the characteristic that a project has is progressive elaboration. Once more certainties are identified and details can be developed based on such certainties such risk would be lowered and finally diminishing at the completion of the project.

The statement related to the highest level of influence at the start or early phase of the project, particularly from the stakeholders is also understandable considering that cost of changes or correcting errors tend to increase from early phase to the final phase. Again this is also closely associated with progressive elaboration as a characteristic of a project. And previous example or explanation of the change on the pipeline routing is also relevant in this case. Figure 2.2. provides the illustration on relationship between cost of changes with stakeholder's influences overtime.

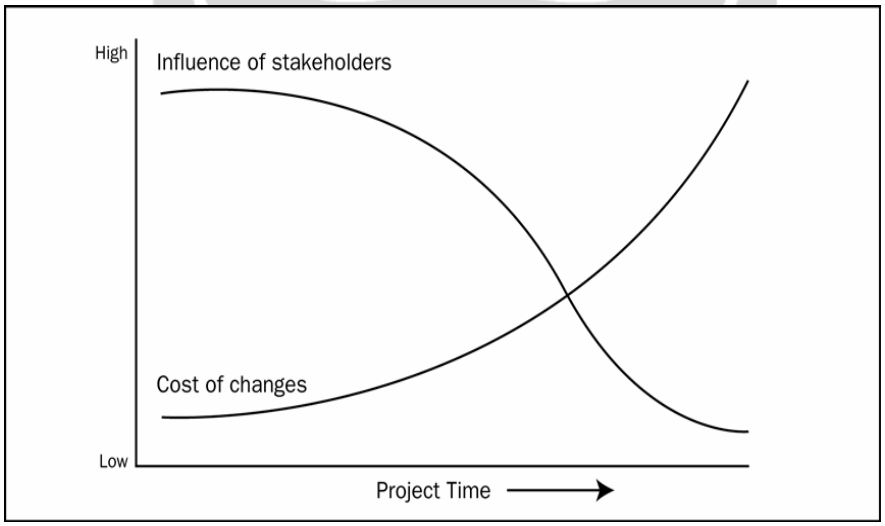


FIGURE 2.2. COST OF CHANGES & STAKEHOLDER'S INFLUENCES OVER TIME

Source: Project Management Institute (2004, p. 21)

Back to the three pressures created by the characteristics of project and introduced by both Tuner and Muller (2003), the importance of the project life cycle is further re-emphasized as all of the pressures i.e. uncertainty, needs for resources integration and pressure of time are addressed. Identifying, assessing and choosing the right or appropriate project life cycle becomes important factor to ensure successful project execution and completion.

2.2.3. PROJECT ORGANIZATION STRUCTURE

Form or type of organization structure is an important factor and affects performance of the organization as a whole. In the context of project, Project Management Institute (2004) identified some of the project organization structure and differentiates the possible structures based on Project Manager's authority, resource availability, control over budget, Project Manager's role and administrative staff type of assignment.

Authority of the Project Manager becomes a differentiator factor considering there is a need to have someone to manage the three pressure factors introduced by Tuner and Muller (2003) i.e. uncertainties, integration of resources and time limit pressures. A project which intrinsically has higher uncertainties, complexities and stakes at hand require different level of authority to be delegated to the Project Manager and it is different compared to those of authority for managing a project having less uncertainties, complexities and stakes at hand. Such argument is also applicable to other factor of differentiators.

Degree of specialization and coordination required are factors that need to be considered in determining the structure of organization, according to Project Management For Development Organizations (2007). While Wideman (2002) mentioned in his Comparative Glossary of Common Project Management Terms

v3.1, stated that the type of project organization structure shall be supporting its project's Key Performance Indicator and Critical Success Factors.

Organization Structure / Project Characteristics	*Functional*	*Matrix*			*Projectized*
		Weak Matrix	**Balanced Matrix**	**Strong Matrix**	
Project Manager's Authority	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Resource Availability	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Who controls the project budget	Functional Manager	Functional Manager	Mixed	Project Manager	Project Manager
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Project Management Administrative Staff	Part-time	Part-time	Part-time	Full-time	Full-time

FIGURE 2.3. TYPICAL PROJECT ORGANIZATION STRUCTURE
Source: Project Management Institute (2004, p. 28)

There are two extreme situations which put functional at one extreme and projectized at the other extreme and in an effort to find a middle ground; there is a matrix organization with some various possibilities such as weak, balanced and strong matrix. Gobeli and Larson (1987) used another term for the matrix structures. They introduced functional matrix, balanced matrix and project matrix for weak, balanced, and strong matrix respectively.

Below is summary of results from several studies conducted by researchers on the project organization structures:

- Gray (1990) concluded that construction projects more frequently use a project matrix.
- Chuad et al. (1995) found out that from 84 case studies in Hong Kong, 64% of the projects implement matrix structure.
- Turner et al. (1998) found out that 64% of cases implement strong matric structure, 23% implement weak matrix structure and 13% of the cases

implement balanced matrix structure. Study was conducted on the USA government research and development center.

- Hyvari (2006) revealed that 68% of the cases, observed projects were implemented matrix structure. Hyvari (2006) studied 78 companies from various industrial sectors including manufacturing, engineering and construction, telecommunication services, softwares and IT, public administration and education, and others.

Interestingly both Gray (1990) and Hyvari (2006) documented the same result i.e. both projectized (project team) and project (strong) matrix were considered as the most effective project organization structure. Hyvari (2006) concluded further that "the shift towards competitive global markets demands faster change and response from the subject organizations. Under these circumstances, the traditional functional organization is not the best structure. Traditional functional organizations have frequently had to form project teams to respond to rapidly changing market conditions" (p. 223). Figures 2.4, 2.5, 2.6, 2.7 illustrate the functional (weak), balanced, strong (project) matrixes and projectized organization structures.

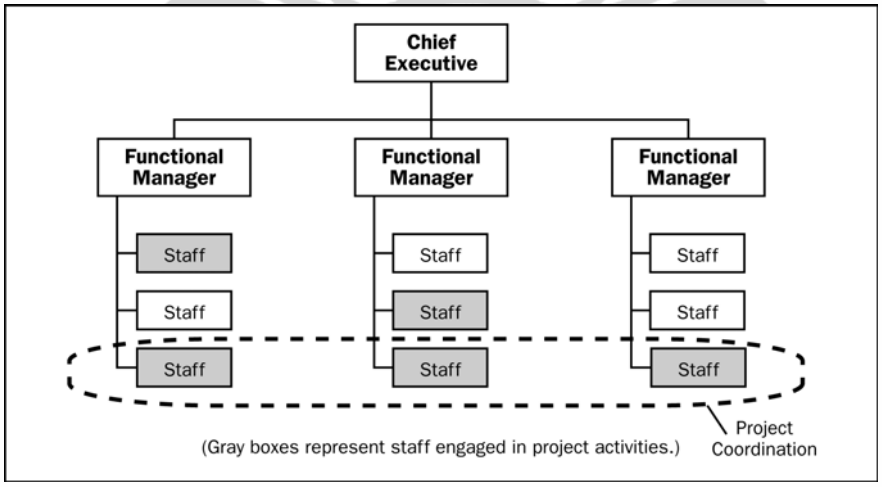


FIGURE 2.4. WEAK (FUNCTIONAL) MATRIX ORGANIZATION
Source: Source: Project Management Institute (2004, p. 30)

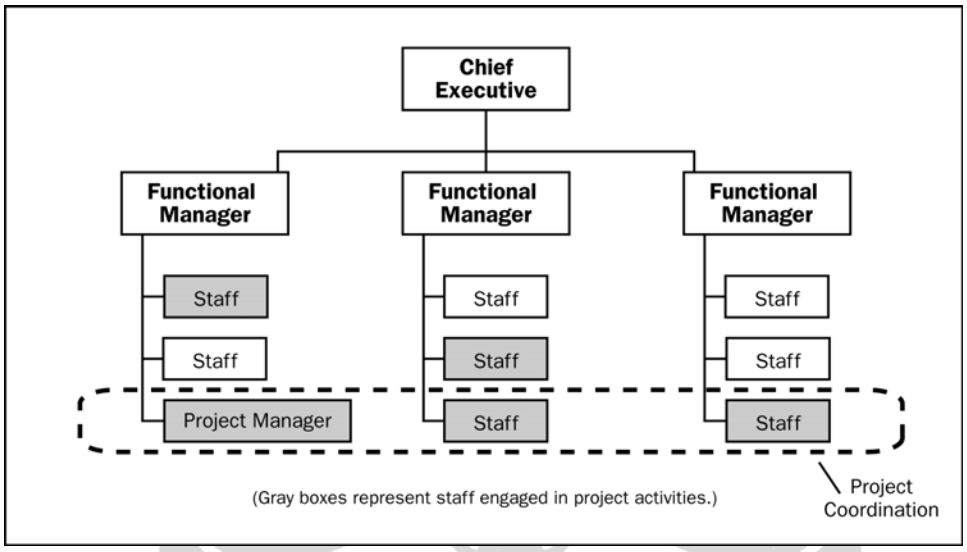


FIGURE 2.5. BALANCED MATRIX ORGANIZATION
Source: Source: Project Management Institute (2004, p. 30)

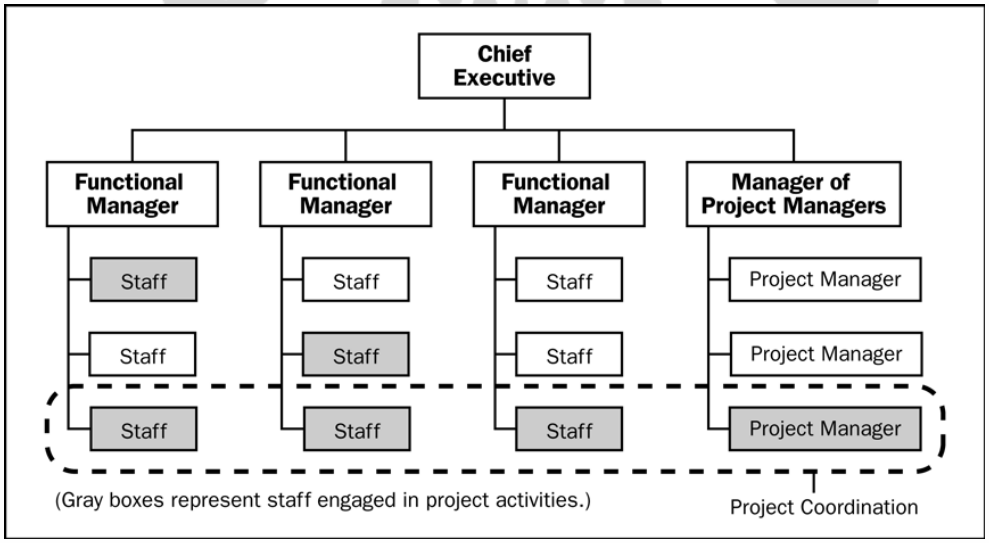


FIGURE 2.6. STRONG (PROJECT) MATRIX ORGANIZATION
Source: Source: Project Management Institute (2004, p. 31)

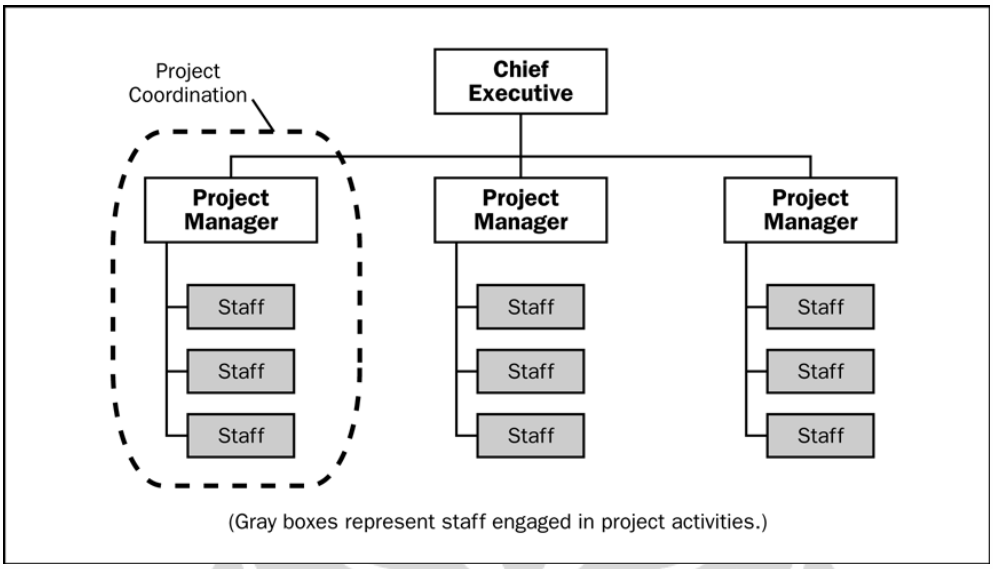


FIGURE 2.7. PROJECTIZED MATRIX ORGANIZATION
Source: Source: Project Management Institute (2004, p. 29)

Looking back at the differentiating factors of the organization structure such as role and authority of Project Manager, resource availability, budget control, project administrative staff type of assignment, all of these factors might become a source of conflict in a project which will be discussed further in detail in the next sub-chapter.

2.2.4. PROJECT PERFORMANCE

Hyvari (2006) in pursuit to seek answer as to what is the definition of effective project management and what are the critical success factors concluded the following important points:

- Project managers should have a good knowledge of project management and especially of contracts and contract techniques
- Project personnel and especially project managers´ experience, especially in change management was perceived to have great significance for project success
- In managing projects, it is important to know how to handle both the tools and the people, and to keep a balance between these

- organizational design is associated with project management effectiveness
- project (strong) matrix and project team-based (projectized) organizations are the most effective
- planning/organizing, networking and informing are the most significant managerial practices of leadership behavior that associated positively with effective project manager
- the characteristics of an effective project manager as follows: (s)he must be able to communicate and inspire people to become motivated, and in addition (s)he must be decisive enough
- communication, client consultation and client acceptance as the most important factors during project implementation (p. 26-27).

Hyvari (2006) emphasized that **"**the overall findings of this paper imply that technical project management tools and methods are so developed and widely used that now it is time to turn the focus on developing leadership skills" (p. 223).

Anantatmula (2010) stated the following supporting what has been concluded by Hyvari (2006) as follows:

> In spite of advances in the project management profession, research studies have shown that many projects fail, underlining the importance of the project manager's role as manager. Specifically, the manager's leadership role is of great importance in motivating people and creating an effective working environment in order for the project team to meet greater challenges in today's global economy (p. 1).

Anantatmula (2010) emphasized that "people-related" issues play a crucial role in project performance, underlining the importance of a project manager's management and leadership roles" (p. 14). He further studied and summarized his literature review

results on these people-related factors and concluded that there are seven significant people-related factors that are attributed to successful project completion as follows:

- **Create clarity in communication.** Defining project goals and likely project outcomes clearly and early in the project is critical, and failure to do so would lead to identifying some of the project requirements at a later stage. This would cause changes to the project plan resulting in time and cost overruns.
- **Define roles and responsibilities**. At the outset, defining roles and responsibilities of project team members without ambiguity is imperative for improving performance and managing conflicts. This practice will lead to effective use of the project team members and help functional departments extend their support.
- **Communicate expectations**. Defining project outcomes and establishing what is expected from all the stakeholders will eventually eliminate perceived and actual incidences of not delivering expected results. This is specifically true with stakeholders within and outside the project who are not routinely involved with projects.
- **Employ consistent processes**. Developing and deploying consistent and formal project management processes assist in improving operational efficiency, managing risk, and reducing ambiguity. Ultimately, these processes would lead to project management maturity.
- **Establish trust**. An environment of trust is influenced by the organizational culture which promotes transparency and openness in their communications. Trust among the project team members to work cohesively would lead to knowledge sharing and collaboration.
- **Facilitate support.** Top management support translates into willingness of everyone in the organization to support the project. Obtaining support is a challenge in traditional organizations where functional managers control resources.
- **Manage outcomes.** Clearly defined project mission and objectives would help us develop a formal evaluation of project outcomes to determine project

success. It promotes performance, motivation, recognition, and synergy in teams (p. 16).

Having gathered and analyzed all the feedbacks of the survey, Anantatmula (2010) noted that such seven people-related factors can be re-arranged based on its order of importance/priority as follows:

1. Define roles and responsibilities
2. Communicate expectations
3. Create clarity in communication
4. Establish trust
5. Employ consistent processes
6. Facilitate support
7. Manage outcomes

Anantatmula (2010) gone even further by establishing a project performance model as depicted in Figure 2.8 below, this model can be used to analyze the factors either as enabler or barrier to successful project completion.

