CONFLICT AND DISPUTE REDUCTION MECHANISM OF PROCUREMENT METHOD FOR CONSTRUCTION INDUSTRY IN MALAYSIA

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To

My respect and loved supervisor, Dr Omar bin Jamaludin
For guidance throughout my research

My beloved parents, Mohd Nasir bin Mat Yasah and Aspalila binti Abdul Karim
For giving me a life full of blessing

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For constantly giving great support

My beloved friend whom I loved
For lightening me up

My almighty
For giving strength and wisdom

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ABSTRACT

In resolving conflict and dispute for construction industry, various conflict management and dispute resolution methods have been and continue to be explored and develop, but the results are still unsatisfactory in views of tremendous increases of initiation of arbitration and litigation cases. This study examines the extent of innovative procurement method as conflict and dispute reduction mechanism compared to traditional procurement method. The study are divided into two part:

Part 1 is concentrated on theory and literature survey, by using texts, journals, conference proceedings, dissertation and computer network information system;

Part 2 is field study on issues related to conflict, dispute and procurement methods. One hundred and fifty postal questionnaire has been sent to key players in construction industry such as client, architect, consultant, contractor and quantity surveyor, to collect information, data and views related to conflict, dispute and procurement methods. The survey reveals that the most common used procurement methods, traditional procurement methods had the highest dispute rate comparing to other innovative procurement methods such as Design and Build, Construction Management and Partnering. The survey also reveals that the usage of innovative procurement methods is able to reduce the frequency of dispute occurrence for Malaysia construction industry. For creating a more harmony and peaceful environment in construction industry, appropriate action need to be taken to encourage the industry maximizing the usage of innovative procurement method.

A**BSTRAK**

Dalam menyelesaikan masalah konflik dan perselisihan industri binaan, berbagai cara pengurusan konflik dan cara penyelesaian perselisihan telah dan sedang diselidik dan dibangunkan, namun hasilnya masih tidak memuaskan memandangkan bilangan kes perselisihan faham yang dibawa ke mahkamah meningkat dengan pesat. Kajian ini mengkaji sejauh mana cara *procurement* inovasi bertindak sebagai cara pengurangan konflik dan perselisihan berbanding dengan cara *procurement* tradisi.Kajian ini terbahagi kepada dua bahagian

Bahagian 1 merupakan kajian teori dan literature, dengan merujukkan kepada buku, jurnal, kertas seminar, disertasi dan system maklumat rangkaian komputer;

Bahagian 2 merupakan kajian tapak , seratus lima puluh set soalan soal selidik dihantar kepada pemilik, arkitek, konsultan, kontraktor dan jurukur, untuk mengumpul informasi, data dan pandangan. Keputusan kajian menunjukkan cara *procurement* yang paling kerap digunakan, iaitu cara *procurement* tradisi, membawa kadar perselisihan faham yang paling tinggi berbanding dengan cara *procurement* inovasi yang lain. Kajian ini juga menunjukkan penggunaan cara *procurement* inovasi dapat mengurangkan kekerapan berlakunya perselisihan faham untuk industri binaan Malaysia. Untuk mewujudkan suasana kerja yang harmoni dan aman di industri binaan, langkah-langkah perlu diambil untuk memaksimakan penggunaan cara *procurement* inovasi.

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LIST OF ABBREVIATIONS

ICE	Institution of Civil Engineers
BEC	Building Employers Confederation
DRB	Dispute Review Board
DRP	Dispute Resolution Person
TQM	Total Quality Management
ADR	Alternative Dispute Resolution
CEDR	Centre for Dispute Resolution
IDR	International Dispute Resolution Europe Ltd
RIBA	Plan of Work
NEDO	National Economic Development Office
PAM	Pertubuhan Akitek Malaysia
REHDA	Real Estate & Housing Developer's Association Malaysia
ICEM	The association of Consulting Engineer Malaysia
MBAM	Master Builder Association Malaysia
LJBM	The Board of Quantity Surveyors Malaysia

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The construction industry is notorious for high levels of conflicts and disputes. It is a project-based industry with each project being unique. Within a project life cycle, a large number of separate firm are involved. Failures by one party can affect all those engaged in a project and, as work often takes substantial periods during which national economic circumstances can alter, it is inevitable that dispute will arise.

From the above-mentioned scenario, it should not be surprised that the techniques of conflict management and dispute resolution in construction industry are more developed, compared to other industry. According to Fenn *et al* (1997), conflict can be managed, possibly to point of preventing it from leading to dispute whereas, disputes require resolution and, therefore, are associated with distinct justifiable issue.

1.2 PROBLEM STATEMENT

In resolving the conflicts in construction industry, Fenn (1991) commented that although various methods of conflict management and dispute resolution such as Litigation, Arbitration and Alternative Dispute Resolutions have been and continue to be explored and developed, the industry does not yet seems to be satisfied with the findings in views of tremendous increases of initiation of litigation cases.

This has raised a question about the efficacy of the development of conflict management and dispute resolution, which is tending to solve the problems rather than preventing them. As mentioned by Baden-Hellard (1992), any attempt to resolve conflict expeditiously, economically and effectively should start as early as possible in the chain of events causing the situation. Therefore, as suggested by Newey (1992), we better concentrate on the possibilities of prevention rather than cure.

Procurement method for construction industry is defined as "the organizational structure adopted by the client for the management of the design and construction of a building project" (Masterman, 1992), it is functioning as the core of construction project. The construction project should be reciprocal interdependency, where inputs from various project participants are needed along each stage of construction process. However, traditional procurement method that had been widely implemented in Malaysia is categorized as sequential interdependency, which characteristic is the separation of the responsibilities for the design and construction of the project (Masterman, 1992).

Procurement methods, which set out the relationship and the communication channel of the participants within the construction project, it should be treated as potentially the most convincing preventive measure.

1.3 NEED OF THE STUDY

As mentioned earlier, prevention is better than cure in resolving conflicts. Therefore, the procurement process, which falls at the early stage of the project life cycle, should be one of the best preventive methods in managing conflicts for construction industry.

This study will firstly identify the causes of the conflicts and disputes for Malaysia construction industry, and also the dispute resolution methods to be used. The implementation of innovative procurement methods, as conflict management technique in the taxonomy of conflict management and dispute resolution and preventive measure

(Smith, 1996), should be reviewed and investigated.

This study will examine the possibilities for the occurrence of dispute in traditional procurement method as compared to innovative procurement methods such as design and built, construction management and partnering.

The study also will examine the extent of innovative procurement methods as conflict management for Malaysia construction industry as compared with traditional procurement method. Only with the positive conclusion from the study, showing that innovative procurement methods are able to reduce the occurrence of disputes, the application of innovative procurement methods shall be encourage for all the construction projects in Malaysia.

1.4 AIM AND OBJECTIVES

This study aims to examine the extent of innovative procurement methods as conflict management and resolution mechanisms for construction industry as compared with traditional procurement method. The objectives are:

a) To study the nature of conflict and its management.
b) To study the conflict management and dispute resolution methods in construction industry.
c) To examine the importance of innovative procurement method as a conflict reduction mechanism between the parties involved in construction industry.
d) To provide critical overviews of the traditional approach to a procuring construction project with regard to potential conflicts which may occurs.
e) To examine the extent of innovative procurement methods, as compared to Traditional procurement method in minimizing conflicts in construction projects.

1.5 SCOPE OF THE STUDY

Scopes of the study are:

a) Examination on the extent of innovative procurement methods, as compared to Traditional procurement method in minimizing conflicts are mainly for construction industry only.
b) Innovative procurement methods are refer to design and build, construction management and partnering only.
c) The coverage area for collecting data is limited to Peninsular Malaysia only.

1.6 SIGNIFICANCE OF THE STUDY

1.6.1 Theory and Literature Reviews

A theory and literature survey was carried out using texts, journals, conference proceedings, dissertations and computer network information systems in order to explain and examine extent of procurement methods in conflict reduction.

The theory and literature reviews of general conflicts and its management were first being examined and reviewed. Critical theory and literature reviews of traditional procurement method have sought in order to identify the sources of conflicts and disputes. Some techniques of conflict management and resolution, which are adopted by the current Malaysia construction industry, will be reviewed and examined. Further critical reviews of procurement methods, as the conflict management and conflict reduction mechanisms will be carried out.

The better-known innovative procurement methods, Construction Management and Design-and-Build, coupled with a recent emerging innovative procurement methods - Partnering have been chosen as the models which might have the tendency of reducing the conflicts encountered by traditional procurement method. The impact and the extent of innovative procurement methods to conflicts reduction will be examined.

1.6.2 Field Study

The postal questionnaire is considered to be the appropriate approach for this survey, which provides a wide geographic coverage and a broad study. A postal questionnaire will be carried out to collect the information and views regarding conflicts and disputes, which have or might occur in the chosen procurement methods. The data will be collected primarily from all parties involved, including clients, construction managers, architects, consultants, quantity surveyor, main-contractors and sub-contractors. Suitable methods of data analysis were used to analyze the collected data.

CHAPTER 2

CONFLICT AND ITS MANAGEMENT

2.1 INTRODUCTION

As humans, we live within a web of social relationships, conflict becomes a part of everyone’s life (Donohue, 1992). Within our various social relationships, some involve real or perceived differences between two or more parties, where interests of the parties are mutually exclusive - that is, where the gain of one party's goal is at the cost of the other's or where the parties have different values. Hence, resulting social interaction between the parties contains fertile ground of conflict (Filley, 1975).

Therefore, conflict affects virtually all kinds of organizations - businesses, government agencies, schools, hospitals, law firms, unions, armies, volunteer organizations and occurs at all level of society - interpersonal, intra-group, inter- group, intra-national and inter-national (Laue, 1990), but conflict dynamics are more visible in some that in others (Brown, 1983).

In this chapter, discussion will firstly define the conflict and it’s functions, following with determining causes and type of conflict and its respond. Lastly the discussion will focus on conflict management and dispute resolution.

2.2 DEFINITION OF CONFLICT

Conflict has been defined in Collins Cobuild English Dictionary (1995) as "serious disagreement and argument about something important" and also as "serious

difference between two or more beliefs, ideas or interest". The phenomenon of conflict has drawn much attention from social scientists and researchers. The relevant literature is virtually endless and proposes many different definitions.

Some emphasize the conditions that breed disagreement, such as scarce resources or divergent interests. Others emphasize the perceptions and feelings arising in conflict, such as stereotypes, hostility and antagonism; still others focus on the behavior, such as covert resistance or overt aggression (De Bono, 1985).

However, attention in this dissertation will be directed toward the management of certain types of work-related conflicts, that is, according to Bisno (1988), conflict related to interests and commitment. The working definition of conflict is adopted from Donohue *et al* (1992), who described conflict as:

> "Interdependent people express (manifest or latent) difference in satisfying their individual needs and interests and they experience interference from each other in accomplishing these goals."

Donohue *et al* (1992) mentions that four elements - interdependence, manifest-latent, needs and interests, and interference explained below are important reference points in understanding conflict situations.

Table 2.1 Elements in conflict situations.

Interdependence	Conflict require interdependence and its often promotes interdependence as parties continue to fight, this is because the moment that parties enter conflict, or have the potential for conflict, they assume the ability of to affect one another's thoughts and or behaviors
Manifest-Latent	Conflict also varies according to the extent to which it is out in the open (manifest) or hidden (latent) from view. Manifest conflict is a sign that people have differences and they need to express them, whereas latent conflict consists of differences that remain hidden, which is sort of habit of not exposing differences
Needs and Interest	Needs are basic human desires tied to self-concept or self-esteem, interests, on the other hand, are desire that life apart from an individual's self-concept.

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2.3 FUNCTIONS OF CONFLICT

Much of the social science literature can be divided into two perspectives on conflict. In one tradition, in which social integration and stability are emphasized, conflict is seen as disruptive, dangerous and indicative of underlying social pathologies. Conflict management strategies from this perspective focus particularly on conflict resolution (Brown, 1983). In another important social science tradition, in which social diversity and development are emphasized, conflict seen as energizing, creative and evidence of social dynamism. In this tradition, conflict management strategies emphasize differentiation and conflict stimulation. Therefore, there is much argument about whether conflict is constructive or destructive (Bisno, 1988) and functional or dysfunctional (Whitfield, 1994). However, Brown (1983) argues that conflict may be either good or bad, depending on the circumstances and the value of the observer.

2.3.1 Constructive vs Destructive

Elton Mayo has treated conflict as "an evil, a symptom of lack of social skills" and its alleged opposite, co-operation, as "symptomatic of health". However, several researches have noted the positive consequences of conflict (Brown, 1983). Organizations in which there is little or no conflict may stagnate (Rahim, 1985).

What determines whether a conflict will take a constructive or destructive course? According to Deutsch (1987) the answer involves two steps. The first is that a constructive process of conflict resolution can be identified with a co-operative social

process: it has the same social-psychological characteristics as a co-operative process. A destructive process of conflict resolution, on the other hand, typically has the social psychological characteristics of a competitive process. The second part of its answer is that successful co-operation tends to breed the conditions for further co-operation, while competition tends to breed the conditions for further competition. The argument of Deutsch (1987) is that effects of a co-operative process will induce co-operation and will induce constructive processes of conflict resolution and vice verse.

The example given by Deutsch (1987) is effects of co-operation and compare with competition in terms of what happens in communication. As a result of good co-operation communication tends to be relatively full and relatively open. People have no desire to mislead, misrepresent or falsely communicate. On the other hand, the typical effect of a competitive process on communication is that it tends to interfere with communication. The typical result in competitive interaction is that communication becomes less frequent, people try to mislead them, try to get their information indirectly.

Described by Deutsch (1987), another difference between co-operative and competitive processes in term of effects is the way to influence people. In the co-operative process, members are interested in persuasion having the other person see the position that they are advocating and to see it in a way that is acceptable. In a competitive process, on the other hand, such persuasion is unlikely to occur, techniques of intimidation, coercion; threat and stronger power to force other into a position that is desired are practiced.