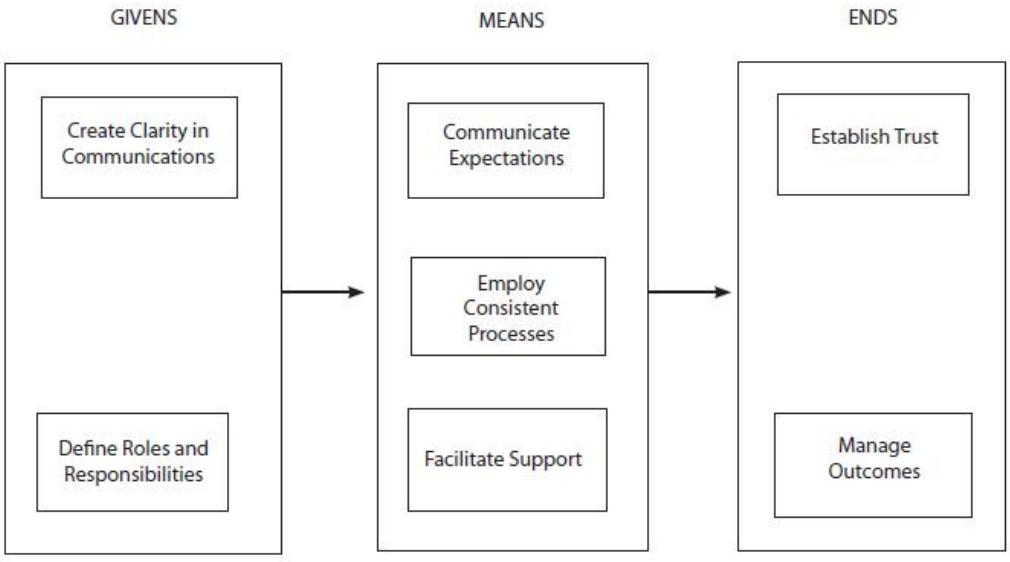


FIGURE 2.8. PROJECT PERFORMANCE MODEL

Source: Anantatmula (2010, p. 18)

2.2.5 SUCCESSFUL PROJECT AND ITS CRITERIAS

Discussion on the criteria of successful project seems to be a never ending story. The contemporary criteria such as completed on time, within the budget and meeting Customer's quality requirements are considered not enough or incomplete. Ika (2009) mentioned that it is difficult to define the concept of project success and so far there is no consensus over the question of what constitutes project success or project failure. Ika (2009) reviewed 30 selected articles from both Project Management Journal and International Journal of Project Management published between January 1986 and March 2004 discussing about project success.

TABLE 2. 3. EVOLUTION OF RESEARCH FOCUS ON PROJECT SUCCES

Research Focus	Period 1 1960s–1980s	Period 2 1980s–2000s	Period 3 21st Century
Success criteria	"Iron triangle" (time, cost, quality)	Iron triangle	Iron triangle
		Client satisfaction	Strategic objective of client organizations and business success
		Benefits to organization (org)	Benefits to organization (org)
		End-user's satisfaction	End-user's satisfaction
		Benefits to stakeholders	Benefits to stakeholders
		Benefits to project personnel	Benefits to project personnel and symbolic and rhetoric evaluations of success and failure
Success factors	Anecdotic lists	Critical Success Factor lists and frameworks	More inclusive Critical Success Factor frameworks and symbolic and rhetoric success factors
Emphasis	Project management success	Project/product success	Project/product, portfolio, and program success and narratives of success and failure

Source: Ika (2009, p. 6-19)

It can be seen from Table 2.3 that beside there is no consensus on what constitutes project success or failure; there is also an evolution or shifting of focus of study on the same issue. Interestingly, however the triple constraint or iron triangle is remain exist over time. Table 2.3 also provides us with the indication that there are two main approaches in studying the concept of project success. Studying the concept by using criteria framework and success factor framework, and of course some of the researchers tried to establish the link between these two frameworks.

Ika (2009) highlighted the difference between project management success and project success by saying that:

> Project management success refers to efficiency, an internal concern to the project team, and project success embraces concerns for efficiency and effectiveness—in other words, all concerns, whether internal or external, short-term or long-term. Project management success may ultimately lead to project success, but the opposite is not true: it is reasonable to assume that failure in project management may lead to project failure, except under fortuitous circumstances, but that the project can also fail despite successful project management. *Ceteris paribus*, project management success would be neither a necessary nor a satisfactory condition for project success (p. 13).

Ika (2009) further concluded that despite the fact that so far there is no consensus over the criteria of project success, project objectives therefore represent constraints on project managers and their promoters and serve as guidelines for evaluating success (p. 14).

2.3. CONFLICT IN PROJECT ORGANIZATION

Project is one form of organization so that conflicts also happen in a project. Verma (1998) concluded that conflict is as inevitable in a project environment as change seems to be. There is always a potential for conflict to happen during the course of

the project knowing that project team member interact in trying to complete their tasks and responsibilities. Verma (1998) also highlighted that it is virtually impossible for people with diverse background skills and norms to work together; make decisions, and try to meet project goals and objectives without conflict. Therefore, Project managers must identify, analyze, and evaluate both positive and negative values of conflict and their effect on performance. Attitudes and conflict management styles play an important role in determining whether such conflict will lead to destructive or mutually beneficial outcomes.

At least there are three studies have been performed and trying to identify the sources of conflict in a project. The first study was conducted by Thamhain and Wilemon (1975). Thamhain and Wilemon (1975) have identified seven major sources of conflict in project management based on their research conducted in a private manufacturing company. These sources are as follows based on its rank:

1. conflict over schedules
2. conflict over project priorities
3. conflict over human resources
4. conflict over technical opinions and performance trade-offs
5. conflict over administration procedures
6. personality conflict
7. conflict over cost and budget

The second study was performed by Posner (1986). Posner (1986) found that the seven sources of conflict in a project identified and ranked by Thamhain and Wilemon are valid; however the rank is change as follows:

1. conflict over schedules
2. conflict over cost and budget
3. conflict over project priorities
4. conflict over human resources

5. conflict over technical opinions and performance trade-offs
6. personality conflict
7. conflict over administration procedures

The main differences between these two studies are related to conflict over cost and budgets and conflict over administration procedures. Conflict over costs and budget changes its rank from rank number seven to number two; this might be explained by the fact of global competition. While conflict over administration procedures changes from rank number five to seven, this can be explained by noting that over the years acceptance to project management concepts, strategies, and techniques is getting wider (Schilling & Edward, 1989).

The third study was performed by Hyvari (2006) and found out that the order or rank was changed compared to those of Posner (1986) and Thamhain and Wilemon (1975). Comparison of these three studies is summarized in Table 2.4 below.

TABLE 2.4. SOURCES OF CONFLICT IN A PROJECT

	Hyvari	Posner	Thamhain & Wilemon
Schedules	3	1	1
Administrative procedures	7	7	5
Personality conflicts	4	6	7
Manpower resources (staffing)	1	4	3
Project priorities	5	3	2
Technical conflicts	6	5	4
Cost objectives	2	2	6

Source: Hyvari (2006, p. 216-225)

If we look at the most recent study which is the one conducted by Hyvari (2006), interestingly manpower resources (staffing) is now become ranking number one, cost remains at the second position and schedules related conflict is now on third position.

Knowing the importance of conflict management and its impact to the organization and its performances, scholars have developed typologies of conflict management and mainly based on Blake and Mouton (1964) managerial grid's conceptual foundation. Blake and Mouton presented five general techniques for resolving conflict:

- Withdrawing
- Smoothing
- Forcing
- Compromising
- Collaborating/confronting/problem solving (also referred to as negotiating).

These five approaches were conceptualized based on the two dimensions that has been labeled by Thomas (1976) as "desire to satisfy one's own concern" and "desire to satisfy other's concern". Rahim and Bonoma (1979) later labeled it as "concern for self" and "concern for other". A person approaches toward conflicts in someway incorporating both dimensions in varying degrees.

According to Souren et al. (2005), these five approaches toward conflicts are then documented as follows based on Rahim (1983, 1992) and Thomas and Kilmann (1974):

- **Avoidance style** (low concern for others and low concern for self) is associated with intentionally withdrawing from the conflict situation.
- **Accommodating style** (high concern for others and low concern for self) refers to focusing on areas of agreement and thus smoothing over differences. This style refers to the tendency of being more concerned with others' needs and views than one's own.
- **Competition style** (low concern for others and high concern for self) is described as forcing one's own views on others. Individuals exhibiting this style of conflict resolution would have no or low concern for others' interests or needs and would wrestle with the others so that one's views and concerns would be the dominant ones.

- **Collaborative style** (high concern for others and high concern for self) pertains to integrating the views of all involved.
- **Compromise** (moderate concern for all) is associated with finding a middle ground solution. This occurs when members focus on finding a common solution that addresses everyone's interest.

Figure 2.9 illustrates Thomas – Kilmann approaches toward conflicts.

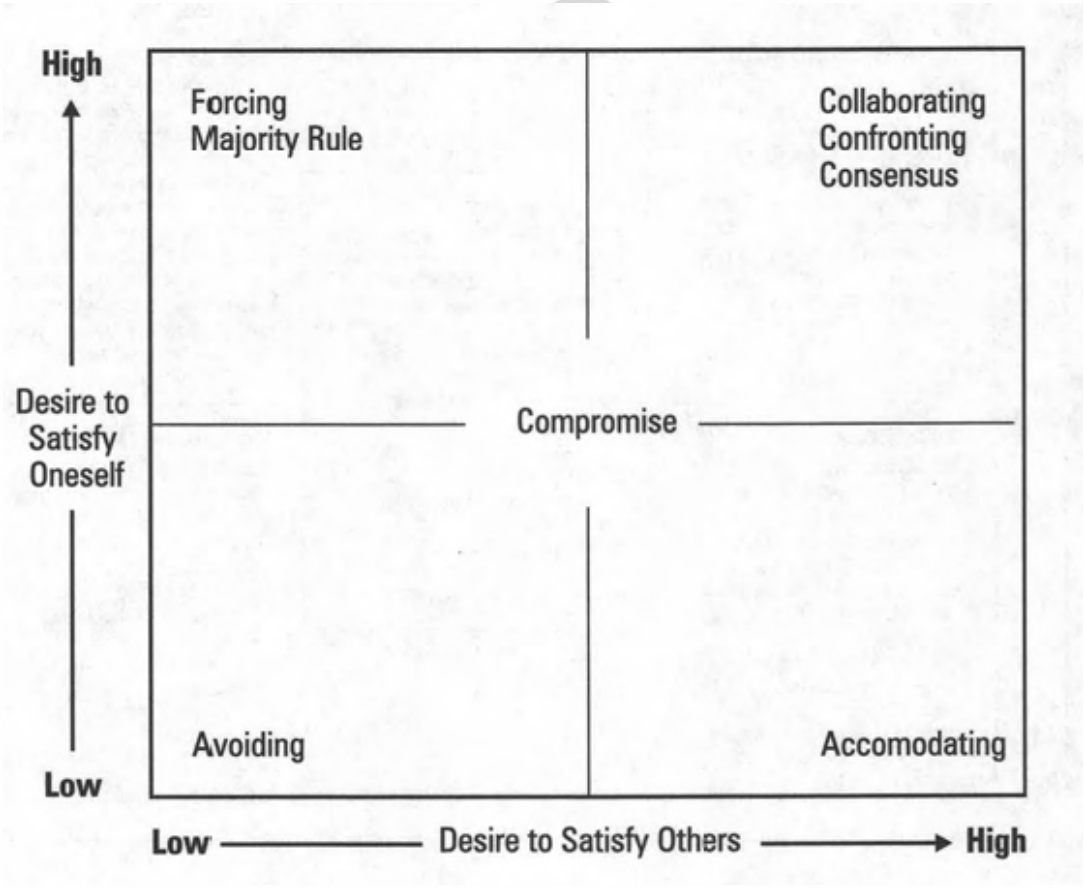


FIGURE 2.9. THOMAS – KILMANN CONFLICT APPROACHES

Source: Thomas (1976, p. 900)

Tjosvold (1985) noted that research on conflict management by Project Managers has little utilized the considerable experimental research on conflict. The two stream of researches i.e. organizational and experimental research have used different methods, terminology, theory, publication with little reference to each other. According to

Barker et al. (1988) organizational researchers may suspect that findings from laboratory experiments will not generalize to organizations. Beside that, they have focused too much on identifying the best approach rather than developing a contingency perspective. However, on the other hand, experimental research has developed theory and its finding have been consistent with the high internal validity. Barker et al. (1988) attempted to connect these two streams of research by creating questionnaire items which derive directly from a well established chain of theory and experimental. The questionnaire was created based on the characteristics of each of the following conflict approaches that can be summarized as follows:

- **Co-operative** - emphasis upon mutual goals, orientation toward joint benefit, understanding everyone's views, and incorporation of several positions to form a solution good for all (Deutsch, 1973, 1980)
- **Confirming** - conveys that the other person is accepted as effective, avoids insults and blaming (Tjosvold *et al.*, 1980)
- **Competitive** - assumes that the conflict is a win-lose struggle, attempts to make the other conform to his or her views, forceful presentation and coercion (Deutsch, 1973)
- **Avoiding** - tries to maintain harmony and smooth over differences, avoids expressing frustration and anger (Tjosvold, 1982; Tjosvold and Deemer, 1980)

Baker et al. (1988) concluded the study by saying that “in project teams where the managers used a combination of co-operative and confirming approaches to conflict, conflicts were judged to have a constructive impact and management was judged to be effective. Conflicts were seen as counterproductive and management was seen as ineffective when the project manager relied upon a combination of competitive and avoiding approaches to conflict” (p. 1).

Table 2.5 below mapping the conflict management approaches introduced by Thomas and Kilman (1974) and Barker et al. (1988).

TABLE 2.5. CONFLICT MANAGEMENT APPROACHES MAP

Thomas and Kilmann's		Barket et al.	
Individuals pursue their own goals at the expense of others.	**Competing**	**Competitive**	assumes that the conflict is a win-lose struggle, attempts to make the other conform to his or her views, forceful presentation and coercion
Individuals support others in the pursuit of their goals.	**Accomodating**	**Confirming**	conveys that the other person is accepted as effective, avoids insults and blaming
Individuals neglect their own goals and those of others.	**Avoiding**	**Avoiding**	tries to maintain harmony and smooth over differences, avoids expressing frustration and anger
Individuals attempt to find ways for themselves and others to achieve their goals	**Collaborating**	**Co-operative**	emphasis upon mutual goals, orientation toward joint benefit, understanding everyone's views, and incorporation of several positions to form a solution good for all
Individuals attempt to partially fulfill their own goals and those of others.	**Compromising**		

Source: modified from Thomas and Kilmann (1974) and Barker et al. (1988)

Barker et al. (1988) noted that studies involving compromising as a mean of conflict resolution often yields inconsistence findings, this is why they remove from their study.

In the context of project management, Verma (1998) stressed-out that Project Manager must analyze the situation and select the appropriate mode for managing conflict within their project organizations in order to create a climate conducive to achieving a constructive outcome.

Verma (1998) however noted that "since each conflict situation is unique and dynamic, it is difficult to recommend the best conflict resolution approach" (p. 7). He further suggested that appropriate conflict approach can be selected by considering the following factors:

- Type and relative importance of conflict

- Time pressure
- Position of the players involved
- relative emphasis on goals versus relationships

Hill (1977) studied and identified things that project manager of successful project did and project manager of unsuccessful projects did not, such things are as follows:

- Personally absorbed aggression
- Communicated and listened effectively
- Counseled their teams to maximize their output
- Encouraged openness, emotional expression, and new ideas
- Sewed as role models in planning, delegating, and so forth
- Minimized potential conflict whenever possible
- Stimulated conflict to foster creativity and innovation

Verma (1998) highlighted that Project Manager has also to acknowledge the existence of different of cultures among the project team members that might potentially causing a conflict.

Some researchers on conflict management such as Augsburger (1992), Rahim (1992), Thomas (1992), Wall & Callister (1995) have also asserted that culture has a strong influence on conflict management modes adopted or preferred by individuals.

CHAPTER 3
RESEARCH METHODOLOGY

This chapter outlines on how this research is being conducted. This research is being conducted by modifying and distributing questionnaire of Barker et al. (1988) to measure correlation among conflict management approaches i.e. cooperative, confirmative, avoiding and competitive, intensity of the project conflict, constructiveness of the project conflict and effectiveness of the project management.

3.1. RESPONDENTS OF THE SURVEY

For the purpose of this research, a questionnaire was modified from Barker et al. (1988)'s questionnaire and survey was conducted. The respondents of the survey were engineers or technologists, subsequently would be called as project team members had worked in the upstream sector of the Oil and Gas industry in Indonesia at least 2 years in the project(s).

The significances of this sector are mainly because it contributes at least 30% of the Government of Indonesia's state revenue in the period of fiscal year 2004 - 2009, the cumulative amount of investment spent in this sector contributes 50% of total investment in all sector in year 2009, according to reports released by BP MIGAS and BKPM respectively. In addition to that, the characteristic of this sector are known as both capitals-intensive and high-risk.

3.2. QUESTIONNAIRES

The corresponding questionnaire used in this research consists of four sections as follows:

1. Section 1 captures demographic details of the respondents
2. Section 2 captures demographic details of the respondents' Project Manager

3. Section 3 captures series of questions on the conflict management approaches i.e. cooperative, confirmative, avoidance and competitive of the Project Manager(s), conflict intensity, constructive conflict and effective project management.
4. Section 4 captures respondent's comment(s) and/or suggestion(s), if there is any on the conflict management approaches of respondent's Project Manager, and effective Project Management.

Section 1 of the questionnaire was designed to gather the demographic details of each respondent. These details consist of gender, age, full-length of service in their current position, length of service in current organization, educational background, citizenship, years working together with respondent's Project Manager, status of current organization as to it is a public or private company, etc.

Section 2 of the questionnaire was designed to gather the demographic details of respondent's Project Manager such as Project Manager's gender, age, full-length of service in current organization, length of service in current organization, educational background, citizenship, number of his/her direct reportees, etc.