Another typical difference in the two kinds of processes introduced by Deutsch (1987) is that in a co-operative process, where party involved has a positive interest in the power of the other. By contrast, in a competitive process, interest in increasing the differences between powers is more likely to be encountered. Moreover, a typical result of co-operation is that, one tends to see the other person as being similar to oneself with regard to basic values and orientations. In contrast, competitive process is that, one sees the other as being different from opposed to oneself. Table 2.1 shows the difference between co-operative and competitive.

Table 2.2: Co-operative vs competition

	CO-OPERATIVE PROCESSES	**COMPETITIVE PROCESSES**
Communication	Open information and honest communication of relevant between the participants	Lack of communication or misleading communication
Perception	Tends to increase sensitivity to similarities and common interests, while minimizing the salience of differences	Tends to increase sensitivity to differences and threats, while minimizing the awareness of similarities.
Attitudes toward one another	Leads to a trusting, friendly attitude and it increase the willingness to respond helpfully to other's needs and requests.	Leads to a suspicious, hostile attitude and it increases the readiness to exploit the other's needs and to respond negatively to the other's requests.
Task orientation	Leads to a definition of the conflicting interests as a mutual problem to be solved by collaborative effort.	Stimulates the view that the solution of the conflict can only be the type that is imposed by one side on the other

In brief, to create the conditions for a destructive process, one would introduce the typical characteristics and effects of a competitive process: poor communication; coercive tactics; suspicion; perception of basic differences in values; orientation to increasing the power differences, challenges to the legitimacy of the parties and so forth. On the other hand, to create the conditions for a constructive process, one would introduce into the typical effects of a co-operative process; good communication; the perception of similar beliefs and values; full acceptance of one another's legitimacy; problem-cantered negotiations; mutual trust and confidence, information-sharing and so forth. Deutsch (1971) states that a competitive process of conflict resolution is likely to be destructive.

Wright (1990) and Mack *et al* (1971) describe competition as opposition among social entities independently striving for something of which the supply is inadequate to satisfy all. Further, Wright (1990) classified rivalry as half way between conflict and competition, which refers to opposition among social entities which recognize one another as competitors. Conflict, rivalry and competition are all species of opposition,

which has been defined by Wright (1990), as a process by which social entities function in the disservice of tone another. Opposition is thus contracted with co-operation, the process by which social entity function in the service of one another. Table 2.2 shows the comparison between conflict and competition.

Table 2.3: Conflict vs competition

CONFLICT	COMPETITION
Definition: Opposition among social entities directed against one another (Wright, 1990).	Definition: Opposition among social entities independently striving for something of which the supply is inadequate to satisfy all (Wright, 1990).
Requires the perception of opposition to a person, social unit or belief system (Wright, 1990 & Bisno, 1988)	Does not requires the perception of opposition to a person, social unit or belief system (Wright, 1990 & Bisno, 1988).
May be engaged over virtually anything, from basic interests to trivial preferences or matters of largely emotional meaning (Bisno, 1988).	A process directed toward significant goals, such as the attainment of interests or the dominance of beliefs to which one has a commitment, thus excluding many types of concern about which there may be conflict

Wright (1990) does mention that though conflict in some form, not necessarily violent, is very likely to occur, and is probably an essential and desirable element of human societies. Moreover, the consensus among the organization theorists (Rahim, 1985) about certain or optimum level of conflict in an organization is not only inevitable but also desirable and it is both a cause and an effect of change (Deutsch, 1971). Therefore, it appears that the relation between conflict and organizational effectiveness seems approximates an inverted-U function (Figure 2.1).

As such, Brown (1983) suggests that conflict management can require intervention to reduce conflict if there is too much, or intervention to promote conflict of there is too little (Rahim, 1985).

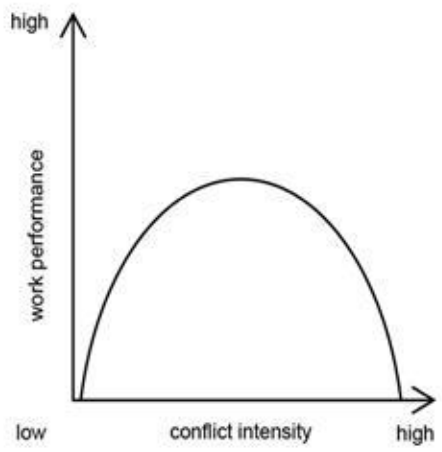

Figure 2.1: Conflict intensity and conflict outcomes

Source: Brown, 1983

Conflict in this dissertation is not dealing with "pure" conflict, which described by Deutsch (1971) as the zero sum game, which inevitably one side loses what the other gains. Interest is in "impure" conflict, which according to Deutsch (1971) is a mixture of co-operative and competition interests. In the other words, in situations where a variety of outcomes are possible: mutual gain, mutual loss, gain for one and loss for the other.

2.4 CAUSES AND TYPES OF CONFLICT

Pointed out by Pondy (1967), conflict can be more readily understood if it is considered as a dynamic process. A conflict relationship between two or more individuals or groups in an organization can be analyzed as a sequence of conflict episodes. Each conflict episode begins with conditions characterized by certain conflict potentials. Five stages of a conflict episode identified by Pondy (1967) are:

a) Latent Conflict (Conditions)

Latent conflict refers to the source of a conflict, though they may be present in the absence of conflict as well. Four different basic types of latent conflict introduced by Pondy (1967) are competition for scarce

resources; drives for autonomy; divergence of submit goals and role conflict.

b) Perceived Conflict (Cognition)

According to Pondy (1967), this stage of conflict is said to result from parties misunderstanding of each other's true position, there is a realization of conflict, but neither party is upset about it (Gardiner *et al*, 1992). Perceived conflict may be accompanied by latent conflict or be presented when there is no latent conflict. Stated by Gardiner *et al* (1992), this is quite likely to happen in construction projects, as the organization of project is temporary in nature.

c) Felt Conflict (Affect)

Felt conflict is a personalized conflict relationship (Filley, 1975), therefore, the important distinction between perceiving conflict and feeling conflict is for felt conflict, the affective state of the individuals involved at which point they begin to suffer stress, tension, hostility, anxiety, etc. as a result of a conflictful situation

d) Manifest Conflict (Behavior)

Manifest conflict means that any of the several varieties of conflictful behavior. It involves openly aggressive behaviors ranging from mild passive resistance through sabotage to actual physical conflict and verbal violence, which is usually strongly proscribed by organizational norms. It is behavior, which in the mind of the actor, frustrates the goals of at least some of the other participants.

e) Conflict Aftermath (Conditions)

Conflict Aftermath is the responses or the outcomes of conflict, which may involve changes. There may be no "active" responses but there will be an outcome, even if its sustained chronic conflict (continuous, high-level conflict).

According to Pondy (1967), the development of each conflict episode is determined by a complex combination of the effects of preceding episodes and environmental milieu, as the organization is not a close system. The main ideas of this view of dynamic of conflict are illustrated in Figure 2.2.

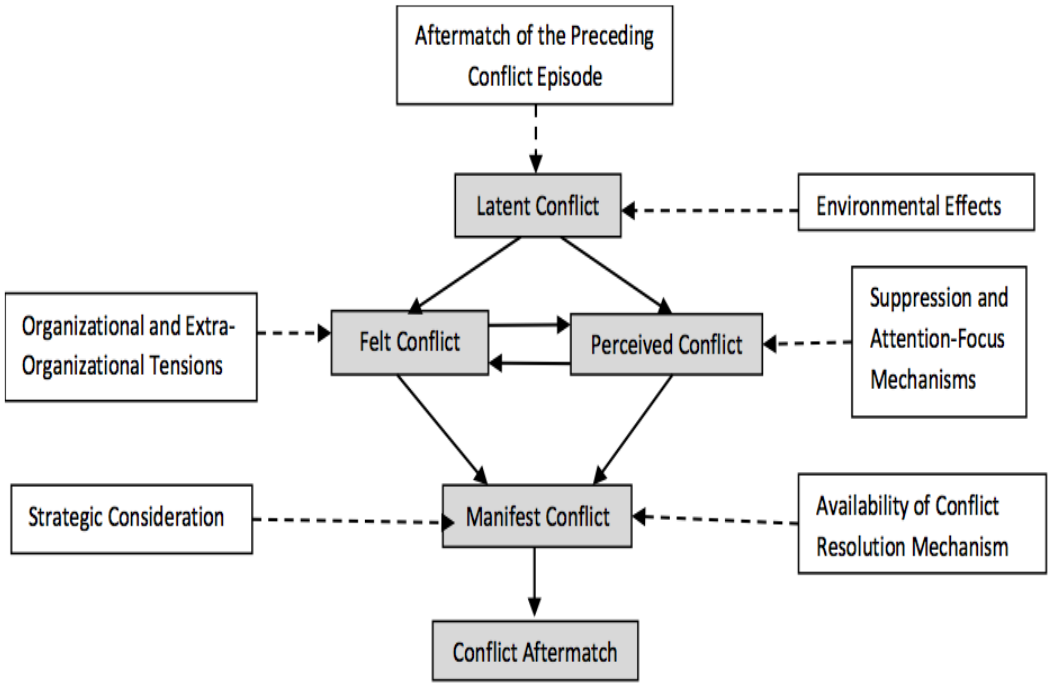

Figure 2.2: The dynamic of conflict

Source: Pondy, 1967

Handy (1993) quotes that the underlying and fundamental causes of conflict are goals and ideologies and territory. When two or more groups interact with differing goals, sets of priorities or standards, there is likely to be conflict. The higher degree of the interdependence of the units, the more crucial becomes the relationship of their objectives and ideologies. Friction between goals and ideologies leading to conflict can arise when (Handy, 1993):

i. Formal Objectives Diverge,
ii. Role Definitions Diverge leading to conflicting objectives,
iii. Contractual Relationship Is Unclear,
iv. Roles Are Simultaneous,
v. Concealed or Hidden Objectives.

Filley (1995) lists nine characteristics of social relationships that are associated with various kinds or degrees of conflictive behavior:

a) Ambiguous Jurisdictions

When two parties have related responsibilities for which actual boundaries are unclear, the potential for conflict between them increases. Conflict will be greater when the limits of each party's jurisdiction are ambiguous. Conversely, when role definitions are clear, each party can expect a certain type of behavior from the other, hence fewer opportunities for disagreement occur.

b) Conflict of Interest

Conflict will be greater where a conflict of interest exist between the parties. One such situation is a competition for scarce resources, another situation involves a case where the gain of one group is at the expense of another group.

c) Communication Barriers

It appears that if parties are separated from each other physically or by time, hence increase possibility of misunderstanding between party. Conflict will be greater when barriers to communication exist

d) Dependence of One Party

Where parties are dependent, they must rely on each other for performance of task or for provision of resources, thus, the opportunity of conflict occur is increased. Conflict will be greater where one party is dependent upon another.

e) Differentiation in Organization

Conflict will be greater as the degree of differentiation in an organization increases Where people work together in complex organization, there is evidence that measures of conflict are related to number of organizational levels, the number of distinct job specialities represented and degree to which labour is divided in the organization.

f) Association of the Parties

Conflict will be greater as the degree of association of the parties' increases.

Degree of association refers both to the parties' participation in decision making and to informal relations between them. The interaction and the degree of knowledge which parties have about each other are also related to rates of conflict.

g) Need for Consensus

Conflict will be greater where consensus between the parties is necessary. When all parties must agree on a decision, at least to the point that no individual feels the decision is unacceptable, it is not surprising that disagreements will occur. Thus, it is possible to avoid conflict by having mechanisms such as voting, coin flipping or adjudication to make decisions without the confrontation of consensus.

h) Behavior Regulations

Conflict will be greater where behavior regulations are imposed. Regulating mechanisms include standardized procedures, rules and policies. Regulating mechanisms seem on one hand, they reduce the likelihood of conflict since they serve to make relationships predictable and reduce the need to make arbitrary decisions. On the other hand, they increase the degree of control over parties and this control may be resisted. If the parties have high individual needs for autonomy and self-control, it is likely that the presence of regulating procedures will lead to conflict.

i) Unsolved Prior Conflicts

Conflicts will be greater as the number of unresolved prior conflict increases. Suppression of conflict by the use of power or compromises to which then parties are uncommitted, create conditions and expectations which may lead to behavior conducive to further conflict. Bisno (1988) identifies five sources of conflict, Biosocial or Human Nature, Personality and Interactional, Structural, Cultural and Ideological and Convergence. Further Bisno (1988) attempts to draw together some of these variables by categorizing types of conflict under definitions of characteristics (Table 2.3)

Table 2.4: Types of conflict

TYPE	DEFINING CHARACTERISTIC
Interest or Commitment Conflicts	Conflicts characterized by a genuine clash of opposing interests or commitments
Induced Conflicts	Conflicts intentionally created in order to achieve other than explicit objectives
Misattributed Conflicts	Conflicts involving incorrect attribution as to the behaviors, participants, issues or causes.
Illusionary Conflicts	Conflicts based on misperceptions or misunderstandings.
Displaced Conflicts	Conflicts in which the oppositions or antagonism is directed toward persons or concerns other than the actual offending parties or the real issues.
Expressive Conflicts	Conflicts characterized by a desire to express hostility, antagonism or other strong feelings.

2.5 RESPONSES TO CONFLICT

Zikmann (1992) cites, "different responses bring with them not only implications for the specific conflict but also for the project". Also that "effectively managed conflicts can help clarify uncertainties and improve overall co-operation but that poorly managed conflicts can conversely create a pool of further unresolved issues, frustration and resentment" which "may result in subsequent and often escalated conflicts". Zikmann (1992) then identifies the following as being instigatory or contributory aspects to the above scenarios:

a) Passive Responses:

Conflict Denial, which leads to increasing tension, and can result in concealed hostility or the cultivation of a false sense of security. Conflict Avoidance or failure to adequately confront and deal with problems leads to shallow commitment to project goals. Capitulation, which represents the misconception that conflict resolution, has been achieved when in fact unwilling suppression is the

case.

b) Active Responses - Aggressive Responses

Domination which leads to unreasonable demands and one-sided solutions. Distribute Bargaining where “hard nosed” attitudes pervade through use of threats, manipulation from cultivation of power bases. Compromise where parties needs are partially met but often over inflated by demands and away from original.

c) Active Responses - Creative Responses

Integrative Bargaining where co-operation is encouraged and emphasis is upon creative and workable solution satisfying needs and dispelling fears of both parties. Defense is therefore not the negative criterion.