Section 3 of the questionnaire i.e. conflict management approaches, was mainly taken from the questionnaire developed by Barker et al. (1988). This questionnaire consisted of two parts. The first part covered questions related to the conflict management approaches i.e. cooperative, confirming, competitive and avoiding, utilized by Project Manager. Respondents were asked to respond to each question/statement on the basis of how frequently the particular behavior was exhibited by a particular project manager. The behavior frequency options were: never, seldom, sometimes, often, or always. This part of the questionnaire was created based on the characteristics of each of the following conflict approaches that can be summarized as follows:

- **Co-operative** - emphasis upon mutual goals, orientation toward joint benefit, understanding everyone's views, and incorporation of several positions to form a solution good for all (Deutsch, 1973, 1980)
- **Confirming** - conveys that the other person is accepted as effective, avoids insults and blaming (Tjosvold *et al.*, 1980)
- **Competitive** - assumes that the conflict is a win-lose struggle, attempts to make the other conform to his or her views, forceful presentation and coercion (Deutsch, 1973)
- **Avoiding** - tries to maintain harmony and smooth over differences, avoids expressing frustration and anger (Tjosvold, 1982; Tjosvold and Deemer, 1980)

The second part of the questionnaire in section 3 consists of questions/statements designed to measure three possible outcomes of managing project conflict (Barker et al., 1988):

- Intensity of conflicts experienced under the project manager (extent to which project members expressed opposing opinions, had different perspectives, had interpersonal difficulties, and debated how to proceed)
- Constructiveness of conflicts (extent to which experienced conflict led them to work harder, feel energized, promoted useful exchanges, produced benefits, increased the understanding of the project manager)
- Effectiveness of project management (degree to which project management enhanced their job satisfaction, increased their commitment to the project, had a positive impact on their job performance, increased commitment to the organization, increased their confidence in the project manager)

Section 4 of the questionnaire was basically providing respondent to express their comment and/or recommendation on the topics measured.

3.3. DISTRIBUTION OF THE QUESTIONNAIRE

The distribution of the questionnaire was mainly conducted by two mechanisms. The first distribution mechanism is by distributing the questionnaires booklets to three companies operate in the sector while the second distribution mechanism was through e-mail correspondence directly to the respondents working in the same sector of the industry.

The result of distributing the questionnaire booklets to these companies varied. One company reverted back informing that after a consultation with their legal department, the required approval for participating in this survey could not be secured for some reasons they do not want to disclose.

The second company reverted back by saying that they did not have any objection from the legal perspective for participating in this survey, however requested to have questionnaire in bahasa Indonesia version before they distribute to their employees. Such feedback and request were conveyed in a later stage so that considering the time constraint; this company's participation was not pursued further.

The third company actively showed their interest, support and commitment for participating in the survey and submitted the responses back for further analysis. Discussion was held with the Human Resources Manager of the company, subject of the discussion included purpose and objective of the survey and selection of the potential respondents within his/her organization.

These three companies share some commonalities, in the sense that all of them are serving the same industrial sector i.e. upstream sector of Oil & Gas industry and providing Engineering, Procurement and Construction services of Oil & Gas facilities in which executing project awarded by their clients is their main revenue or

profit generating activity in their organization. However, only one company participated in this survey.

The number of questionnaire booklets distributed to these three companies was 300 booklets in total and only 39 booklets were received back from one company. In terms of response rate, this would give us a 13% of response rate.

The second method of distribution is through e-mail. Questionnaires in MS Word file were distributed to 50 potential respondents who work in several companies, other than those three companies previously distributed with the questionnaire booklets. These 50 potential respondents work in companies providing the same service in the upstream sector of Oil and Gas in Indonesia. From 50 questionnaires distributed through e-mail, 25 filled up questionnaires were received. Henceforth, the response rate of using this method of distribution was 50%.

Some of the potential respondents out from the 50 potential respondents refused to participate citing that he/she has no time considering their current work-load, some others citing that they have reservations to participate due to personal factor e.g. does not feel comfortable to perform evaluation to his/her Project Manager even though persuasion efforts have been conducted ensuring and convincing that results of the survey would be kept confidential and would only be reported on its aggregate level.

Total feedback received from the respondents is 64 questionnaires and out of this 64, there are 7 questionnaires were not qualified for further analysis. These 7 questionnaires were excluded from further analysis because there were too many questions not responded or left blank.

3.4. DATA ANALYSIS METHOD

In this research demographic details of the respondents would be analyzed using frequency distribution test and result would be reported in the form of demographic

tables. While for variables related to both conflict management approaches, i.e. cooperative, confirmative, avoidance and competitive, conflict intensity, constructive conflict and effective project management, factor analysis was performed to check the validity aspect of the instruments. Cronbach alpha's figure was used to determine the reliability aspect of the instruments. Subsequently, pearson correlation analysis would be implemented to seek the correlation among these variables.

All statistic tests were performed by utilizing SPSS (Statistical Package for the Social Sciences). Below criteria are used as references in conducting validity and reliability tests (Sihombing, 2009, p. 51):

- Kaiser-Meyer-Olkin Measure of Sampling Adequacy is used to measure if factor analysis is appropriate and yields reliable and distinct values. Commonly, values greater than 0.5 are considered acceptable.
- Bartlett's test of sphericity which basically a significant test in which a value less than 0.05 is the acceptable value for 95% confidence level.
- Anti-image correlation measures the adequacy of the sampling and any value greater than 0.5 is considered as acceptable.
- Communalities of extracted factors are used to measure the amount of variance in each of instruments/factors explained by the remaining instruments/factors. Any values greater than 0.5 are commonly acceptable.
- Variance explained provides the indication on how much in terms of percentage do the retained factors explain the construct. Any values greater than 0.6 are considered as acceptable.
- Component matrix gives us the factor loadings that indicate how close the variables are related to the factors. Any values greater than 0.7 are commonly considered as acceptable.
- Cronbach's Alpha provides the indication of the internal consistency or inter-correlation between the retained factors and used to measure the reliability of the retained factors to explain a construct. Any values greater than 0.6 are commonly considered as acceptable.

Subsequent to the series of tests and re-iterations including dropping some of the variables to meet the above mentioned criteria, table 3.1 gives the summary of the final results of these tests.

TABLE 3.1 RESULTS OF VALIDITY AND RELIABILITY TESTS

	no. of items before deletion	valid items	Cronbach's Alpha
Cooperative	8	6	0.876
Confirmative	8	5	0.832
Competitive	8	3	0.756
Avoidance	8	5	0.845
Conflict Intensity	6	3	0.712
Constructive Conflict	6	3	0.702
Effective Project Management	7	5	0.847

Since all of the statistical criteria are met, all variables related to conflict management approaches, i.e. cooperative, confirmative, competitive, avoidance are considered valid and reliable measurement instruments.

The same situation also applicable to the variables related to the project management, i.e. conflict intensity, constructive conflict and effective project management. All of them are considered as valid and reliable measurement instruments.

Subsequently, pearson correlation analysis was performed in order to seek the correlation coefficients between the conflict management approaches variables and project management variables. Results of this test are discussed as part of chapter 4 Data Analysis and would be used to answer the corresponding research's questions or test the research's hypothesies.

CHAPTER 4
DATA ANALYSIS

4.1. DEMOGRAPHIC DETAILS OF RESPONDENTS AND PROJECT MANAGERS

The following tables show some relevant demographic details of respondents participated in the survey and observed Project Managers. Some other demographic details that are not considered as relevant for basis of data analysis are not shown.

TABLE 4.1. RESPONDENTS GENDER

	N	Percent
FEMALE	10	17.5
MALE	47	82.5
Total	57	100

Table 4.1 showed the gender distribution of the respondents participating in the survey. There are 82.5% (47 respondents) male and 17.7% (10 respondents) female respondents and 57 respondents in total.

TABLE 4.2. RESPONDENTS' AGE

	N	Percent
25-34 years	30	52.6
35-44 years	21	36.8
45-54 years	4	7
55-64 years	2	3.5
Don't Know	0	0
Total	57	100

Table 4.2 showed the age distribution of the respondents participating in the survey. The dominant range of age of the respondents was in between 25-34 years of age which accounted for 52.6%, subsequently was in between 35-44 years of age and accounted for 36.8%.

TABLE 4.3. RESPONDENTS' HIGHEST EDUCATIONAL LEVEL

	N	Percent
High School	2	3.5
Bachelor	45	78.9
Master	10	17.5
Doctorate	0	0
Don't Know	0	0
Total	57	100

Table 4.3 showed the highest educational level distribution of the respondents. The respondents were dominantly having a bachelor degree and its accounted for 78.9% (45 respondents), followed by a master degree which accounted for 17.5% (10 respondents) and the remaining of 3.5% (2 respondents) having a high-school degree.

TABLE 4.4. RESPONDENTS' NATIONALITY

	N	Percent
Indian	1	1.8
Japanese	1	1.8
Indonesian	54	94.7
Singaporean	0	0
Malaysian	1	1.8
American	0	0
Australian	0	0
British	0	0
Other	0	0
Total	57	100

Table 4.4 showed the nationality distribution of the respondents. Indonesians dominated the respondents' distribution with 94.7% (54 respondents), the remaining were one each for Indian, Japanese and Malaysian respondents.

TABLE 4.5. RESPONDENTS' CUMULATIVE WORKING EXPERIENCE

	N	Percent
>2-5 years	8	14
>5-10 years	22	38.6
>10-15 years	13	22.8
>15-20 years	8	14
>20-25 years	2	3.5
>25-30 years	2	3.5
>30 years	2	3.5
Total	57	100

Table 4.5 showed the cumulative working experience of the respondents in years. The respondents were dominantly consists of project team members having 5-10 years of experience which accounted for 38.6% (22 respondents), followed by a range of 10-15 years of experience which accounted for 22.8% (13 respondents).

TABLE 4.6. RESPONDENTS' CURRENT POSITION

	N	Percent
Engineering Staff	21	36.8
Procurement Staff	2	3.5
Manager	5	8.8
Supporting Staff	15	26.3
Construction Staff	3	5.3
Other	11	19.3
Total	57	100.0

Engineering staff dominated the current position distribution of the respondents with 36.8% (21 respondents), followed by Supporting staff which accounted for 26.3% (15 respondents) of the distribution. This is shown in Table 4.6.

TABLE 4.7. RESPONDENTS' POSITION IN ORGANIZATIONAL LEVEL

	N	Percent
Top Management	1	1.8
Middle Management	24	42.1
Supporting Staff	31	54.4
Other	1	1.8
Total	57	100.0

Relative in the organization, 54.4% (31) of the respondents were classified as supporting staff, 42.1% (24) were middle management and there was one respondent each for top management and other classification.

TABLE 4.8. RESPONDENTS LENGTH OF SERVICE IN THE ORGANIZATION

	N	Percent
1-2 years	10	17.5
>2-5 years	19	33.3
>5-10 years	21	36.8
>10-15 years	6	10.5
>15-20 years	0	0
>20-25 years	1	1.8
>25-30 years	0	0
Don't Know	0	0
Total	57	100

Table 4.8 showed the length of service in the organization of the respondents and it was dominated by a range of in between 5-10 years which accounted for 36.8%, followed by a range of in between 2-5 years which accounted for 33.3% of the respondents.

TABLE 4.9. RESPONDENTS LENGTH OF SERVICE IN CURRENT POSITION

	N	Percent
1-2 years	13	22.8
>2-5 years	26	45.6
>5-10 years	15	26.3
>10-15 years	2	3.5
>15-20 years	1	1.8
>20-25 years	0	0
>25-30 years	0	0
Don't Know	0	0
Total	57	100

The respondents were dominated by project team members that have been in the same position for 2-5 years with 45.6% (26 respondents) followed by a range of 5-10 years which accounted for 26.3% (15 respondents) and then a range of 1-2 years which accounted for 22.8% (13 respondents). Table 4.9 showed this distribution in more detailed.

TABLE 4.10. RESPONDENTS' TYPE OF COMPANY

	N	Percent
Private	16	28.1
Public Company	41	71.9
Total	57	100.0

The respondents dominantly work for public company compared to private company. A total of 71.9% or 41 respondents and 28.1% or 16 respondents work for public and private companies respectively.

TABLE 4.11. COMPANY'S NUMBER OF EMPLOYEES

	N	Percent
51-100	1	1.8
101-200	4	7.0
201-500	23	40.4
501-999	1	1.8
>1,000	28	49.1
Total	57	100.0

In terms of the total number of employees where the respondents work for, there are five categories which consists of company with more than 1,000 employees, company employing a range of 501-999 personnel, company employing a range of 201-500 personnel, company employing a range of 101-200 personnel and company employing a range of 51-100 personnel. Dominantly, respondents of the survey work for a company with more than 1,000 personnel and 201-500 personnel which accounted for 49.1% and 40.4% of the respondents respectively.

TABLE 4.12. COMPANY'S STATUS

	N	Percent
LOCAL	3	5.3
FOREIGN	54	94.7
Total	57	100.0

Survey indicated that 94.7% or 54 respondents work for company financed by foreign investment while the remaining of 5.3% or 3 respondents work for company financed locally.

TABLE 4.13. RESPONDENTS DIRECT REPORTEES

	N	Percent
1-2	11	19.3
3-5	5	8.8
6-10	5	8.8
11-15	3	5.3
16-20	0	0
21-25	0	0
>25	5	8.8
None	28	49.1
Total	57	100

Majority of the respondents do not have direct reportee. This accounted for 49.1% (28) of the respondents. 19.3% (11) of the respondents have direct reportee in a range of 1-2, 8.8% (5) of the respondents have direct reportee in a range of 3-5, 6-10 and more than 25 direct reportees.

TABLE 4.14. LENGTH OF RESPONDENTS' WORKING RELATIONSHIP WITH PROJECT MANAGERS

	N	Percent
< 1 years	15	26.3
>1-2 years	18	31.6
>2-3 years	12	21.1
>3-4 years	3	5.3
>4-5 years	8	14.0
8 years	1	1.8
Total	57	100.0

Table 4.14 showed various length of working relationship between respondents with the Project Managers, some of which are in the range of less than 1 year, between 1-2 years, between 2-3 years, 3-4 years, 4-5 years which accounted for 26.3%, 31.6%, 21.1%, 5.3% and 14% respectively. It is interestingly to note that there is one respondent that has been working together with his/her Project Manager for 8 years, hypothetically in several projects.

TABLE 4.15. PROJECT MANAGERS' GENDER

	N	Percent
FEMALE	0	0
MALE	57	100
Total	57	100

The Project Managers observed by the respondents were all male Project Managers.

TABLE 4.16. PROJECT MANAGERS'AGE

	N	Percent
25-34 years	1	1.8
35-44 years	17	29.8
45-54 years	29	50.9
55-64 years	6	10.5
Don't Know	4	7.0
Total	57	100

Majority of the Project Managers were in the range of 45-54 years of age which accounted for 50.9% (29), followed by range of 35 - 44 years of age which accounted for 29.8% (17) of the distribution. There was 7% (4) of respondents who did not know his/her Project Manager's age and only one Project Manager who was between 25-34 years of age.

TABLE 4.17. PROJECT MANAGERS HIGHEST EDUCATIONAL LEVEL

	N	Percent
High School	0	0
Bachelor	21	36.8
Master	19	33.3
Doctorate	2	3.5
Don't Know	15	26.3
Total	57	100

The level of education of the Project Managers varied, 36.8% of respondents indicated that their Project Managers had a bachelor degree, 33.3% had master degree, 3.5% were doctorate and 26.3% of the respondents do not know his/her Project Manager educational background.

TABLE 4.18. PROJECT MANAGER'S NATIONALITY

	N	Percent
Indian	9	15.8
Japanese	19	33.3
Indonesian	12	21.1
Singaporean	1	1.8
Malaysian	0	0
American	4	7
Australian	2	3.5
British	7	12.3
Other	3	5.3
Total	57	100

Project Managers' nationalities were reportedly varied by the respondents. 33.3% of the respondents indicated that his/her Project Managers were Japanese, 21.1% of the respondents indicated Indonesian's nationality, 15.8% of the respondents indicated

Indian nationality, 12.3% indicated British nationality, and the remaining were Singaporean, Australian, and French nationality.

TABLE 4.19. PROJECT MANAGERS LENGTH OF SERVICE IN THE ORGANIZATION

	N	Percent
1-2 years	3	5.3
>2-5 years	11	19.3
>5-10 years	8	14
>10-15 years	7	12.3
>15-20 years	7	12.3
>20-25 years	5	8.8
>25-30 years	3	5.3
Don't Know	13	22.8
Total	57	100

A total of 22.8% of the respondents did not know his/her Project Managers' length of service in the organization and the remaining varied as indicated in table 4.19.

TABLE 4.20. PROJECT MANAGERS LENGTH OF SERVICE IN CURRENT POSITION

	N	Percent
1-2 years	9	15.8
>2-5 years	16	28.1
>5-10 years	14	24.6
>10-15 years	5	8.8
>15-20 years	2	3.5
>20-25 years	2	3.5
>25-30 years	1	1.8
Don't Know	8	14
Total	57	100

Respondents reported that 28.1% of his/her Project Managers had been holding the position for 2-5 years, 24.1% indicated that his/her Project Managers had been holding the position for 5-10 years, 15.8% indicated that his/her Project Managers

have been holding the position for 1-2 years and 14.0% of the respondents did not know how long do his/her Project Manager have been holding the same position for.

TABLE 4.21. PROJECT MANAGERS DIRECT REPORTEES

	N	Percent
1-2	0	0
3-5	0	0
6-10	21	36.8
11-15	17	29.8
16-20	2	3.5
21-25	2	3.5
>25	15	26.3
None	0	0
Total	57	100

According to the feedbacks from the respondents, 36.8% of them indicated that his/her Project Managers have 6-10 direct reportees, 29.8% of respondents indicated that their Project Managers have 11-15 direct reportees, and 26.3% indicated more than 25 direct reportees.

4.2. CORRELATION COEFFICIENT AMONG VARIABLES

Validity and Reliability Tests indicated that all the variables meet the validity and reliability criteria. Details of the results are reported as part of Chapter 3. Subsequently a Pearson correlation analysis was conducted to seek the correlations between the conflict management approaches such as cooperative, confirmative, competitive and avoidance and project management variables such as conflict intensity, constructive conflict and effective project management variables. Table 4.22 provides us with the correlations coefficient figures.