Moreover, as pointed out by Zikmann (1992), most conflicts develop from relatively insignificant issue, therefore, passive responses should be avoided and actively discouraged by parties involved, whereas, aggressive responses should be discouraged wherever they could be detrimental to relationships.

Moreover, different groups may differ in their ability to express conflicts and a useful distinction may be made between "organized" and "unorganized" conflict. Organized conflict is normally expressed by positive action on a personal or group basis through recognized procedures or practices. Whilst unorganized conflict tends to be haphazard and personal, being expressed through negative action such as vague grumbles and dissatisfactions, poor time keeping and undisciplined or withdrawals from situation by apathy, absenteeism or labour turnover.

2.6 CONFLICT MANAGEMENT AND DISPUTE RESOLUTION

There are various styles of behavior for handling conflict. For conflicts to be managed functionally, one style may be more appropriate than another depending upon the situation. The differences between resolution and management of conflict is more

than semantic (Rahim, 1985). Conflict resolution implies reduction or elimination of conflict, whereas the management of conflict does not necessarily simply reduction in the amount of conflict. Further, Rahim (1985) argues that organizational conflict must not necessarily be reduced or eliminated, but managed to enhance individual, group and organizational effectiveness.

Proposed by Brown (1983), conflict management requires consideration of the situation, kinds of intervention and the desired outcomes. Further, Filley (1975) summarizes three strategies for dealing with conflict: the win-lose strategy, the lose-lose strategy and the win-win strategy. Stated by Filley (1975) that though win-win strategy has relative advantages, win-lose and lose-lose strategies are widely practiced. Further the lists out the common characteristics of win-lose and lose-lose methods:

i. There is a clear we-they distinction between the parties, rather than a we-versus-the-problem orientation.
ii. Energies are directed toward the other party in an atmosphere of total victory or total defeat.
iii. Each party sees the issue only from its own point of view, rather than defining the problem in term of mutual needs.
iv. The emphasis in the process is upon attainment of a solution, rather than upon a definition of goals, values or motives to be attained with the solution.
v. Conflicts are personalized rather than depersonalized via an objective focus on facts and issues.
vi. There is no differentiation of conflict-resolving activities from other group processes, nor is there a planned sequence of those activities.
vii. The parties are conflict-oriented, emphasizing the immediate disagreement, rather than relationship-oriented, emphasizing the long-term of their differences and how they are resolved.

In contrast to the win-lose and lose-lose strategies, win-win strategies focus initially on ends or goals rather than on obvious and sometimes unnecessary alternatives (Filley, 1975). In getting to this position, the relationship between the parties is

maintained and may even be strengthened.

Moreover, Filley (1975) identify attitudes associated with the win-win method the belief system within individuals strongly affects whether they engage in attempts to arrive at consensus or whether they choose instead to do battle with opponents. A number of predisposing attitudes are associated with the use of problem-solving and consensus methods (Filley, 1975), all of these attitudes derive from central concepts of co-operation and trust.

a) Belief in the availability of a mutually acceptable solution

   The most important requisite for consensus is an optimistic rather than a pessimistic view about the possibility of arriving at a mutually acceptable solution to a problem. Problem solving can be a frustrating and time consuming process, unless both parties believe that a mutually acceptable solution exist, each will compromise his position or seek a win-lose solution.

b) Belief in the desirability of a mutually acceptable solution

   The practical value of belief in the desirability of a mutually acceptable solution is suggested by the fact that while the joint or group decision will take longer to achieve than an individual decision, the joint decision increases the likelihood of support for and understanding of the final solution by all parties.

c) Belief in co-operation rather than competition

   The belief that competition behavior is good and desirable is deep-seated in man culture. However, there is a great deal of consistent evidence to suggest that co-operative groups are more satisfied, have greater interest in the task and are more productive and have a better division of labour rather than competitive groups. Hence, co-operation can fully utilise the unique strengths and skills of each member and can foster sharing of resources within the group.

d) Belief that everyone is of equal value

   Different knowledge, attitudes, perspective and abilities all add to the resources of a group. Such differences are givens, not to be judged right or

wrong, good or bad, superior of inferior, acceptable or unacceptable. One the other hand, differences in power or status, which serve to separate the group into we-they factions, are dysfunctional in problem solving.

e) Belief in the views of other as legitimate statements of their position

Each individual should accept the knowledge, attitudes and theories of others as data to be included in the problem solving. Information gained from other in the problem solving should be treated as an accurate and true statement of their position.

f) Belief that differences of opinion are helpful

Disagreement frequently leads to creativity in problem solving as long as it does not disrupt the group process.

g) Belief in trustworthiness of other members

Trusting behavior on the part of group members evoked, at least confirmed, trusting behavior on the part of other group members. For this reason, it is better to assume that others can be trusted and to change that view only in the light of specific evidence to the contrary, rather than to initially assume that opposite.

h) Belief that the other party can compete but chooses to co-operate

From the discussion above, it appears that co-operation is a more effective group strategy than is competition, therefore, one should belief that other party wants to co-operate rather to compete. However, if one party gains substantially at the other's expense in a single interaction, further interaction may be blocked by the loser or continued only if opportunity for retaliation is provided.

According to Gardiner *et al* (1992b), if a conflict is actually resolved this can lead to greater satisfaction among the participants. If a conflict is not resolved then what appears to be a satisfactory resolution may only be a reversion to a prior level of conflict. According to Rahim (1985), the management of organizational conflict involves the diagnosis of and intervention in conflict. The process of diagnosis and intervention are shown in Figure 2.3.

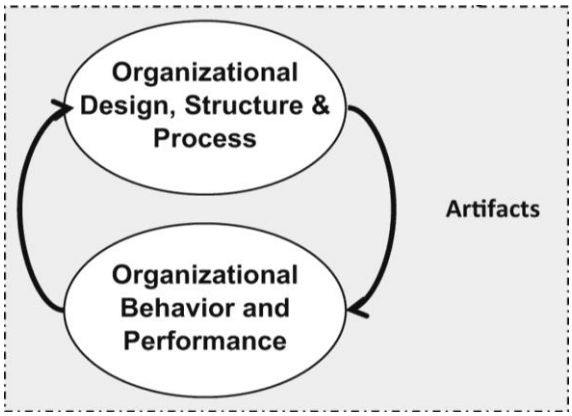

Figure 2.3: A model for managing organizational conflict
Source: Rahim, 1985

A diagnosis of conflict in a system is important because the underlying sources and natures of conflict may not be what they appear on the surface (Rahim, 1985). To treat the symptoms will be ineffective if the underlying disease is left untouched (Handy, 1993). The strategy for resolving conflict must be related to the disease, not the symptom. Diagnosis, therefore, differentiating between symptoms and cause, is the key to the proper management of conflict (Handy, 1993). A comprehensive diagnosis should include the measures and analysis of data of conflict and indicate the relationship between conflict, styles of handling interpersonal conflict, sources of conflict and effectiveness.

As mention previously, Rahim (1985) does highlight on an intervention is needed if there is too little or too much conflict and/or the organization members are not handling their conflict effectively. There are two basic approaches to intervention in conflict: behavioral and structural. The behavioral approach attempts to improve organizational effectiveness by changing member's culture: attitudes, values, norms, beliefs, etc. The structural approach attempts to improve organizational effectiveness by changing the organization's structural design characteristics: differentiation and integration mechanisms, systems of communication, reward structure, etc.

From a different perspective, Schein (1980) suggests approaches to managing group conflict in two ways:

i. Reduce the negative consequences,
ii. Prevent group conflict.

According to Schein (1980), to reduce the negative consequences, it should be a common enemy between the parties, bring the leaders or groups of the competing groups into interaction, locate a super-ordinate goal (in other words, an overriding goal, common to all group members) and set up experiential inter-group training. Whereas, to prevent group conflict, the parties should concentrate on super-ordinate goals, create high interaction and frequent communication between groups and rotate members among groups or departments frequently.

As oppose with persuasion of Schein (1980), Handy (1993) proposes the strategies for managing conflict as below:

Turn the conflict into fruitful competition or purposeful argument. If this is not possible, to control the conflict. The argument of Handy (1993) is that competition is useful and beneficial, conflict damaging and harmful. The trick must be to stop competition degenerating into conflict and to turn conflict, wherever possible, into competition. Suggested by Handy (1993) that fruitful competition is more likely to occur if: There is a clear and shared purpose for the group or organization. Information is available on progress towards the goal. The system does not punish failure.

Though the "best" solution suggested by Handy (1993), turn the conflict into fruitful competition, which contradicted with the other researchers (Deutsch, 1967, 1971; Bisno, 1988 & Wright 1990) about competition. One might argue that the meaning of "fruitful competition" by Handy (1993) is more toward "co-operation" rather than the "true" meaning of competition. Suggests by Handy (1993), control of conflict is often best short-term solution and it is a sense of recognizes and legitimises conflict, therefore perpetuates it. Six ways of Control of Conflict are suggested by Handy (1993):

i. Arbitration,
ii. Rules and procedures,
iii. Co-ordinating devices,
iv. Confrontation,

v. Separation,

vi. Neglect.

Figure 2.4 demonstrate Thamhain *et al* (1975) modes of conflict handling can be shown as a continuum. Where the power of the manager is high, he or she may able to force a resolution of the conflict, or at least engineer a confrontation. But, as the power of group increases, compromise may be the best that can be achieved, at worst the manager may achieve little more than a superficial smoothing over of the problem or end up withdrawing from it altogether.

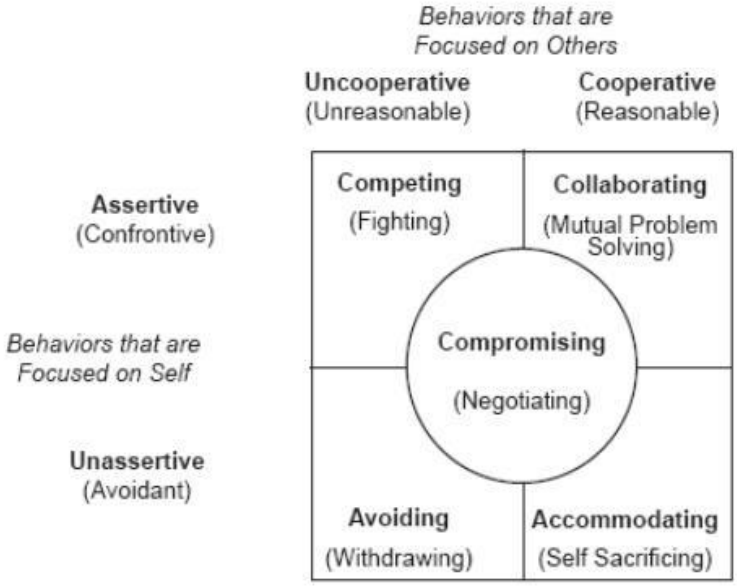

Figure 2.4: Continuum of conflict handling

Source: Newcombe et al, 1996

Wright (1990) suggests that conflict can be solved by definitive acceptance of a decision by all parties. In physical conflicts (as classified by Wright) where all but one part are totally destroyed such decisions may be absolute, but if the conflict concerns ideas, policies or claims, the words “definitive”, “acceptance” and “all” have to be taken relatively.

Laue (1990) argues that conflict is never solved, the focus is on conflict resolution, not conflict solution. Conflict resolution implies that there is a joint

participation of the parties is reaching the outcome, which is, at least to some extent, satisfactory for all parties involved. Laue (1990) does describes that conflict resolution would prefer an approach that allows the parties with the most at stake to be assisted in working through the conflict in their own interest. Whereas conflict management, contradicted from conflict resolution, seek to increase the abilities of parties to manage or self-regulate their conflicts themselves because of if conflicts escalate, external agents or agencies will step in and try to bring the conflict within their own definitions of acceptable boundaries of social control.

Though various approaches have been suggested and developed by various researchers, most effective and efficient type of conflict management or conflict resolution mechanisms should be adopted with provision of situational approach or contingency approach, one style may be more appropriate than another depending upon the situation.

2.7 CONCLUSION

Conflict is inevitable and had become part of everyone's life. From the literature study that had been carried out, generally there are two perspectives on conflict. In one tradition, conflict is seen as disruptive, dangerous and indicative of underlying social pathologies (Destructive). In another important social science tradition, conflict seen as energizing, creative and evidence of social dynamism (Constructive).

Many researchers had determined different causes of conflict. Handy (1993) are emphasized on the friction between goals and ideologies can leading to conflict. Filley (1995) lists nine characteristics of social relationships that are associated with various kinds or degrees of conflictive behavior. Bisno (1988) identifies five sources of conflict, Biosocial or Human Nature, Personality and Interactional, Structural, Cultural and Ideological and Convergence.

There is various style of behavior for handling conflict. Filley (1975) summarizes three strategies for dealing with conflict: the win-lose strategy, the lose- lose strategy and the win-win strategy. From a different perspective, Schein (1980) suggests

approaches to managing group conflict in two ways: reduce the negative consequences and prevent group conflict. As oppose with persuasion of Schein(1980), Handy (1993) proposes the strategies for managing conflict which included turn the conflict into fruitful competition or purposeful argument, and if this is not possible, to control the conflict.

CHAPTER 3

CONFLICT MANAGEMENT IN CONSTRUCTION INDUSTRY

3.1 INTRODUCTION

In Chapter 2, discussion had been carried out for general conflicts and its management. This chapter will focus on the conflict management in construction industry. Firstly the relationship between conflicts, claims and disputes will be examine, follow with the identification of causes and sources of conflicts and disputes in construction industry and lastly will discuss on methods of conflict management and disputes resolution used in construction industry.

To a significant extent the characteristics and the consequences of conflict impact on us every day. The influences of conflict can be felt in the family, the workplace, in politics and in construction industry. The construction industry is perhaps, the most diverse business. Not only does it cover a very wide range of end products but also people working within it come from a broad range of crafts and professionals. With the architects and almost all branches of engineering and surveying consultants, there can be twenty or more disciplines on a complex project (Whitfield, 1994).