TABLE 4.22. CORRELATION COEFFICIENTS AMONG VARIABLES

	CONFLICT INTENSITY	COOPERATIVE	CONFIRMATIVE	COMPETITIVE	AVOIDANCE
COOPERATIVE	-0.123	1	**+0.624****	**-0.403****	**-0.472****
CONFIRMATIVE	-0.175	**+0.624****	1	-0.132	**-0.367****
COMPETITIVE	+0.243	**-0.403****	-0.132	1	**+ 0.381****
AVOIDANCE	+0.087	**-0.472****	**-0.367****	**+0.381****	1
EFFECTIVE PROJECT MANAGEMENT	**-0.279***	**+0.777****	**+0.471****	**-0.368****	**-0.575****
CONSTRUCTIVE CONFLICT	**+0.277***	+0.001	-0.017	**+0.269***	-0.126

Note: ** indicated values are significant at the 0.01 level (2-tailed) while * indicated values are significant at the 0.05 level (2-tailed)

4.3. COOPERATIVE APPROACH

Table 4.22 indicates that cooperative approach is strongly and positively associated with project team member's perception on the degree of effectiveness of the observed Project Managers in managing project conflict. The correlation coefficient between cooperative approach and effective project management is +0.777. Barker et al. (1988) found that the correlation coefficient between cooperative approach and effective project management was +0.78. This means that result of the survey supports Barker et al. (1988) finding, i.e. cooperative approach is positively associated with effective project management.

It is noted however that there was no statistically significant association between cooperative approach with both constructive conflict and conflict intensity variables.

While Barker et al. (1988) found that cooperative approach was positively associated with both constructive conflict and conflict intensity variables.

The practical implication of the positive association between cooperative approach and effective project management variables is that as often as possible Project Manager shall be approaching the project conflicts by using cooperative approach in trying to resolve it. By referring to the operational definition of cooperative approach proposed by Barker et al. (1988) which is emphasizing upon mutual goals, orientation toward joint benefit, understanding everyone's views, and incorporation of several positions to form a solution good for all, some questions were surfaced.

The first question would be what kind of management skills that Project Manager has to master? The second question would be is it practically possible for Project Manager to implement cooperative approach all the time over the duration of the project from initial stage until the completion stage of the project?

Certainly Project Manager has to master communication skill as the operational definition of cooperative approach put emphasizes on understanding on everyone's views. By mastering communication skill that includes both speaking and listening, Project Manager can listen actively to the project team members while they are expressing their views on the issues, subsequently understand their underlying interests and concerns over the same issues. Communication skill also includes active speaking skill which can assist Project Manager to create clarity in communicating direction as well as project expectations to the project team member.

Negotiation skill would be another management skill that Project Manager has to master in order to implement cooperative approach. Identifying underlying interests of each party in conflict, negotiating over principles instead of over position, expanding the possible options to find mutual goals between parties in conflict are part of the negotiation skill that Project Manager has to master.

The above recommended management skills would also assist Project Manager setting up a pre-condition as part of the project performance model proposed by Ika (2010) that ensure project success. Ika (2010) suggested that in order to ensure project success Project Manager has to create clarity in communication and one suggested mean of doing it is by communicating project expectations to the project team member which in the end trust would be developed in the project team.

Implementing cooperative approach towards project conflicts at all time would definitely be a very challenging task for Project Manager and seems to be impractical. Project Manager's tasks are not only resolving conflicts. There are some other important managerial tasks that he/she has to perform at the same time. In certain conflict situation cooperative approach would not be the best conflict approach to implement. In fact, avoidance could sometimes be the best conflict approach to implement, under certain conditions. This is in line with Verma (1998) who noted that each conflict situation is unique and dynamic so that it is difficult to recommend the best conflict approach to resolve it. Verma (1998) further suggested that Project Manager needs to consider some factors before choosing the right approach. Such factors include time pressure, type and relative importance of the conflict, position of the parties involved in the conflict and relative emphasize between goals and relationship.

In addition, Project Manager also has to acknowledge and recognize that each project life-cycle or phase has its own dynamics. The dynamics during the engineering phase in which the intensity of the progressive elaboration is at its highest level, would be different with the dynamics during the construction phase or close-out phase where in the progressive elaboration are less intense. The dynamics in each project life-cycle explained as to why in this research there was no statistically significant association between cooperative approach with both constructive conflict and conflict intensity

variables. While Barker et al. (1988) found that cooperative approach was positively associated with both constructive conflict and conflict intensity variables.

Barker et al. (1988) mentioned that the respondents of their survey were come from one company serves the utility sector in Western Canada. This means that all of their respondents were working in the same project so that all of the respondents were in the same project life cycle. While the respondents of this research were come from several companies which means that they were working in different projects, thus definitely in the different project life-cycle.

4.4. CONFIRMATIVE APPROACH

Table 4.22 indicates that confirmative approach is positively associated with project team member's perception on the degree of effectiveness of the observed Project Managers in managing project conflict. The correlation coefficient between confirmative approach and effective project management is +0.471. Barker et al. (1988) found that the correlation coefficient between confirmative approach and effective project management was +0.77. This means that result of this survey supports Barker et al. (1988) finding, i.e. confirmative approach is positively associated with effective project management.

It is noted however that there was no statistically significant association between confirmative approach with both constructive conflict and conflict intensity variables. While Barker et al. (1988) found that confirmative approach was positively associated with constructive conflict and negatively associated with conflict intensity variable. This can be explained by considering that when the survey was conducted, the respondents of this research were working in different projects and project life-cycles. While Barker et al. (1988)'s respondents were working in one project and the same project life-cycle.

The practical implication of the positive association between confirmative approach and effective project management variables is that as often as possible Project Manager shall be approaching the project conflicts by using confirmative approach in trying to resolve it. By referring to the operational definition of confirmative approach proposed by Barker et al. (1988) which is conveying that the other person is accepted as effective, avoids insults and blaming, communication skill, would then be one of management skills that Project Manager has to master. In addition, appreciating and acknowledging the importance of cultural differences would also be suggested as the notion of insult and/or blaming could be difference between cultures. Particularly when dealing with Indonesian, majority of the respondents, as Indonesia is considered as one of the high context culture's country in which verbal statement does not cover the whole intent and a complete intention can only be inferred by also taking into account factors such as tone, gesture and emotions. In addition, Indonesian is also known as collectivist instead of individualist where face-loosing situation shall be avoided.

4.5. COMPETITIVE APPROACH

Table 4.22 indicates that competitive approach is negatively associated with project team member's perception on the degree of effectiveness of the observed Project Managers in managing project conflict. The correlation coefficient between competitive approach and effective project management is -0.368. Barker et al. (1988) found that the correlation coefficient between competitive approach and effective project management was -0.69. This means that result of this survey supports Barker et al. (1988) finding, i.e. competitive approach is negatively associated with effective project management.

It is noted however that there was no statistically significant association between competitive approach and conflict intensity variable. While Barker et al. (1988) found that competitive approach was positively associated with conflict intensity variable,

means that implementing competitive approach tends to increase the level of intensity of the project conflicts. This can be explained by considering that when the survey was conducted, the respondents of this research were working in different projects and project life-cycles. While Barker et al. (1988)'s respondents were working in one project and the same project life-cycle.

It is interestingly noted that this survey found a positive association between competitive approach and constructive conflict variable. Firstly, it is because there was no significant correlation between other conflict approaches such as cooperative, confirmative and avoidance, and constructive conflict variables. Secondly, this finding is not supporting Barker et al. (1988) finding which was a negative association between competitive approach and constructive conflict. This finding suggests that competitive approach can produce a constructive conflict or increase the degree of constructiveness of the project conflicts while Barker et al. (1988) finding could be interpreted as competitive approach tends to lower the degree of constructiveness of the project conflicts. This seems to be contradicting with common-sense, particularly when it is viewed by traditionalist's perspective which views conflict as something that has to be avoided as it always introducing negative impact to the organization's performance.

If this finding is viewed by interactionist's perspective in which it encourages to stimulate conflict up to certain appropriate level as opposed to the traditionalist, in analyzing the same finding, it might be argued that this finding is not contradicting with common-sense and argument can be offered. Interactionist encourages Project Manager to stimulate conflict. Verma (1998) also has the same view by saying that it is sometimes good and necessary to stimulate a competitive atmosphere and conflict in order to foster self-evaluation, innovation and creativity.

Moreover, a competitive atmosphere and conflict could affect positively to the project particularly if the project is in the early phase or cycle as during such phase the

degree of uncertainties is at the highest level. During the early phase or cycle, progressive elaboration to reduce the uncertainties is also at the highest level relative to the subsequent phases or cycles. Bear in mind that cost of changes is the lowest relative to the cost of changes in the subsequent phases or cycles so that stakeholder including client's influences is also the highest. Under an atmosphere wherein innovation and creativity are fostered, all possible options could be exercised including identifying and quantifying possible consequences.

Consider the example of changing the subsea pipeline route in chapter 2. Such situation would be a good example in this case. Changing subsea pipeline route typically is one issue that concerned client most; it is therefore typically such situation requires client approval for contractor to proceed. In fact, in most of the contracts there is a specific and dedicated clause covering such situation and imposing that prior approval from the client side has to be secured in order to proceed. This is understandable since changing the route means that all project constraints i.e. scope, time and cost are possibly affected and client has the interests to maintain their targeted completion date and budget.

Finalization of the types and quantity of each type of pipeline materials is typically can only be performed when results of the pre-engineering survey are obtained and certain engineering analysis has been carried based on the pre-engineering survey's results. Under such situation, uncertainty related to the quantity and type of pipeline materials that has to be procured is at the highest level, however cost of changing the route is at the lowest level as procurement activities of the required pipeline materials have not even been started.

In the case of changing the route of subsea pipeline is surfacing, Project Manager might consider to stimulate conflict in the project by implementing a competitive approach to the project team member, in this case the engineering group. Project Manager's objective in stimulate conflict by implementing a competitive approach, is

to understand the underlying reasons of the needs to change the subsea pipeline's route, to assess any possible alternatives instead of changing the route, and also identifying the possible schedule and cost impact to the project if finally it is decided to change the subsea pipeline's route. Since procurement activity has not been commenced and purchase order has not been issued to the mill, cost of changing the subsea pipelines route is relatively at the lowest.

The situation would be significantly different when subsea pipeline routes are changed after purchase order of the pipeline materials has been issued to the mill and the mill has already started the production. The cost of change becomes higher as it has already involving other party, in this case the mill. The mill might have to perform adjustment to their manufacturing process such as adjusting set-up of their equipment which definitely requires both additional time and cost as the mill might impose a premium cost to manufacture the additional quantity considering the time pressure. In addition, client might agree to the proposal to change the route however imposing that the corresponding additional schedule extension and cost would be borne solely by the contractor. This conditions increase the challenges for the project to complete the project on time and within the allocated budget, in the end decrease the possibility to achieve the targeted project profitability.

The situation would also be significantly different if the decision to change the subsea pipeline routes is made during the offshore installation. The cost of such change would be the highest as the mill might impose a premium cost to manufacture the additional quantity considering the time pressure and contractor offshore installation spread might have to be in a standby mode for certain period of time waiting for the delivery of the additional pipeline materials, a catastrophic situation that shall be avoided by the project.

It is the Project Manager's interests to make a project decision under a situation wherein uncertainties are minimized, all of possibilities are exercised, possible

consequences are identified and quantified which make further cost and benefit analysis easily be conducted and hoping that the decision would be beneficial to the project and based on a sound judgment. In short, competitive approach if used appropriately can improve the decision making process.

From another perspective and by considering one of the finding of Hyvari (2006) which highlighted that communication, client consultation and client acceptance as the most important factors during project implementation, it is Project Manager's interest that prior to engaging a discussion or negotiation with client, Project Manager has to be convinced internally. Such discussion or negotiation would be much convincing if Project Manager, with confident, presents a situation wherein all of the possibilities have been exercised; all of possible consequences are identified and quantified with supporting back-up, as required. All of which are results of the stimulated conflict by implementing the competitive approach previously elaborated. Hopefully, client is convinced and willing to agree to provide the schedule extension as well as cost compensation.

Unfortunately both the questionnaire used in this survey and the original questionnaire developed by Barker et al. (1988) did not include a statement or question as to in which phase or cycle of the project the respondents were in when the surveys were conducted. This explained as to why the finding of this research and those of Barker et al. (1988) are different. This research found positive association between competitive approach and constructive conflict while Barker et al (1988) found that both of them were negatively associated.

The practical implication of this finding i.e. positive association between competitive approach and constructive conflict is that it is becoming more important for the company to establish code of business conduct that applicable throughout the entire level of the organization. Such code of business conduct provides all the employees with the required guidance to limit the level of coercion resulting from such

stimulated conflict so that its level is still within the acceptable limit of the organization. Bear in mind that one negative aspect of competitive approach is associated with coercion. This code of business conduct includes ethical business practices, ethics in the workplace, ethics in communicating through e-mail exchanges, etc. Opening an ethics helpline where everybody can contact to and file a report of an incident that might be violating the company's code of business conduct and stays anonymous during and after the investigation being carried out by the ethics team, certainly worth for considering. Hopefully by establishing such code of business conduct, the interaction between Project Manager and project team members, between the project team members can still be conducted positively and at the same time warm atmosphere and harmony in the workplace can still be maintained, no matter how competitive the atmosphere is in a project.

In addition, Project Manager has to ensure that he/she knows the expected deliverables as a result of stimulating a conflict in a project. Project Manager also has to know the desired level of conflict intensity during the process of stimulating the conflict. These are required to decide whether management intervention is required or not. Above all, Project Manager has to ensure that at all time code of business conduct shall not be violated by project team members in conflict, including by him/her self.

The project performance model introduced by Anantatmula (2010) can be a very useful model to plan and monitor the situation i.e. givens clarity is being communicated to the project team member (e.g. objectives of stimulating a particular conflict) and roles and responsibilities are clearly defined, by communicating expectations (e.g. what kind of deliverables expected to come out as results of such stimulated conflict), employing consistent processes (e.g. order of importance of the involved variables such as time, cost or quality) and support (if required) is facilitated, it would yield a situation wherein desired outcomes are managed and trust among the team member and with client is fostered.

4.6. AVOIDANCE APPROACH

Table 4.22 indicates that avoidance approach is negatively associated with project team member's perception on the degree of effectiveness of the observed Project Managers in managing project conflict. The correlation coefficient between avoidance approach and effective project management is -0.575. Barker et al. (1988) found that the correlation coefficient between avoidance approach and effective project management was -0.87. This means that result of this survey supports Barker et al. (1988) finding, i.e. avoidance approach is negatively associated with effective project management.

It is noted however that there was no statistically significant association between avoidance approach with both conflict intensity and constructive conflict variables. While Barker et al. (1988) found that avoidance approach was positively associated with conflict intensity variable and negatively associated with constructive conflict variable; means that implementing avoidance approach tends to increase the level of intensity of the project conflicts while at the same reduce the degree of constructiveness of the project conflicts. This can be explained by considering that when the survey was conducted, the respondents of this research were working in different projects and project life-cycles. While Barker et al. (1988)'s respondents were working in one project and the same project life-cycle.

The practical implication of the negative association between avoidance approach and effective project management variables is that as often as possible Project Manager shall be minimizing the use of avoidance approach in trying to resolve project conflicts. By referring to the operational definition of avoidance approach proposed by Barker et al. (1988) which put emphasize on trying to maintain harmony and smooth over differences, avoids expressing frustration and anger, it is understandable that avoidance approach tends to only delaying the conflict resolution while the needs for resolving the conflict is a must at certain situations. However, avoidance approach

might be beneficial for Project Manager and the project itself particularly when there is a need to buy time before taking management intervention.

4.7. CORRELATION COEFICIENTS BETWEEN CONFLICT APPROACHES

It is interestingly noted that the correlation coefficient between cooperative and confirmative approach is +0.624. Both cooperative and confirmative approaches are positively associated to each other. This suggested that the observed Project Managers approach the conflicts during the project execution by combining both cooperative and confirmative approaches. This result supports Barker et al. (1988) finding. It is then also worth noting that it is perceived by project team members (respondents) that Project Manager(s) is considered to be effectively managing the project conflict if he/she approaches it by utilizing cooperative or confirmative or combination of both approaches.

It is also noted that while implementing a cooperative approach, the Project Managers also tend not to use both avoidance and competitive approaches as the correlation coefficient between cooperative, avoidance and competitive approaches are -0.472 and -0.403 respectively. Cooperative approach is negatively or inversely associated with both avoidance and competitive approaches and supports Barker et al. (1988) finding.

The observed Project Managers also tends not to use avoidance approach while using confirmative as the correlation between these two approaches is -0.367. Confirmative approach is negatively or inversely associated with avoidance approach and also supports Barker et al. (1988) finding.

Table 4.22 also suggests that the observed Project Managers tend to combine both avoidance and competitive approaches in managing the project conflicts. The correlation coefficient between avoidance and competitive is +0.381. Avoidance

approach is positively associated with competitive approach as also found by Barker et al. (1988). It is then also worth noting that the project team members (respondents) perceive that Project Manager is considered to be in-effective in managing project conflicts if he/she approaches it by utilizing competitive or avoidance or combination of both approaches.

4.8. CONFLICT INTENSITY

Barker et al. (1988) stated that "no predictions were made for the effects of these four conflict approaches on a third dependent variable, conflict intensity level" (p. 170). This research also did not offer any predictions on the same possible impacts of the conflict approaches and conflict intensity. Therefore both Barker et al. (1988) and this research share the same objective of only exploring the possible correlation between conflict approaches and conflict intensity.

Table 4.22 suggested that this research did not find any statistically significant correlation between any conflict approaches and conflict intensity. It can be noted however that both cooperative and confirmative have the tendency to be negatively associated with conflict intensity based on the sign of the correlation coefficients. While both competitive and avoidance approaches have the tendency to be positively associated with conflict intensity.

Barker et al. (1988) found that correlation between conflict intensity and cooperative, confirmative, competitive, avoidance are +0.20, -0.18, +0.20, and +0.17 respectively. Barker et al. (1988) stated that only confirmative approach that has potential to reduce conflict intensity while other approaches have the potential to increase the conflict intensity.

4.9. SUCCESFUL EXAMPLE OF COMBINING BOTH COOPERATIVE AND CONFIRMATIVE APPROACHES

There is one example of successful implementation of combining both cooperative and confirmative approaches in handling project conflict. It was during early stage of the project wherein both project teams from contractor and client were still in the learning curve stage of the relation. One member of contractor team and one member of client team were bad mouthing to each other and it was very rough. Contractor's Project Manager was not present at the scene during the incident and only heard from other source within contractor's project organization. Contractor's Project Manager took the initiative to engage into a private discussion with the concerned team member. His version of the story was heard and noted. Contractor's Project Manager concluded based on his story that actually there was no significant issue as a root cause of the bad mouthing incident. It was just another hot day in the construction site and the project team member in conflict agreed with Contractor's Project Manager's assessment and conclusion.

One of contractor's project objectives is to complete the project with no violation against code of business conduct and ethic. Contractor's Project Manager then reviewed the contract between both parties, i.e., client and contractor, to seek if client also stipulated the same objectives. It was concluded that no violation of code of business conduct and ethic in workplace also part of the client's project objectives, so both parties share the same common objectives.

Subsequently, Contractor's Project Manager engaged into another conversation with client representative who has the authority and responsibility to oversee and resolve such incident, in private. Contractor's Project Manager explained and emphasized to the client representative that both sides share the same project objectives, i.e., complete the project with no violation against code of business conduct and ethics at workplace. In addition to that, Contractor's Project Manager also emphasized that the long and warm relationship between the two organizations has to be maintained or

even improved if possible. Contractor's Project Manager then suggested client representative to engage a private discussion with his team member involved in the bad mouthing incident to seek his sides of the story.

Client representative engaged into a private discussion with his team member and during the discussion the same objectives were also conveyed to him. They also agreed that there was no significant issue that makes the incident happened and it was just another hot day in the construction site. In the end Contractor's Project Manager and his team member held a meeting with client representative and his team member and resolved the incident amicably without jeopardizing the relationship between the two organizations, no ethical incident recorded and constructive atmosphere of the project is re-stored and trust was build-up between two teams.

This life experience of Contractor's Project Manager emphasizes some important points such as:

- Mutual benefits or objectives/goals were upheld during the resolution process and it is a characteristic of cooperative approach as defined by Barker et al. (1988)
- Avoiding insults and blaming was also considered by engaging a private discussion with team member and client representative and it is a characteristic of confirmative approach as defined by Barker et al. (1988)
- Hyvari (2006) is true in the sense that Project Managers should have a good knowledge of project management and especially of contracts and contract techniques. In this example, Contractor's Project Manager referred to the contract document in seeking common objectives and used it as a reference in resolving the conflict

4.10. OVERALL MANAGERIAL IMPLICATION

Uncertainty is one key word and attributable to project. Such uncertainty can be ranging from the ambiguity in roles and responsibilities of Project Manager and project team members, uncertainties over availability of competence man-power resources, uncertainties induced by the relatively limited client's provided technical and functional specifications, client's provided design basis and information and other client's imposed contractual liabilities such as milestone and completion dates, liquidated damages, penalties, administrative requirements, etc. It is therefore, in short any organization undertaking project shall develop its capacity and competency to cope such uncertainties which induce project conflicts in order to ensure the overall organization's profitability, performance and growth, particularly when competition is becoming fiercer day by day.

Uncertainties induce by client that potentially becomes source of project conflicts over cost and budget, schedules, administrative requirements, project priorities, technical issues can be minimized up-front during the tender process as typically during the tender process, client provides the opportunity for contractor to raise any clarification over the project's requirement including technical, functional and contractual requirement and client would be responding to such clarification raised by contractor. In this regards, contractor has to take the full benefits of such opportunity to minimize uncertainties induce by client's requirement. In order to do so, contractor has to build its proposal and estimating department along with other functional departments involved during the tender process, the required capacities and competencies to identify such uncertainties and raise it for client further clarification.

Client's clarifications over the identified uncertainties once received, shall be evaluated further and compare it against contractor's pre-defined conditions or strategic goals and objectives to decide whether the exposures are within the acceptable range of the contractor's organization. Under the situation wherein the

exposures are not acceptable to the contractor's organization, then contractor's management might consider to withdraw from further participation in the tender process. Otherwise, contractor's management might decide to continue participating in such tender process. With this approach, uncertainties in a project, particularly those induce by the client's requirements, which later can be transformed to source of project conflicts can be minimized up-front or transferred or even avoided.

Contractor's organization needs to have the required capacity and competency to cope the potential project conflicts over man-power resources. Contractor's organization can establish a typical project organization's chart identifying the required personnel to execute certain type of projects commonly imposed by the client. This typical project's organization chart might be used as a reference by functional managers who control the man-power resources to foresee the needs for increasing or decreasing the manning within each of the functional departments. A close and constructive communication between functional managers, human resources manager and business development manager is the key for success in this case. Such communication includes communicating list of prospective projects being pursued by the business development manager, the required competencies and capacities of potential candidates in case of recruiting additional personnel, employees retaining and development programs, remuneration policy in order to stay competitive, etc.

Contractor's organization needs to have the required capacity and competency to cope the potential project conflicts over the cost objectives. Such capacity and competency can be obtained by establishing working procedures that covers budget estimation, budget allocation, cost control and also project change control procedure.

Contractor's organization needs to have the required capacity and competency to cope the potential project conflicts over the project schedule. This can be achieved by building up the capacity and competency of all departments involved in the tender

process so that such potential project conflicts can be identified, minimized or transferred or even avoided during the tender process. In the case of the project is being executed, establishing related working procedures that ensure schedule adherence that are applicable for planning, progress monitoring and controlling project changes and its impacts over the project schedule would then be very important. Fortunately, nowadays there are some softwares that can be used to assist in performing such activities.

Contractor's organization needs to have the required capacity and competency to cope the potential project conflicts over project priorities. Working procedures can be established to be referred by all groups within the project addressing the typical and preferred activities and tasks sequencing for certain type of projects based on the past experiences including lessons learned and also taking into account the technology's development. To ensure adherence of such working procedures by all groups within the project, a regular and pre-planned internal audit activities need to be defined up-front and performed. Findings and observations as results of the audit activities shall then be followed up and closed out. Project Manager could also be positively contributing to ensure that conflict over project priorities by developing project's goals and objectives together with the higher management, communicating it to the project team members frequently and emphasizing the long-term objectives over the short-term objectives of the project.

Contractor's organization needs to have the required capacity and competency to cope the potential project conflicts over technical issues. A peer review could assists in minimizing or resolving the conflict over technical issues. A peer review might be embedded into the working procedure of each group within the project and such peer performing the review shall be taken out from the outside of the group executing the project to avoid potential conflict of interests. Employee's development program can also be set-up to assist in minimizing such conflict over technical issues such as by

sending engineers to seminar or training course that would make them stay updated with most recent technology.

Contractor's organization needs to have the required capacity and competency to cope the potential project conflicts over administrative procedures. A clearly defined roles and responsibilities between the groups within the project that also include the requirement on how each group shall be interacting with each other in the sense of transferring project deliverables can be helpful in minimizing conflicts over the administrative procedures.

Contractor's organization needs to have the required capacity and competency to cope the potential project conflicts over personality conflicts. Contractor's organization might want to consider establishing a code of business conduct that is applicable across the board regardless of position, race, sex, religion, nationality, etc and includes a system that allow employee to file a report, through an ethic helpline as an example, potential violation against this code of business conduct and at the same time he/she stays anonymous during and after investigation being conducted by a dedicated ethic team embedded in the organization. Such code of business conduct encompasses ethical business practices, ethics in the workplace, ethics in communicating through e-mail exchanges, etc. This code of business conduct would be beneficial for the organization to ensure that constructive and warm atmosphere at workplace is maintained or even improved.

CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1. CONCLUSIONS

The objective of this research is to seek if Barker et al. (1988) findings are applicable in the upstream sector of the Oil and Gas industry in Indonesia. Such findings cover the association between the conflict management approaches i.e. cooperative, confirmative, competitive and avoidance with project management variables and specifically to answer the research's questions as outlined in sub-chapter 1.3.

This chapter 5 intended to cover all conclusions and recommendations that can be derived from this research. Recommendations are suggested to Project Managers work in the upstream sector of the Oil and Gas industry in Indonesia, company as project's undertaking organization and for future study.

5.1.1. COOPERATIVE APPROACH

The following conclusions related to the cooperative approach can be derived from this research:

- Cooperative approach towards project conflict is positively and strongly associated with project team members' perception on the effectiveness of the Project Manager in managing project conflicts. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia
- There is no statistically significant correlation found in this research between cooperative approach and constructive conflict variable while Barker et al. (1998) found the correlation between cooperative approach and constructive conflict and it is positively associated

5.1.2. CONFIRMATIVE APPROACH

The following conclusions related to the confirmative approach can be derived from this research:

- Confirmative approach towards project conflict is positively associated with project team members' perception on the effectiveness of the Project Manager in managing project conflicts. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia
- There is no statistically significant correlation found in this research between confirmative approach and constructive conflict variable while Barker et al. (1998) found the correlation between confirmative approach and constructive conflict and it is positively associated

5.1.3. COMPETITIVE APPROACH

The following conclusions related to the competitive approach can be derived from this research:

- Competitive approach towards project conflict is inversely associated with project team members' perception on the effectiveness of the Project Manager in managing project conflicts. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia
- Competitive approach towards project conflict is positively associated with constructive conflict. Barker et al. (1988) finding in this regards does not applicable in the upstream sector of the Oil and Gas industry in Indonesia as Barker et al. (1988) found inverse correlation between competitive approach and constructive conflict

5.1.4. AVOIDANCE APPROACH

The following conclusions related to the avoidance approach can be derived from this research:

- Avoidance approach towards project conflict is inversely associated with project team members on the effectiveness of the Project Manager in managing project conflicts. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia
- There is no statistically significant correlation found in this research between avoidance approach and constructive conflict variable while Barker et al. (1998) found the correlation between avoidance approach and constructive approach and it is inversely associated

5.1.5. CORRELATIONS AMONG CONFLICT APPROACHES

The following conclusions related to the correlations among conflict approaches can be derived from this research:

- Cooperative approach is positively associated with confirmative approach. This means that Project Manager who implements cooperative approach also implement confirmative approach. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia
- Cooperative approach is inversely associated with competitive approach. This means that Project Manager who implements cooperative approach tends to not implement competitive approach. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia
- Cooperative approach is inversely associated with avoidance approach. This means that Project Manager who implements cooperative approach tends to not implement avoidance approach. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia

- Confirmative approach is inversely associated with avoidance approach. This means that Project Manager who implements confirmative approach tends to not implement avoidance approach. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia
- Competitive approach is positively associated with avoidance approach. This means that Project Manager who implements cooperative approach also implement confirmative approach. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia
- Project Management is perceived to be effective in managing project conflicts when Project Managers implement cooperative or confirmative or combination of both cooperative and confirmative approaches. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia
- Project Management is perceived to be in-effective in managing project conflicts when Project Managers implement competitive or avoidance or combination of both competitive and avoidance approaches. Barker et al. (1988) finding in this regards, is applicable in the upstream sector of Oil & Gas in Indonesia

5.2. RECOMMENDATIONS

5.2.1. RECOMMENDATIONS FOR PROJECT MANAGER

The following points resulting from analysis and discussion over this research's findings are recommended to the Project Manager:

- Approaching and resolving project conflicts by implementing cooperative or confirmative or combination of both cooperative and confirmative approaches as often as practically possible is recommended
- Approaching and resolving project conflicts by implementing competitive or avoidance or combination of both competitive and avoidance approaches shall

be minimized as practically as possible unless there is a solid and justifiable ground to do so

- Implementation of avoidance approach is acceptable in the case of buying time is the objective for doing so
- Project Manager is encouraged to implement competitive approach to foster self-evaluation, innovation and creativity atmosphere in a project; however Project Manager has to define clearly at what circumstances the desired level of conflict can be considered adequate prior to stimulating the conflict. Project Manager should always be on top of the corresponding conflict as to avoid possibility a good initiative supported by justifiable objectives is transforming to become a beyond control initiative or situation which possibly lead to a catastrophe
- There is no best conflict approach that suits every conflict situations as each conflict situation is unique and dynamic so that it is recommended to consider type and relative importance of the conflict, time pressure, positions of the parties in conflict, and relative emphasizes on goals and relationship before choosing conflict approach to resolve the project conflicts
- Mastering both communication and negotiation skills that includes active speaking and listening, separating people from the problem, negotiation over principles instead of positions, expanding options or alternatives for mutual benefits, using objective criteria in every negotiation, would be very beneficial skills in managing project conflicts
- Understanding the contract including contractual liabilities, change, liquidated damage, warranty and all other provisions would be very beneficial in managing any possible project conflict involving both client and contractor
- Regardless of the type and intensity of the project conflicts, it is strongly recommended that at all time adherences to the code of business conduct shall be upheld by all parties in conflict

5.2.2. RECOMMENDATIONS FOR ORGANIZATION UNDERTAKING THE PROJECT

The following points are recommended for organization undertaking the project for further consideration:

- Contractor's organization to take full benefits of the window of clarification, typically provided by client during tender process, to identify, minimize or transfer or even avoid uncertainties induce by the client's project requirement
- Contractor's organization to build its capacity and competency to cope the potential project conflicts such as conflict over man-power resources, cost objectives, project schedule, project priorities, technical issues, administrative procedures and personality conflicts
- The required capacity and competency can be achieved by establishing a set of working procedures to be adhered by all groups in the project and functional departments. Internal audit activities shall be used to monitor the adherence of the groups to these set of working procedures, subsequently findings and observations resulting from the audit activities shall be monitored and closed-out. These working procedures and audit activities can ensure a predictable performance of the organization which would also be beneficial for the shareholders
- Specifically to the potential personality conflict, contractor's organization code of business conduct along with its helpline certainly would be playing a very significant and importance role in ensuring a constructive, conducive and warm atmosphere at workplace

5.2.3. RECOMMENDATIONS FOR FUTURE RESEARCH

The following points are recommended for future research:

- Considering that some of the correlation coefficients are not statistically significant, refining the design of the questionnaire e.g. developing a dual-

language version and enlarging size of the sample population might be worth considering for future research on the same topic

- Project has its own life-cycle. The level of uncertainty in each of the cycle varies henceforth this might affect the interaction between project team members as well as between the project team members and Project Manager so that it becomes more complex and induce different level of conflict intensity, type of conflict i.e. functional or dysfunctional, etc. It is therefore recommended for future research to explore and investigate as to which of the conflict approaches is/are more appropriately be utilized by Project Manager during each of the project life-cycle
- Since project team members consists of different people with diverse educational & professional background, culture, values and nationality, it is recommended to explore and investigate the correlation between these cultural dimensions and other characteristic of project team members with conflict approaches and effectiveness of the project management
- Project stakeholder is not only those of within the organization, it is therefore recommended to explore and investigate if conflict approaches i.e. cooperative, confirmative, competitive and avoidance approaches are also relevant to be implemented in managing project conflicts particularly those of involving other external project stakeholder such as customer/client, suppliers, subcontractor, government authorities and surrounding community
- Leadership style of Project Manager is an important factor in ensuring project success which requires managing project conflict. Exploration and investigation on its impacts and correlation between leadership styles with conflict management approaches would therefore be recommended for future research
- Sorting the preferred conflict approaches to each of source of project conflicts i.e. man-power resources, cost, schedule, technical issues, administrative procedures and personal conflict would also be an interesting topic to be explored for future research

REFERENCES

Adams, J.R. & Kirchof, N.S.(1982). *Conflict management for project managers.* Drexel Hill, PA: Project Management Institute.

Allison, C. T (1971). *Essence of decision.* Boston: Little, Brown.

Anakwe, U., Purohit, Y. S., & Simmers, C. (1999). Cultural influences on conflict management styles: A comparative analysis between U.S. and Nigeria. *Proceedings of the Eastern Academy of Management International Conference - Managing in a Global Economy VIII*, Prague, Czech Republic.

Anantatmula, V. S. (2010). Project manager leadership role in improving project performance. *Engineering Management Journal,* 22 (1), 13-22.

Augsburger, D. W. (1992). *Conflict mediation across cultures: Pathways and patterns.* Louisville, KY: Westminster/John Knox.

Barker, J., Tjosvold, D., & Andrews, I.R. (1988). Conflict approaches of effective and ineffective project managers: A field study in a matrix organization. *Journal of Management Studies,* 25(2), 167-178.

Baron, R. A. (1990). *Conflict in organizations.* In K. R. Murphy & F. E. Saal (Eds.), *Psychology in organizations: Integrating science and practice.* Hillsdale, NJ: Erlbaum.

Blake, R. R. & Mouton, J. S. (1964). *The managerial grid: Key Orientations for achieving production through people.* Houston, TX: Gulf.