The project tackled by this diffuse industry are not only wide ranging and varied in their end use but also within their types. Each major project is unique. It is prototype, a one off. This means that for every project undertaken a learning curve is inevitable. It is a rare industry indeed that produces so many varied products without significant repetition (Whitfield, 1994). The industry is further enriched by the presence of other parties with an interest in the end result, such as the funder, the developer, the planning authority, the construction regulators and the public at large whose built environment is

important to them economically and aesthetically. Add to the divergent interests the contractor who builds the edifice and his sub-contractors and suppliers who contribute specialist skills and materials and the relatively few people in the society without an interest in the construction process.

It is this variety of interests that provides the catalyst for conflict in the construction industry (Whitfield, 1994). Disputes in construction are common and range from a minor difference over the meaning of contract clauses to the public outcry over proposals for a motorway to be sited in outstanding countryside

3.2 CONFLICTS, CLAIMS AND DISPUTES

Before further explore the sources of conflict in construction industry, the relationship between conflicts, claims and disputes will be examined. Many conflicts can be linked to claims or potential claims, although conflicts can also directly lead to disputes, as indicated in Figure 3.1, which set out the basic relationships between conflicts, claims and disputes in construction scenarios.

> "Claim" is defined by Semple *et al* (1994) as "an assertion of right to remedy, relief or property". Claims on construction projects can be based on the contract itself, a breach of contract, a breach of some other common law duty, a quasi- contractual assertion for reasonable (*quantum merit*) compensation or an *ex-gratia* settlement request (Kumaraswamy, 1997).

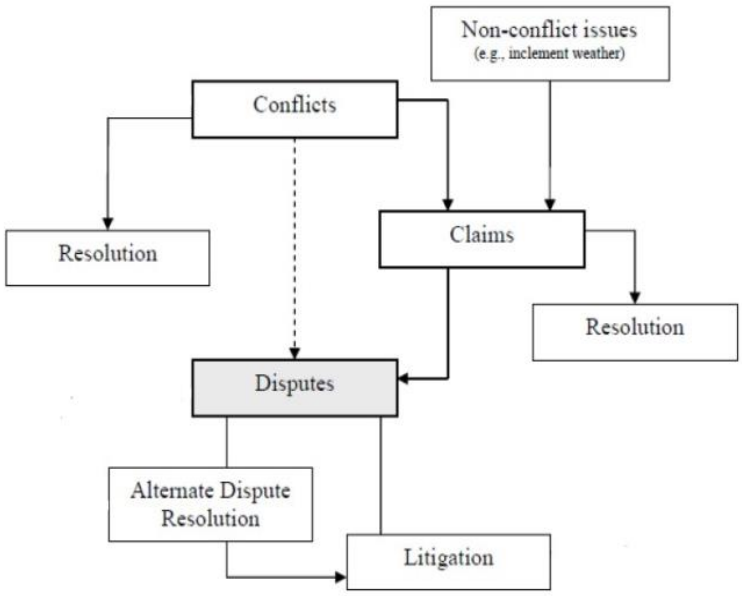

Figure 3.1: Basic relationship between conflicts, claims and dispute and potential outcomes
Source: Kumaraswamy, 1997

A contractual dispute arises when one party claims something, and the other party rejects the claims, or disagrees over liability either expressly or by conduct (Carmichael, 2002).

Clause 66(2) of 6th edition of the ICE Condition of Contract (ICE 1991) holds that a dispute is deemed to arise "when one party serves on the engineer a notice in writing stating that the nature of the dispute". Whereas rule 1 of the ICE Arbitration Procedure States that a dispute or difference shall deemed to arise "when a claim or assertion made by one party is rejected by the other party and the rejection is not accepted" (Eggleston, 1993). Therefore for the purpose of this research, dispute is deemed to arise "when one party serves on the other party a writ in writing stating that the intention of the dispute".

Figure 3.1 illustrates the potential for properly managed conflicts to lead to improvement. As mentioned by Kumaraswamy (1997), potential for properly managed conflicts will lead to improvements, while other conflicts may results in self-destructive

disputes, either by themselves or through avoidable claims.

According to Fulton (1989), “conflict’ are not synonymous with “dispute” although in ordinary parlance the two words are used interchangeably. Conflict is the precursor to a dispute. Conflict in the commercial context is usually preceded by a transaction. A transaction occurs when two or more parties get together and deal. For a dispute to arise, the deal has to be perceived to have failed by one party to the transaction.

3.3 CAUSES AND SOURCES OF CONFLICT IN CONSTRUCTION PROJECT

The organization of the construction industry today is a built-in recipe for conflict (Baden-Hellard, 1988). Each group of professionals, contractors and sub- contractors have developed customs and practices, which frequently continue when the building team carries out the operation, which essentially, prototype constructions. Frequently, the building owner is the only "non-expert" in the team and it is he who has to make the key project decisions.

According to Mohsini *et al* (1995), three important observations about the building industry and the way building projects are procured:

a. That the building industry is multi-industry
b. That the projects are delivered by temporary multi-organizations, i.e. heterogeneous and short lived aggregations of task organizations;
c. That there is considerable potential for inter-organizational conflict within the delivery team as the participating task organizations endeavor to reconcile their own long-term objectives within the project's short-term objectives, that is to say, with the conditions imposed on them once they have joined the project delivery team.

It is this background that led to construction being one of the leaders in the development of arbitration as an alternative to the courts in resolving disputes arising

from unique construction contracts (Mohsini *et al*, 1995). Since then, construction industry has been described by judiciary as fertile ground for conflict (Whitfield,1994). Described by Whitfield (1994), most disputes in commerce generally and in construction particularly arise from some form of uncertainty. The disputes may well be disguised but all will involve either a conflict of ideas, of beliefs or of interests are most likely to arise where there is some uncertainty. He further cites that, unfortunately, the construction industry is, by its very nature, beset with uncertainty for the following reasons:

a) Prototype

   Every new project is, essentially, a prototype. Many lessons and problems must be learned during the actual construction process.

b) Changes

   The acceptance of change is widely accepted in the industry and fast track projects are deliberately planned to allow design on the later elements to continue as the earlier elements are constructed. This causes uncertainty as to what the finished project will include and confusion as to what the various contractors were supposed to include in their prices.

c) Delays

   Most engineer and construction contracts anticipate failure. Clauses are included which allow the architect to provide late information, allow engineers to issue changes to the contracted works. Given all these expectations, is it at all surprising that the parties involved often live up them and bring in a project late and over budget.

Moreover, the risks inherent in any construction project will arise from a variety of sources and vary both in likelihood of occurrence and in potential impact on the success of the construction project. Table 3.1 below shows that the typical risks affecting construction project proposed by Lewis *et al* (1992).