Brown, L. (1983). *Managing conflict at organizational interfaces.* Reading, MA: Addison-Wesley

Chuad, K.B., Tummula, V.M.R., & Nkasu, M.M. (1995). Project management structures in Hong Kong industries. *International Journal of Project Management,* 13(4), 253-257.

Deutsch, M. (1973). *The resolution of conflict.* New Haven, CT: Yale University Press.

Deutsch, M. (1973). Conflicts: Productive and destructive. In Jandt, F.E. (Ed.). *Conflict resolution through communication* (pp. 156). New York: Harper & Row.

Deutsch, M. (1980). Fifty years of conflict. In Festinger, L. (Ed.), *Retrospections on Social Psychology* (pp. 46-77). New York: Oxford University Press.

Donohue, W. A. & Kolt, R. (1992). *Managing Interpersonal Conflict.* Newbury Park, CA: Sage.

Epic, C. (2002). Nigerian business negotiators: Cultural characteristics. *Journal of African Business*, 3(2), 105-126.

Eisenhardt, K. & Schoonhoven, C. (1990). Organizational growth: Linking founding team, strategy, environment, and growth among U.S. semiconductor ventures, 1978-1988. *Administrative Science Quarterly,* 35(1), 504-529.

Gire, J.T. & Garment, D.W. (2001). Dealing with disputes: The influence of individualism-collectivism. *The Journal of Social Psychology,* 133(1), 81-95.

Gobeli, D., & Larson, E. (1987). Relative effectiveness of different project structures. *Project Management Journal*, 18(2), 81–85.

Gladstein, D. (1984). A model of task group effectiveness. *Administrative Science Quarterly*, 29(1), 499-517.

Gray, G., Dworatschek, S., Gobeli, D., Knoepfel, H., & Larson, E. (1990). International comparison of project organization structures: use and effectiveness. *International Journal of Project Management*, 8(1), 26–32.

Hellriegel, D., Slocum, J.W. & Woodman, R.W. (1992). *Organizational behavior* (6th ed.). St.Paul:West Pub. Co.

Hill, R. E. (1977). Managing interpersonal conflict in project teams. *Sloan Management Review,* 18(2), 45—61.

Hyvari, I. (2006). Project management effectiveness in project-oriented business organizations. *International Journal of Project Management*, 24 (2), 216–225.

Ika, L. A. (2009). Project success as a topic in project management journals. *Project Management Journal*, 40(4), 6–19.

Kezsbom, D., Schilling, D., & Edward, K. (1989). *Dynamic project management practical guide for managers and engineers.* New York: Wiley.

Kirkman, B.L., Lowe, K.B. & Gibson, C.B. (2006). A quarter century of culture's consequences: A review of empirical research incorporating Hofstede's cultural values framework. *Journal of International Business Studies,* 37(3), 285-320.

Lewin, K. (1948). *Resolving social conflicts: Selected papers on group dynamics.* New York: Harper & Row.

Mack, R. W., & Snyder, R. C. (1957). Analysis of social conflict: Toward an overview and synthesis. *Journal of Conflict Resolution,* 1(2), 212–248.

Maddox, R.C. (1993). *Cross-cultural problems in international business: The role of the cultural integration function*. Westport, CT: Quorum Books.

Paul, S., Samarah, I. M., Seetharaman, P., & Mykytyn, P.P. (2004). An empirical investigation of collaborative conflict management style in group support system-based global virtual teams. *Journal of Management Information Systems*, 21(3), 185-222.

Pondy, I. (1967). Organizational conflict. *Administrative Science Quarterly*, 12(2), 96-320.

Posner, B. (1986). What's all the fighting about? Conflicts in project management. *IEEE Transactions on Engineering Management*, 33(4), 207—211.

Project Management Institute (2004). *A guide to the project management body of knowledge* (3rd ed.). Pennsylvania: Project Management Institute Inc.

Rahim, M. A. & Bonoma, T.V. (1979). Managing organizational conflict: A model for diagnosis and intervention. *Psychological Reports*, 44, 1323-1344.

Rahim, M. A. (1981). Organizational behavior courses for graduate students in business administration: Views from the tower and battlefield. *Psychological Reports,* 49, 583–592.

Rahim, M.A. (1983). *Rahim organizational conflict inventories*. Palo Alto, CA: Consulting Psychologists Press.

Rahim, M.A. (1992). *Managing conflict in organizations* (2nd ed.). Westport, CT: Praeger.

Rahim, M.A. (2001). *Managing conflict in organizations* (3rd ed.). Westport, CT:Quorum Books.

Rahim, M.A. (2002). Toward a theory of managing organizational conflict. *The International Journal of Conflict Management*, 13(3), 206-235.

Ramsey, R.D. (1977). Peacekeeping in the workplace: How to handle personality clashes among employees. *Supervision,* 58, 6-10.

Schmidt, S. & Kochan, T. (1972). Conflict toward conceptual clarity. *Administrative Science Quarterly,* 17, 359-370.

Sihombing, M. M. (2009). *Analisa kepuasan kerja karyawan PT. SAI Indonesia.* Tesis dalam Program Studi Magister Manajemen, Fakultas Ekonomi, Universitas Indonesia.

Swanström, N.L.P. & Weissmann, M.S. (2005). Conflict, conflict prevention and conflict management and beyond: A conceptual exploration. *Concept paper*, p. 9

Thamhain, H.J., & Widemon, D. L. (1975). Conflict management in project life cycles. *Sloan Management Review,* 16(3), 1-50.

Thomas, K.W., & Kilmann, R.H. (1974). *Thomas-Kilmann conflict mode instrument.* Tuxedo, NY:Xicom.

Thomas, K. (1976). Conflict and conflict management. *In Handbook of Industrial and Organizational Psychology* (2nd ed.). Chicago, IL: Rand McNally.

Thomas, K. W. (1992). Conflict and conflict management: Reflections and update. *Journal of Organizational Behavior*, 13, 265-274.

Tjosvold, D. & Deemer, D. K. (1980). Effects of controversy within a cooperative or competitive context on organizational decision making. *Journal of Applied Psychology,* 65(5), 590-595.

Tjosvold, D., Johnson, D. W. & Fabrey, L. (1980). Effects of controversy and defensiveness on cognitive perspective-taking. *Psychological Reports,* 47, 1043-1053.

Tjosvold, D. (1985). Implications of controversy research for management. *Journal of Management,* 11, 221-238.

Tjosvold, D. (1991). Rights and responsibilities of dissent: Cooperative conflict. *Employee Responsibilities and Rights Journal*, 4(1), 13 -23.

Turner, J. R. (1996). Editorial: International project management association global qualification, certification and accreditation. *International Journal of Project Management,* 14, 1–6.

Turner, J. R., & Muller, R. (2003). On the nature of the project as a temporary organization. *International Journal of Project Management,* 21(1), 1-8.

Turner, S.G., Utley, D.R., & Westbrook, J.D. (1998). Project managers and functional managers: case study of job satisfaction in a matrix organization. *Project Management Journal*, 29(3), 11-19.

Van De Vliert, E. & De Dreu, C.W.K. (1994). Optimizing performance by conflict stimulation. *International Journal of Conflict Management*, 5(1), 211-222.

Van der Veer, J (2006, January 25). A vision for meeting energy needs beyond oil. *The Financial Times*, 38-44.

Van Slyke, E. J. (1999). *Listening to conflict: Finding constructive colutions to workplace disputes* (5th ed.). New York:Amacom.

Verma, V.K. (1998). *Human recourses skills for the project manager.* Newton Square, PA:Project Management Institutes Inc.

Wagner, G.W., Jeffrey, P. & Charles, O. (1984). Organizational demography and turnover in top-management groups. *Administrative Science Quarterly*, 29, 74-92.

Wall, V. & Nolan, L. (1986). Perceptions of inequity, satisfaction, and conflict in task-oriented groups. *Human Relations*, 39(4), 1033-1052.

Wall, J. A., & Callister, R. R. (1995). Conflict and its management. *Journal of Management,* 21, 515-558.

Merriam-Webster's desk dictionary . (1993). New York: Random House.

Wideman, R. M. (n.d.). Wideman Comparative Glossary of Project Management Terms v3.1. *---Expert Project Management---*. Retrieved May 15, 2011, from http://www.maxwideman.com/pmglossary/

Wilmot, W.W. & Hocker, J.L (2001). *Interpersonal conflict* (6th ed.). New York: McGraw-Hill Higher Education.

Xie, J, Song, X. M., & Stringfellow, A. (1998). Interfunctional conflict, conflict resolution styles, and new product success: A four-culture comparison. *Management Science,* 44(12), 192-206.

APPENDIX 1
QUESTIONNAIRE

Dear Respondent,

During the course of a project, some conflicts inevitably could not be avoided. In order to succeed conflicts have to be managed appropriately. PROJECT MANAGER's approach towards conflicts in a project is perceived to be one of the key contributing factors in managing conflict. Considering the impacts of globalization, diversity in the project team members is inevitable. Some literatures on the conflict management indicate the correlation between cultural differences and the interpretation of conflict, its management, and in the strategies adopted by individuals as project team member from different countries.

This survey is designed with two objectives in mind. The first objective is seeking respondent's (project team member) expectations and perceptions on how does an EFFECTIVE PROJECT MANAGER manage project conflicts. The notion of EFFECTIVE is conceptualized as PROJECT MANAGER's approach towards conflict creating CONSTRUCTIVE impacts which are characterized by a working atmosphere in which innovation, creativity, and growth are stimulated, decision making process is improved, and group performance is enhanced. INEFFECTIVE notion, on the other hand, is conceptualized as PROJECT MANAGER's approach towards conflict creating COUNTERPRODUCTIVE impacts which are characterized by a working atmosphere in which stress, burnout, and dissatisfaction are exhibited, distrust and suspicion climate is developed, damaged relationship, job performance is reduced, lowered loyalty and commitment, increasing resistance to a change.

The second objective is seeking respondent's input on workplace culture. Such inputs are required to arrive into conclusion that cultural values and differences affect individual approaches towards conflicts.

This survey is divided into 4 (four) sections as follows:

- Section 1 covers your (respondent) demographic details
- Section 2 covers your (respondent) PROJECT MANAGER's demographic details.
- Section 3 covers your (respondent) expectations & perceptions on how does an EFFECTIVE PROJECT MANAGER manage project conflicts.
- Section 4 covers your (respondent) comment and suggestion on the above mentioned topics.

This survey is designed for a **RESEARCH** purpose only and result would only be reported on its aggregate level. It is therefore, **confidentiality of your responses is assured**. There is no **RIGHT or WRONG** response; respondent to respond freely and openly representing his/her project conflicts experiences, feelings, expectations, perceptions and opinion.

Thank you very much for participating in this survey.

Adhi Cahyono
MM-MBA Program, Class of 2009

Conflict Approaches of Effective Project Manager

Section 1: Demographic Data of yourself

Instruction: Please choose your demographic information by crossing (X) on the right box.

1. Gender

☐ Female

☐ Male

2. Age

☐ < 25 years ☐ 45-54 years

☐ 25-34 years ☐ 55-64 years

☐ 35-45 years ☐ > 64 years

3. Marital status

☐ Single

☐ Married

☐ Other, please specify: _____

4. Highest level of education

☐ Lower than High School ☐ Bachelor

☐ High School ☐ Master

☐ Diploma ☐ Doctorate

5. Citizenship

☐ Indian ☐ Malaysian ☐ American

☐ Japanese ☐ Indonesian ☐ Australian

☐ Chinese ☐ Filipino ☐ British

☐ Korean ☐ Singaporean ☐ Other, please specify _____

6. Full-time work experience, in years

☐ 1-2 years ☐ >15-20 years

- ☐ >2-5 years
- ☐ >5-10 years
- ☐ >10-15 years
- ☐ >20-25 years
- ☐ >25-30 years
- ☐ > 30 years

7. Your current position

- ☐ Engineering Staff
- ☐ Procurement Staff
- ☐ Manager
- ☐ Supporting Staff
- ☐ Construction Staff
- ☐ Other, please specify _____

8. Your position by organizational level

- ☐ Top management
- ☐ Middle management
- ☐ Supporting staff

9. Length of service in your current organization

- ☐ 1-2 years
- ☐ >2-5 years
- ☐ >5-10 years
- ☐ >10-15 years
- ☐ >15-20 years
- ☐ >20-25 years
- ☐ >25-30 years
- ☐ > 30 years

10. Length of service in your current position

- ☐ 1-2 years
- ☐ >2-5 years
- ☐ >5-10 years
- ☐ >10-15 years
- ☐ >15-20 years
- ☐ >20-25 years
- ☐ >25-30 years
- ☐ > 30 years

11. Type of your current Company

- ☐ Private
- ☐ Public company

12. Number of employees in your Company

☐	< 50	☐	201-500
☐	51-100	☐	501-999
☐	101-200	☐	>1.000

13. Foreign ownership in your Company

☐ No

☐ Yes, specify percentage of foreign ownership by country:

- _____: _____ %
- _____: _____ %
- _____: _____ %
- _____: _____ %

14. Number of subordinates directly reporting to you

☐	1-2	☐	11-15	☐	> 26
☐	3-5	☐	16-20	☐	None
☐	6-10	☐	21-25		

NOW, you are going to rate the conflict management style of your PROJECT MANAGER as you perceive it. Please answer all items in Section 2-Section 3 and your workplace cultures in section 4. For the purpose of keeping track, we need you to put the name of your company and number of years you work with your PROJECT MANAGER . Please be assured that **the answers to this questionnaire will be kept confidential**. The purpose of this study is for RESEARCH only. The result of the study will be reported only at the aggregate level.

Name of your organization (optional): _____

Number of years you work with this PROJECT MANAGER: _____ years

Section 2: Demographic Data of Your PROJECT MANAGER

Instruction:
Please choose the answer that indicates demographic information of your PROJECT MANAGER by crossing (X) on the right box.

15. Gender of your PROJECT MANAGER

☐ Female

☐ Male

16. Age of your PROJECT MANAGER

☐ < 25 years ☐ 45-54 years ☐ Don't know

☐ 25-34 years ☐ 55-64 years

☐ 35-45 years ☐ > 64 years

17. Marital status of your PROJECT MANAGER

☐ Single

☐ Married

☐ Other, please specify _____

18. Highest level of education of your PROJECT MANAGER

☐ Lower than High School ☐ Bachelor ☐ Don't know

☐ High School ☐ Master

☐ Diploma ☐ Doctorate

19. Citizenship of your PROJECT MANAGER

☐ Indian ☐ Malaysian ☐ American

☐ Japanese ☐ Indonesian ☐ Australian

☐ Chinese ☐ Filipino ☐ British

☐ Korean ☐ Singaporean ☐ Other, please specify _____

20. Length of service your PROJECT MANAGER in current organization

☐ 1-2 years ☐ >15-20 years ☐ Don't know

☐ >2-5 years ☐ >20-25 years

☐ >5-10 years ☐ >25-30 years

☐ >10-15 years ☐ > 30 years

21. Length of service your PROJECT MANAGER in current position

☐ 1-2 years ☐ >15-20 years ☐ Don't know

☐ >2-5 years ☐ >20-25 years

☐ >5-10 years ☐ >25-30 years

☐ >10-15 years ☐ > 30 years

22. Number of subordinates directly reporting to your PROJECT MANAGER

☐ 1-2 ☐ 11-15 ☐ > 26

☐ 3-5 ☐ 16-20

☐ 6-10 ☐ 21-25

Section 3: **How does your PROJECT MANAGER handle conflicts?**

Instruction: As your PROJECT MANAGER may have incompatibilities, disagreements, or differences (i.e., conflict) with his/her subordinates including you as project team member, rate each of the following statements to indicate **how he/she as a leader handles conflicts with his/her project team members**. Try to recall as many recent conflict situations (he/she had with his/her project team members) as possible in ranking these statements.

There is no right or wrong answers. The response, which is most frequently exhibited behavior of your PROJECT MANAGER, is the best answer. Any other answer, which may be considered as more desirable or acceptable, will simply lead to misleading information.

Please cross in the related box based on the specified rating scale below:

1. Never
2. Seldom
3. Sometimes
4. Often
5. Always

	MY PROJECT MANAGER	Never	Seldom	Some-times	Often	Always
1.	The project manager encourages a "we are in it together" attitude.					
2.	When disagreeing with others, the project manager is careful to communicate respect for them as people while criticizing their ideas.					
3.	The project manager sticks to his position to get others to compromise.					
4.	The project manager encourages others to express their feelings and views fully.					
5.	The people working on the project expressed different opinions.					
6.	I work harder on the project because of conflict we have on the project.					
7.	Generally speaking, I am very satisfied with my work on the project.					
8.	The project manager seeks a solution that will be good for all of us.					

	MY PROJECT MANAGER	Never	Seldom	Some-times	Often	Always
9.	The project manager allows the people working in the project to blame each other.					
10.	The project manager demands that I agree to his/her position.					
11.	The project manager tries to keep differences of opinion quiet.					
12.	The people working on the project have different perspectives on problems.					
13.	Constructive change on the project occurs because of conflicts.					
14.	I feel a strong commitment to the project.					
15.	The project manager encourages the people working on the project to try to understand the problem fully.					
16.	Generally tries to satisfy the needs of other members.					
17.	The project manager wants others to make concessions, but doesn't want to make concessions himself/herself.					
18.	The project manager tries to keep anger and frustration from being expressed.					
19.	The people working on the project conflict about how to proceed on tasks.					
20.	I know the project manager better and am more sensitive to him because of the way he handles conflicts.					
21.	My co-workers on the project and I feel highly committed to the goals of the project.					

	MY PROJECT MANAGER	Never	Seldom	Some-times	Often	Always
22.	The project manager tries to understand others' views and positions.					
23.	Usually accommodates the wishes of his/her subordinates.					
24.	The project manager treats issues in conflict as a win-lose contest.					
25.	The project manager smoothes over conflicts by trying to ignore them.					
26.	The people working on the project conflict about how they should relate to each other or work together.					
27.	I feel energized and ready to get down to work after a conflict.					
28.	The way that the project manager supervises my work on the project: a) inspires me to better job performance.					
	b) makes me think seriously about quitting or asking for a transfer.					
29.	The project manager ensures that the people working on the project understand a problem before seeking a solution.					
30.	Gives in to the wishes of his/her subordinates.					
31.	The project manager overstates his/her needs and position to get his/her way.					
32.	Attempts to avoid being “put on the spot” and tries to keep his/her conflict with his/her subordinates to him/herself.					
33.	The people working on the project get upset at each other.					

	MY PROJECT MANAGER	Never	Seldom	Some-times	Often	Always
34.	I feel hostile to the project manager after a conflict.					
35.	I have a high degree of trust in the project manager's job competence.					
36.	The project manager encourages a lot of “give and take”.					
37	Usually allows concessions to his/her subordinates.					
38.	The project manager makes it costly for me to hold my view.					
39.	Usually avoids open discussion of his/her differences with his/her subordinates.					
40.	People working on the project disagree about the best way to accomplish the goals of the project.					
41.	Generally I feel I have benefited from conflict on the project team.					
42.	All things considered I am highly pleased with the way in which the project manager supervises my work on the project.					
43.	The project manager combines the best of his/her position with those of others to make an effective decision.					
44.	Often goes along with the suggestions of his/her subordinates.					
45.	The project manager forces functional groups to accept schedules and budgets with which they are not comfortable.					
46.	Tries to stay away from disagreement with his/her subordinates.					
47.	Tries to bring all our concerns out in the open so that the issues can be resolved in the best possible way.					

	MY PROJECT MANAGER	Never	Seldom	Some-times	Often	Always
48.	Tries to satisfy the expectations of his/her subordinates.					
49.	Uses his/her authority to make a decision in his/her favor.					
50.	Tries to avoid unpleasant exchanges with his/her subordinates.					

Section 4: Comment & Suggestion about Your Project Manager

Conflict management of your project manager:

Comment:

.....

.....

.....

Suggestion:

.....

.....

.....

Effective Project Management:

Comment:

.....

.....

.....

Suggestion:

.....

.....

.....

APPENDIX 2
VALIDITY TESTS

COOPERATIVE

Correlation Matrix[a]

		COOP_1	COOP_2	COOP_3	COOP_4	COOP_5	COOP_7	COOP_8
Correlation	COOP_1	1.000	.579	.547	.605	.476	.489	.443
	COOP_2	.579	1.000	.433	.611	.501	.530	.415
	COOP_3	.547	.433	1.000	.678	.289	.627	.552
	COOP_4	.605	.611	.678	1.000	.328	.531	.468
	COOP_5	.476	.501	.289	.328	1.000	.549	.388
	COOP_7	.489	.530	.627	.531	.549	1.000	.705
	COOP_8	.443	.415	.552	.468	.388	.705	1.000
Sig. (1-tailed)	COOP_1		.000	.000	.000	.000	.000	.000
	COOP_2	.000		.000	.000	.000	.000	.001
	COOP_3	.000	.000		.000	.015	.000	.000
	COOP_4	.000	.000	.000		.006	.000	.000
	COOP_5	.000	.000	.015	.006		.000	.001
	COOP_7	.000	.000	.000	.000	.000		.000
	COOP_8	.000	.001	.000	.000	.001	.000	

a. Determinant = .026

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.835
Bartlett's Test of Sphericity	Approx. Chi-Square	192.355
	df	21
	Sig.	.000

Anti-image Matrices

		COOP_1	COOP_2	COOP_3	COOP_4	COOP_5	COOP_7	COOP_8
Anti-image Covariance	COOP_1	.492	-.110	-.091	-.097	-.137	.030	-.039
	COOP_2	-.110	.485	.054	-.160	-.118	-.062	.005
	COOP_3	-.091	.054	.404	-.172	.072	-.120	-.052
	COOP_4	-.097	-.160	-.172	.395	.042	-.004	-.014
	COOP_5	-.137	-.118	.072	.042	.584	-.156	.006
	COOP_7	.030	-.062	-.120	-.004	-.156	.337	-.195
	COOP_8	-.039	.005	-.052	-.014	.006	-.195	.478
Anti-image Correlation	COOP_1	.884[a]	-.226	-.204	-.220	-.255	.074	-.081
	COOP_2	-.226	.854[a]	.122	-.366	-.221	-.154	.010
	COOP_3	-.204	.122	.819[a]	-.430	.148	-.325	-.119
	COOP_4	-.220	-.366	-.430	.828[a]	.088	-.011	-.032
	COOP_5	-.255	-.221	.148	.088	.808[a]	-.351	.012
	COOP_7	.074	-.154	-.325	-.011	-.351	.802[a]	-.485
	COOP_8	-.081	.010	-.119	-.032	.012	-.485	.857[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
COOP_1	1.000	.601
COOP_2	1.000	.578
COOP_3	1.000	.611
COOP_4	1.000	.637
COOP_5	1.000	.413
COOP_7	1.000	.695
COOP_8	1.000	.555

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.089	58.408	58.408	4.089	58.408	58.408
2	.830	11.856	70.264			
3	.763	10.901	81.165			
4	.442	6.315	87.480			
5	.386	5.515	92.995			
6	.272	3.892	96.887			
7	.218	3.113	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
COOP_1	.775
COOP_2	.760
COOP_3	.782
COOP_4	.798
COOP_5	.642
COOP_7	.834
COOP_8	.745

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

COOPERATIVE DIMENSION REDUCTION

Correlation Matrix[a]

		COOP_1	COOP_2	COOP_3	COOP_4	COOP_7	COOP_8
Correlation	COOP_1	1.000	.579	.547	.605	.489	.443
	COOP_2	.579	1.000	.433	.611	.530	.415
	COOP_3	.547	.433	1.000	.678	.627	.552
	COOP_4	.605	.611	.678	1.000	.531	.468
	COOP_7	.489	.530	.627	.531	1.000	.705
	COOP_8	.443	.415	.552	.468	.705	1.000
Sig. (1-tailed)	COOP_1		.000	.000	.000	.000	.000
	COOP_2	.000		.000	.000	.000	.001
	COOP_3	.000	.000		.000	.000	.000
	COOP_4	.000	.000	.000		.000	.000
	COOP_7	.000	.000	.000	.000		.000
	COOP_8	.000	.001	.000	.000	.000	

a. Determinant = .045

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.828
Bartlett's Test of Sphericity	Approx. Chi-Square	164.989
	df	15
	Sig.	.000

Anti-image Matrices

		COOP_1	COOP_2	COOP_3	COOP_4	COOP_7	COOP_8
Anti-image Covariance	COOP_1	.527	-.155	-.081	-.094	-.008	-.040
	COOP_2	-.155	.510	.074	-.161	-.112	.006
	COOP_3	-.081	.074	.413	-.182	-.117	-.054
	COOP_4	-.094	-.161	-.182	.398	.008	-.014
	COOP_7	-.008	-.112	-.117	.008	.384	-.220
	COOP_8	-.040	.006	-.054	-.014	-.220	.478
Anti-image Correlation	COOP_1	.895[a]	-.299	-.174	-.205	-.018	-.080
	COOP_2	-.299	.814[a]	.161	-.357	-.254	.013
	COOP_3	-.174	.161	.821[a]	-.450	-.294	-.122
	COOP_4	-.205	-.357	-.450	.820[a]	.021	-.033
	COOP_7	-.018	-.254	-.294	.021	.803[a]	-.513
	COOP_8	-.080	.013	-.122	-.033	-.513	.829[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
COOP_1	1.000	.594
COOP_2	1.000	.559
COOP_3	1.000	.665
COOP_4	1.000	.682
COOP_7	1.000	.676
COOP_8	1.000	.568

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.744	62.395	62.395	3.744	62.395	62.395
2	.765	12.758	75.153			
3	.541	9.018	84.171			
4	.419	6.983	91.154			
5	.302	5.026	96.180			
6	.229	3.820	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
COOP_1	.771
COOP_2	.748
COOP_3	.815
COOP_4	.826
COOP_7	.822
COOP_8	.754

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

CONFIRMATIVE

Correlation Matrix[a]

		CONF_1	CONF_3	CONF_4	CONF_5	CONF_7	CONF_8
Correlation	CONF_1	1.000	.454	.419	.416	.384	.253
	CONF_3	.454	1.000	.635	.451	.408	.602
	CONF_4	.419	.635	1.000	.538	.517	.530
	CONF_5	.416	.451	.538	1.000	.464	.449
	CONF_7	.384	.408	.517	.464	1.000	.440
	CONF_8	.253	.602	.530	.449	.440	1.000
Sig. (1-tailed)	CONF_1		.000	.001	.001	.002	.029
	CONF_3	.000		.000	.000	.001	.000
	CONF_4	.001	.000		.000	.000	.000
	CONF_5	.001	.000	.000		.000	.000
	CONF_7	.002	.001	.000	.000		.000
	CONF_8	.029	.000	.000	.000	.000	

a. Determinant = .111

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.833
Bartlett's Test of Sphericity	Approx. Chi-Square	116.933
	Df	15
	Sig.	.000

Anti-image Matrices

		CONF_1	CONF_3	CONF_4	CONF_5	CONF_7	CONF_8
Anti-image Covariance	CONF_1	.699	-.150	-.045	-.129	-.114	.092
	CONF_3	-.150	.461	-.168	-.012	.018	-.200
	CONF_4	-.045	-.168	.469	-.125	-.127	-.064
	CONF_5	-.129	-.012	-.125	.613	-.109	-.095
	CONF_7	-.114	.018	-.127	-.109	.642	-.110
	CONF_8	.092	-.200	-.064	-.095	-.110	.554
Anti-image Correlation	CONF_1	.822[a]	-.265	-.078	-.197	-.170	.148
	CONF_3	-.265	.789[a]	-.361	-.022	.032	-.396
	CONF_4	-.078	-.361	.845[a]	-.233	-.232	-.126
	CONF_5	-.197	-.022	-.233	.878[a]	-.174	-.163
	CONF_7	-.170	.032	-.232	-.174	.870[a]	-.184
	CONF_8	.148	-.396	-.126	-.163	-.184	.812[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
CONF_1	1.000	.401
CONF_3	1.000	.648
CONF_4	1.000	.685
CONF_5	1.000	.550
CONF_7	1.000	.509
CONF_8	1.000	.547

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.339	55.653	55.653	3.339	55.653	55.653
2	.769	12.821	68.474			
3	.634	10.559	79.033			
4	.529	8.811	87.845			
5	.429	7.146	94.991			
6	.301	5.009	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
CONF_1	.633
CONF_3	.805
CONF_4	.828
CONF_5	.742
CONF_7	.713
CONF_8	.739

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

CONFIRMATIVE DIMENSION REDUCTION

Correlation Matrix[a]

		CONF_3	CONF_4	CONF_5	CONF_7	CONF_8
Correlation	CONF_3	1.000	.635	.451	.408	.602
	CONF_4	.635	1.000	.538	.517	.530
	CONF_5	.451	.538	1.000	.464	.449
	CONF_7	.408	.517	.464	1.000	.440
	CONF_8	.602	.530	.449	.440	1.000
Sig. (1-tailed)	CONF_3		.000	.000	.001	.000
	CONF_4	.000		.000	.000	.000
	CONF_5	.000	.000		.000	.000
	CONF_7	.001	.000	.000		.000
	CONF_8	.000	.000	.000	.000	

a. Determinant = .159

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.828
Bartlett's Test of Sphericity	Approx. Chi-Square	98.489
	Df	10
	Sig.	.000

Anti-image Matrices

		CONF_3	CONF_4	CONF_5	CONF_7	CONF_8
Anti-image Covariance	CONF_3	.495	-.192	-.044	-.008	-.198
	CONF_4	-.192	.471	-.139	-.140	-.060
	CONF_5	-.044	-.139	.637	-.140	-.083
	CONF_7	-.008	-.140	-.140	.662	-.100
	CONF_8	-.198	-.060	-.083	-.100	.567
Anti-image Correlation	CONF_3	.789[a]	-.397	-.079	-.013	-.374
	CONF_4	-.397	.806[a]	-.254	-.250	-.116
	CONF_5	-.079	-.254	.870[a]	-.215	-.138
	CONF_7	-.013	-.250	-.215	.862[a]	-.163
	CONF_8	-.374	-.116	-.138	-.163	.839[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
CONF_3	1.000	.648
CONF_4	1.000	.702
CONF_5	1.000	.548
CONF_7	1.000	.514
CONF_8	1.000	.608

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.021	60.423	60.423	3.021	60.423	60.423
2	.660	13.206	73.629			
3	.536	10.712	84.341			
4	.460	9.206	93.548			
5	.323	6.452	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
CONF_3	.805
CONF_4	.838
CONF_5	.741
CONF_7	.717
CONF_8	.780

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

COMPETITIVE

Correlation Matrix[a]

		COMP_2	COMP_3	COMP_4	COMP_5
Correlation	COMP_2	1.000	.477	.268	.343
	COMP_3	.477	1.000	.467	.556
	COMP_4	.268	.467	1.000	.510
	COMP_5	.343	.556	.510	1.000
Sig. (1-tailed)	COMP_2		.000	.022	.004
	COMP_3	.000		.000	.000
	COMP_4	.022	.000		.000
	COMP_5	.004	.000	.000	

a. Determinant = .365

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.738
Bartlett's Test of Sphericity	Approx. Chi-Square	54.324
	df	6
	Sig.	.000

Anti-image Matrices

		COMP_2	COMP_3	COMP_4	COMP_5
Anti-image Covariance	COMP_2	.763	-.231	-.016	-.063
	COMP_3	-.231	.566	-.146	-.209
	COMP_4	-.016	-.146	.691	-.218
	COMP_5	-.063	-.209	-.218	.606
Anti-image Correlation	COMP_2	.759[a]	-.351	-.023	-.093
	COMP_3	-.351	.713[a]	-.233	-.356
	COMP_4	-.023	-.233	.766[a]	-.337
	COMP_5	-.093	-.356	-.337	.734[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
COMP_2	1.000	.434
COMP_3	1.000	.698
COMP_4	1.000	.544
COMP_5	1.000	.648

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.325	58.115	58.115	2.325	58.115	58.115
2	.768	19.209	77.324			
3	.493	12.335	89.659			
4	.414	10.341	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
COMP_2	.659
COMP_3	.835
COMP_4	.738
COMP_5	.805

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

COMPETITIVE DIMENSION REDUCTION

Correlation Matrix[a]

		COMP_3	COMP_4	COMP_5
Correlation	COMP_3	1.000	.467	.556
	COMP_4	.467	1.000	.510
	COMP_5	.556	.510	1.000
Sig. (1-tailed)	COMP_3		.000	.000
	COMP_4	.000		.000
	COMP_5	.000	.000	

a. Determinant = .478

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.688
Bartlett's Test of Sphericity	Approx. Chi-Square	40.016
	df	3
	Sig.	.000

Anti-image Matrices

		COMP_3	COMP_4	COMP_5
Anti-image Covariance	COMP_3	.646	-.172	-.262
	COMP_4	-.172	.691	-.221
	COMP_5	-.262	-.221	.611
Anti-image Correlation	COMP_3	.687[a]	-.257	-.417
	COMP_4	-.257	.724[a]	-.340
	COMP_5	-.417	-.340	.662[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
COMP_3	1.000	.676
COMP_4	1.000	.634
COMP_5	1.000	.712

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.023	67.424	67.424	2.023	67.424	67.424
2	.540	17.988	85.411			
3	.438	14.589	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
COMP_3	0.82
COMP_4	0.8
COMP_5	0.84

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

AVOIDANCE

Correlation Matrix[a]

		AVOI_1	AVOI_2	AVOI_4	AVOI_5	AVOI_6	AVOI_7
Correlation	AVOI_1	1.000	.490	.394	.401	.550	.431
	AVOI_2	.490	1.000	.414	.352	.630	.490
	AVOI_4	.394	.414	1.000	.517	.558	.634
	AVOI_5	.401	.352	.517	1.000	.475	.537
	AVOI_6	.550	.630	.558	.475	1.000	.637
	AVOI_7	.431	.490	.634	.537	.637	1.000
Sig. (1-tailed)	AVOI_1		.000	.001	.001	.000	.000
	AVOI_2	.000		.001	.004	.000	.000
	AVOI_4	.001	.001		.000	.000	.000
	AVOI_5	.001	.004	.000		.000	.000
	AVOI_6	.000	.000	.000	.000		.000
	AVOI_7	.000	.000	.000	.000	.000	

a. Determinant = .081

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.864
Bartlett's Test of Sphericity	Approx. Chi-Square	133.810
	Df	15
	Sig.	.000

Anti-image Matrices

		AVOI_1	AVOI_2	AVOI_4	AVOI_5	AVOI_6	AVOI_7
Anti-image Covariance	AVOI_1	.640	-.123	-.023	-.091	-.123	-.012
	AVOI_2	-.123	.564	-.012	.006	-.181	-.052
	AVOI_4	-.023	-.012	.527	-.128	-.076	-.172
	AVOI_5	-.091	.006	-.128	.632	-.042	-.118
	AVOI_6	-.123	-.181	-.076	-.042	.408	-.121
	AVOI_7	-.012	-.052	-.172	-.118	-.121	.450
Anti-image Correlation	AVOI_1	.895[a]	-.205	-.040	-.143	-.241	-.022
	AVOI_2	-.205	.857[a]	-.021	.010	-.377	-.103
	AVOI_4	-.040	-.021	.866[a]	-.221	-.164	-.353
	AVOI_5	-.143	.010	-.221	.895[a]	-.082	-.221
	AVOI_6	-.241	-.377	-.164	-.082	.839[a]	-.283
	AVOI_7	-.022	-.103	-.353	-.221	-.283	.852[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
AVOI_1	1.000	.492
AVOI_2	1.000	.539
AVOI_4	1.000	.593
AVOI_5	1.000	.500
AVOI_6	1.000	.720
AVOI_7	1.000	.675

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.519	58.654	58.654	3.519	58.654	58.654
2	.775	12.909	71.564			
3	.573	9.553	81.117			
4	.462	7.699	88.816			
5	.363	6.046	94.862			
6	.308	5.138	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
AVOI_1	.702
AVOI_2	.734
AVOI_4	.770
AVOI_5	.707
AVOI_6	.849
AVOI_7	.822

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

AVOIDANCE DIMENSION REDUCTION

Correlation Matrix[a]

		AVOI_2	AVOI_4	AVOI_5	AVOI_6	AVOI_7
Correlation	AVOI_2	1.000	.414	.352	.630	.490
	AVOI_4	.414	1.000	.517	.558	.634
	AVOI_5	.352	.517	1.000	.475	.537
	AVOI_6	.630	.558	.475	1.000	.637
	AVOI_7	.490	.634	.537	.637	1.000
Sig. (1-tailed)	AVOI_2		.001	.004	.000	.000
	AVOI_4	.001		.000	.000	.000
	AVOI_5	.004	.000		.000	.000
	AVOI_6	.000	.000	.000		.000
	AVOI_7	.000	.000	.000	.000	

a. Determinant = .126

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.830
Bartlett's Test of Sphericity	Approx. Chi-Square	110.809
	Df	10
	Sig.	.000

Anti-image Matrices

		AVOI_2	AVOI_4	AVOI_5	AVOI_6	AVOI_7
Anti-image Covariance	AVOI_2	.588	-.017	-.012	-.227	-.057
	AVOI_4	-.017	.528	-.134	-.086	-.173
	AVOI_5	-.012	-.134	.646	-.064	-.122
	AVOI_6	-.227	-.086	-.064	.433	-.131
	AVOI_7	-.057	-.173	-.122	-.131	.451
Anti-image Correlation	AVOI_2	.812[a]	-.030	-.019	-.449	-.110
	AVOI_4	-.030	.845[a]	-.229	-.179	-.354
	AVOI_5	-.019	-.229	.884[a]	-.121	-.227
	AVOI_6	-.449	-.179	-.121	.799[a]	-.298
	AVOI_7	-.110	-.354	-.227	-.298	.828[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
AVOI_2	1.000	.526
AVOI_4	1.000	.634
AVOI_5	1.000	.520
AVOI_6	1.000	.714
AVOI_7	1.000	.716

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.110	62.208	62.208	3.110	62.208	62.208
2	.718	14.357	76.566			
3	.494	9.879	86.444			
4	.363	7.255	93.700			
5	.315	6.300	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
AVOI_2	.725
AVOI_4	.797
AVOI_5	.721
AVOI_6	.845
AVOI_7	.846

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

CONFLICT INTENSITY

Correlation Matrix[a]

		INTENS_2	INTENS_3	INTENS_5	INTENS_6
Correlation	INTENS_2	1.000	.461	.356	.444
	INTENS_3	.461	1.000	.406	.490
	INTENS_5	.356	.406	1.000	.396
	INTENS_6	.444	.490	.396	1.000
Sig. (1-tailed)	INTENS_2		.000	.003	.000
	INTENS_3	.000		.001	.000
	INTENS_5	.003	.001		.001
	INTENS_6	.000	.000	.001	

a. Determinant = .422

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.769
Bartlett's Test of Sphericity	Approx. Chi-Square	46.394
	Df	6
	Sig.	.000

Anti-image Matrices

		INTENS_2	INTENS_3	INTENS_5	INTENS_6
Anti-image Covariance	INTENS_2	.708	-.184	-.110	-.168
	INTENS_3	-.184	.655	-.150	-.200
	INTENS_5	-.110	-.150	.767	-.144
	INTENS_6	-.168	-.200	-.144	.672
Anti-image Correlation	INTENS_2	.777[a]	-.270	-.150	-.243
	INTENS_3	-.270	.748[a]	-.212	-.301
	INTENS_5	-.150	-.212	.807[a]	-.201
	INTENS_6	-.243	-.301	-.201	.758[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
INTENS_2	1.000	.562
INTENS_3	1.000	.623
INTENS_5	1.000	.489
INTENS_6	1.000	.606

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.280	56.998	56.998	2.280	56.998	56.998
2	.657	16.418	73.416			
3	.556	13.892	87.308			
4	.508	12.692	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
INTENS_2	.749
INTENS_3	.790
INTENS_5	.699
INTENS_6	.778

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

CONFLICT INTENSITY DIMENSION REDUCTION

Correlation Matrix[a]

		INTENS_2	INTENS_3	INTENS_6
Correlation	INTENS_2	1.000	.461	.444
	INTENS_3	.461	1.000	.490
	INTENS_6	.444	.490	1.000
Sig. (1-tailed)	INTENS_2		.000	.000
	INTENS_3	.000		.000
	INTENS_6	.000	.000	

a. Determinant = .551

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.680
Bartlett's Test of Sphericity	Approx. Chi-Square	32.308
	Df	3
	Sig.	.000

Anti-image Matrices

		INTENS_2	INTENS_3	INTENS_6
Anti-image Covariance	INTENS_2	.725	-.220	-.201
	INTENS_3	-.220	.686	-.248
	INTENS_6	-.201	-.248	.700
Anti-image Correlation	INTENS_2	.699[a]	-.312	-.282
	INTENS_3	-.312	.667[a]	-.358
	INTENS_6	-.282	-.358	.678[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
INTENS_2	1.000	.620
INTENS_3	1.000	.663
INTENS_6	1.000	.647

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.930	64.346	64.346	1.930	64.346	64.346
2	.561	18.714	83.060			
3	.508	16.940	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
INTENS_2	.788
INTENS_3	.814
INTENS_6	.804

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

CONSTRUCTIVE CONFLICT

Correlation Matrix[a]

		CCON_1	CCON_2	CCON_4	CCON_6
Correlation	CCON_1	1.000	.468	.168	.508
	CCON_2	.468	1.000	.360	.358
	CCON_4	.168	.360	1.000	.365
	CCON_6	.508	.358	.365	1.000
Sig. (1-tailed)	CCON_1		.000	.106	.000
	CCON_2	.000		.003	.003
	CCON_4	.106	.003		.003
	CCON_6	.000	.003	.003	

a. Determinant = .448

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.634
Bartlett's Test of Sphericity	Approx. Chi-Square	43.170
	df	6
	Sig.	.000

Anti-image Matrices

		CCON_1	CCON_2	CCON_4	CCON_6
Anti-image Covariance	CCON_1	.637	-.250	.091	-.278
	CCON_2	-.250	.697	-.216	-.039
	CCON_4	.091	-.216	.794	-.215
	CCON_6	-.278	-.039	-.215	.659
Anti-image Correlation	CCON_1	.597[a]	-.375	.128	-.429
	CCON_2	-.375	.676[a]	-.290	-.058
	CCON_4	.128	-.290	.605[a]	-.298
	CCON_6	-.429	-.058	-.298	.653[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
CCON_1	1.000	.574
CCON_2	1.000	.573
CCON_4	1.000	.369
CCON_6	1.000	.608

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.125	53.124	53.124	2.125	53.124	53.124
2	.842	21.062	74.187			
3	.643	16.071	90.258			
4	.390	9.742	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
CCON_1	.758
CCON_2	.757
CCON_4	.608
CCON_6	.780

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

CONSTRUCTIVE CONFLICT DIMENSION REDUCTION

Correlation Matrix[a]

		CCON_1	CCON_2	CCON_6
Correlation	CCON_1	1.000	.468	.508
	CCON_2	.468	1.000	.358
	CCON_6	.508	.358	1.000
Sig. (1-tailed)	CCON_1		.000	.000
	CCON_2	.000		.003
	CCON_6	.000	.003	

a. Determinant = .565

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.653
Bartlett's Test of Sphericity	Approx. Chi-Square	30.911
	df	3
	Sig.	.000

Anti-image Matrices

		CCON_1	CCON_2	CCON_6
Anti-image Covariance	CCON_1	.648	-.250	-.283
	CCON_2	-.250	.762	-.117
	CCON_6	-.283	-.117	.724
Anti-image Correlation	CCON_1	.616[a]	-.356	-.413
	CCON_2	-.356	.696[a]	-.158
	CCON_6	-.413	-.158	.664[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
CCON_1	1.000	.709
CCON_2	1.000	.571
CCON_6	1.000	.612

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.892	63.063	63.063	1.892	63.063	63.063
2	.645	21.496	84.559			
3	.463	15.441	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
CCON_1	0.84
CCON_2	0.76
CCON_6	0.78

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

EFFECTIVE PROJECT MANAGEMENT

Correlation Matrix[a]

		EFFPM_2	EFFPM_3	EFFPM_4	EFFPM_5	EFFPM_6	EFFPM_7
Correlation	EFFPM_2	1.000	.712	.475	.399	.424	.459
	EFFPM_3	.712	1.000	.496	.409	.493	.469
	EFFPM_4	.475	.496	1.000	.383	.516	.460
	EFFPM_5	.399	.409	.383	1.000	.592	.562
	EFFPM_6	.424	.493	.516	.592	1.000	.726
	EFFPM_7	.459	.469	.460	.562	.726	1.000
Sig. (1-tailed)	EFFPM_2		.000	.000	.001	.001	.000
	EFFPM_3	.000		.000	.001	.000	.000
	EFFPM_4	.000	.000		.002	.000	.000
	EFFPM_5	.001	.001	.002		.000	.000
	EFFPM_6	.001	.000	.000	.000		.000
	EFFPM_7	.000	.000	.000	.000	.000	

a. Determinant = .062

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.821
Bartlett's Test of Sphericity	Approx. Chi-Square	148.045
	df	15
	Sig.	.000

Anti-image Matrices

		EFFPM_2	EFFPM_3	EFFPM_4	EFFPM_5	EFFPM_6	EFFPM_7
Anti-image Covariance	EFFPM_2	.457	-.258	-.082	-.047	.031	-.058
	EFFPM_3	-.258	.436	-.081	-.019	-.059	-.009
	EFFPM_4	-.082	-.081	.635	-.019	-.107	-.030
	EFFPM_5	-.047	-.019	-.019	.596	-.133	-.098
	EFFPM_6	.031	-.059	-.107	-.133	.386	-.209
	EFFPM_7	-.058	-.009	-.030	-.098	-.209	.425
Anti-image Correlation	EFFPM_2	.768[a]	-.578	-.152	-.089	.073	-.132
	EFFPM_3	-.578	.785[a]	-.153	-.038	-.144	-.021
	EFFPM_4	-.152	-.153	.918[a]	-.030	-.217	-.058
	EFFPM_5	-.089	-.038	-.030	.901[a]	-.277	-.195
	EFFPM_6	.073	-.144	-.217	-.277	.791[a]	-.515
	EFFPM_7	-.132	-.021	-.058	-.195	-.515	.821[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
EFFPM_2	1.000	.564
EFFPM_3	1.000	.605
EFFPM_4	1.000	.514
EFFPM_5	1.000	.524
EFFPM_6	1.000	.678
EFFPM_7	1.000	.651

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.534	58.896	58.896	3.534	58.896	58.896
2	.877	14.621	73.517			
3	.580	9.666	83.183			
4	.457	7.625	90.808			
5	.307	5.115	95.922			
6	.245	4.078	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
EFFPM_2	.751
EFFPM_3	.778
EFFPM_4	.717
EFFPM_5	.724
EFFPM_6	.823
EFFPM_7	.807

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

EFFECTIVE PROJECT MANAGEMENT REDUCTION

Correlation Matrix[a]

		EFFPM_2	EFFPM_3	EFFPM_5	EFFPM_6	EFFPM_7
Correlation	EFFPM_2	1.000	.712	.399	.424	.459
	EFFPM_3	.712	1.000	.409	.493	.469
	EFFPM_5	.399	.409	1.000	.592	.562
	EFFPM_6	.424	.493	.592	1.000	.726
	EFFPM_7	.459	.469	.562	.726	1.000
Sig. (1-tailed)	EFFPM_2		.000	.001	.001	.000
	EFFPM_3	.000		.001	.000	.000
	EFFPM_5	.001	.001		.000	.000
	EFFPM_6	.001	.000	.000		.000
	EFFPM_7	.000	.000	.000	.000	

a. Determinant = .097

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.770
Bartlett's Test of Sphericity	Approx. Chi-Square	124.637
	df	10
	Sig.	.000

Anti-image Matrices

		EFFPM_2	EFFPM_3	EFFPM_5	EFFPM_6	EFFPM_7
Anti-image Covariance	EFFPM_2	.468	-.281	-.050	.018	-.064
	EFFPM_3	-.281	.446	-.022	-.078	-.013
	EFFPM_5	-.050	-.022	.597	-.143	-.099
	EFFPM_6	.018	-.078	-.143	.405	-.225
	EFFPM_7	-.064	-.013	-.099	-.225	.426
Anti-image Correlation	EFFPM_2	.721[a]	-.616	-.095	.042	-.142
	EFFPM_3	-.616	.732[a]	-.043	-.184	-.031
	EFFPM_5	-.095	-.043	.881[a]	-.291	-.197
	EFFPM_6	.042	-.184	-.291	.759[a]	-.541
	EFFPM_7	-.142	-.031	-.197	-.541	.783[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
EFFPM_2	1.000	.567
EFFPM_3	1.000	.607
EFFPM_5	1.000	.560
EFFPM_6	1.000	.689
EFFPM_7	1.000	.680

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.103	62.065	62.065	3.103	62.065	62.065
2	.868	17.360	79.425			
3	.472	9.435	88.859			
4	.310	6.193	95.053			
5	.247	4.947	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
EFFPM_2	.753
EFFPM_3	.779
EFFPM_5	.748
EFFPM_6	.830
EFFPM_7	.825

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

APPENDIX 3
RELIABILITY TESTS

COOPERATIVE

```
RELIABILITY   /VARIABLES=COOP_1 COOP_2 COOP_3 COOP_4 COOP_7 COOP_8
/SCALE('ALL VARIABLES') ALL   /MODEL=ALPHA.
```

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.876	.879	6

CONFIRMATIVE

```
RELIABILITY   /VARIABLES=CONF_3 CONF_4 CONF_5 CONF_7 CONF_8   /SCALE('ALL
VARIABLES') ALL   /MODEL=ALPHA.
```

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.832	.835	5

COMPETITIVE

```
RELIABILITY   /VARIABLES=COMP_3 COMP_4 COMP_5   /SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA.
```

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.756	.758	3

AVOIDANCE

```
RELIABILITY   /VARIABLES=AVOI_2 AVOI_4 AVOI_5 AVOI_6 AVOI_7   /SCALE('ALL
VARIABLES') ALL   /MODEL=ALPHA.
```

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.845	.846	5

CONFLICT INTENSITY

```
RELIABILITY   /VARIABLES=INTENS_2 INTENS_3 INTENS_6   /SCALE('ALL VARIABLES')
ALL   /MODEL=ALPHA.
```

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.712	.723	3

CONSTRUCTIVE CONFLICT

```
RELIABILITY   /VARIABLES=CCON_1 CCON_2 CCON_6   /SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA.
```

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.702	.706	3

EFFECTIVE PROJECT MANAGEMENT

```
RELIABILITY   /VARIABLES=EFFPM_2 EFFPM_3 EFFPM_5 EFFPM_6 EFFPM_7
/SCALE('ALL VARIABLES') ALL   /MODEL=ALPHA.
```

Case Processing Summary

		N	%
Cases	Valid	57	100.0
	Excluded[a]	0	.0
	Total	57	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.847	.847	5

APPENDIX 4
CORRELATION COEFFICIENTS

		COOP	CONF	COMP	AVOI	INTENS	CCON	EFFPM
COOP	Pearson Correlation	1	.624**	-.403**	-.472**	-.123	.001	.777**
	Sig. (2-tailed)		.000	.002	.000	.363	.997	.000
	N	57	57	57	57	57	57	57
CONF	Pearson Correlation	.624**	1	-.132	-.367**	-.175	-.017	.471**
	Sig. (2-tailed)	.000		.329	.005	.192	.902	.000
	N	57	57	57	57	57	57	57
COMP	Pearson Correlation	-.403**	-.132	1	.381**	.243	.269*	-.368**
	Sig. (2-tailed)	.002	.329		.003	.069	.043	.005
	N	57	57	57	57	57	57	57
AVOI	Pearson Correlation	-.472**	-.367**	.381**	1	.087	-.126	-.575**
	Sig. (2-tailed)	.000	.005	.003		.522	.352	.000
	N	57	57	57	57	57	57	57
INTENS	Pearson Correlation	-.123	-.175	.243	.087	1	.279*	-.277*
	Sig. (2-tailed)	.363	.192	.069	.522		.035	.037
	N	57	57	57	57	57	57	57
CCON	Pearson Correlation	.001	-.017	.269*	-.126	.279*	1	.014
	Sig. (2-tailed)	.997	.902	.043	.352	.035		.915
	N	57	57	57	57	57	57	57
EFFPM	Pearson Correlation	.777**	.471**	-.368**	-.575**	-.277*	.014	1
	Sig. (2-tailed)	.000	.000	.005	.000	.037	.915	
	N	57	57	57	57	57	57	57

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).