Table 3.1: Typical risks affecting construction projects

RISK CATEGORY	TYPICAL RISKS
Physical	Fire, flood, earthquake
Construction	Weather, industrial action, ground conditions, quality and availability of labour or materials, site safety
Design	Buidability, quality of brief, innovative applications
Political	New legislation, war, embargo
Financial	Insolvency of client, contractor, sub-contractor or supplier, inflation, inability to let or sell on completion
Legal	Liability to third parties, legal differences between countries, liquidated damages
Environmental	Delay through public enquiry, pollution, environmental damage

Source: Lewis et al ,1992

Further, outlined by Lewis *et al* (1992), risk and uncertainty can result in conflict between the parties to a project when the following conditions arise

i. One of the potential risk events occurs (Table 3.1)
ii. One or more of the parties suffers some loss as a result of it
iii. The damaged party had not identified the risk as relevant to the project
iv. The risk was identified but insufficient steps were taken to mitigate its effects
v. The allocation of risks between the various parties to the contract was not
vi. clear established in the first place.

In these circumstances the damaged party will seek to redress their loss, and the result will often be conflict and dispute. As described in previous chapter, it is necessary and useful to differentiate destructive from constructive conflict and subsequently, according to Kumaraswamy (1997), avoid from necessary claims and also to minimize disputes arising from unresolved conflict and claims in construction projects. Suggested by Kumaraswamy (1997), an appreciation of root causes will be useful in resolving any ongoing and unavoidable disputes and also avoiding any avoidable disputes.

Higgin *et al* (1963) identify the area of communication with prospective clients as a major problem of the industry. They contended that many prospective customers do not know enough about the range of services to make the first approach to the industry, which is appropriate to their needs. This further increases the potential of creating a conflictual arena for construction industry.

According to Smith (1996), "top ten list" for specific causes of construction disputes in US is:

a) Contract clauses, which unrealistically and unfairly shift project risks to parties who are not prepared or not able to assume such risk.
b) Unrealistic expectations on the part of certain parties (generally owners) who do not have sufficient financing to accomplish their goals.
c) Ambiguous contract provisions.
d) Contractors who submit unrealistically low bids.
e) Poor communications between and among the parties involved in the project.
f) Deficient management, supervision and co-ordination efforts on the part of the general contractor.
g) Reluctance on the part of project participants to deal promptly with changes and unexpected conditions.
h) The absence of "team spirit" among the participants.
i) A predisposition toward adversarial relationships on the part of some or all of the parties to the project.
j) Contract administrators who want to avoid making tough decisions by passing the problem to a higher authority within the organization, or to a lawyer, rather that resolving the problem at the project level.

Five main areas identified by the BEC (Building Employers Confederation) as the causes of conflict in UK construction industry (Harding, 1991) are:

a) Design

The growing numbers of party playing a significant role in design of

buildings architects, engineers, contractor, specialist sub-contractors and suppliers - all have a role. Problems arise such as a pretense that the proposed building has been fully pre-designed when it has not, resulting endless variation giving rise to delays, disruption, claims and conflict, a failure to impose responsibility for design co-ordination and hidden requirements for design input from contracting side.

b) Sub-contracting

The vast majority of work on construction sites is undertaken by subcontractors. Divorcing responsibility from authority is a dangerous business. Too often, a sub contractor is imposed on a contractor which is then made fully responsible for its performance, leaving the contractor with choice of not tendering. The contractor can either attempt to price unknown risks or exercise an amorphous right of "reasonable objection" to the sub-contractor.

c) Supervision

Conflicts arise when questioning about whose job is to supervise the execution of the works at main contractor level? What is the true role of clerk of works and architect - particularly when works is required to be to his "reasonable satisfaction"?

d) Payment

Disputes over payment are common, with contractor alleging under-certification and sub-contractors alleging under or non-payment. The question of the security of payment in the construction industry clearly warrants further consideration.

e) Collateral Warranties

Client can introduce a new combatant, on occasion are longer, less clear and more convolute than the principal agreement obligations on the warrantor than he had under that agreement.

From the causes listed above, it can be noted that some causes in US are similar with those causes in UK. Beside research done by BEC, many writers and researchers have attempted to identify the true extent of conflict within the UK construction industry in a number of ways (Table 3.2), although the vast majority of commentary on

the extent of construction specific conflict has been anecdotal.

As recommended by Smith (1996), any effort to prevent construction disputes must begin with an identification of the root causes of disputes, therefore, a list of causes of dispute will be complied from theory and literature reviews, which subsequently adopted for data collection.

Table 3.2: Classifications of common construction conflict, claims and disputes, as derived from a cross-section of the literature

RESERCHERS	CONTEXT	FINDING
Diekmann *et al* (1985)	427 claims on 22 (federally administered) projects in USA	Most common causes contract claims (46%) were "design errors" and another 26% were "discretionary or mandatory changes". Other specific claims types (entitlement issues) included differing site conditions; weather; strikes and value engineering
Hewitt (1991)	General	Six main types (categories) of claims: change of scope; change conditions; delay; disruption; acceleration and termination
Watt *et al* (1992)	72 judgement from 56 construction litigation cases in Australia	59 categories of disputes and 117 "sources" of disputes. Most frequent sources include, for example, claims arising from: variations; negligence in tort and delays including damages
Heath et al (1994)	Survey of 28 quantity surveyors and five case studies in the UK	Five main categories (types) of claims: extension of time; variations in quantities; variations in specifications; drawing changes; other. Seven main types of disputes: contract terms; payments; variations; extensions of time; nomination' re-nomination and availability of information
Rhys Jones (1994)	General survey of construction industry and lawyers	Ten factors in the development of disputes: poor management; adversarial culture; poor communications; inadequate design; economic environment; unrealistic client expectations; inadequate contract drafting and poor workmanship
Semple et al	24 project in Western	Six contract clauses commonly cited in

(1994)	Canada	claims. Six common categories of disputed claims: premium time; equipment costs; financing costs; loss of revenue; loss of productivity and site overhead. Four common causes of claims: acceleration; restricted access; weather/cold and increase in scope
Bristow et al (1995)	Ontario, Canada	Five primary causes of claims: unrealistic expectations by rather parties; ambiguous contract documents; poor communications between project participants; lack of team spirit among participants and a failure of participants to deal promptly with changes and unexpected conditions
Conlin et al (1996)	483 dispute events on 21 projects in the UK	Six broad groups of causes of conflict: payment and budget; performance; delay and time; negligence; quality and administration
Sykes (1996)	General	Two major groups of claims and disputes: claim reasons arising from misunderstandings - with eight specific reasons/examples and claim reasons arising from unpredictability - with 17 specific reasons/examples

Source: Kumaraswamy ,1997& Fenn et al ,1997

3.4 METHODS OF CONFLICT MANAGEMENT AND DISPUTES RESOLUTION USED IN CONSTRUCTION INDUSTRY

> "We considered that most urgent problem that confronts the industry is the necessity of thinking and acting as a whole. It has become to regard itself as a series of parts …these attitudes must change."

This statement is taken from the Banwell Report published in 1964 and it clearly illustrates that the UK construction industry exists within an adversarial society. This observation is not intended as a criticism, but springs from the fact that it operates in a western dialectic "argument idiom" (De Bono, 1985). It follows from this that conflict is pandemic (Fenn *et al*, 1997); it exists where there is an incompatibility of interest. In

this context, it is worth noting that conflict can be managed, possibly to point of preventing it from leading to dispute. Disputes require resolution and, therefore, are associated with distinct justifiable issue (Fenn *et al*, 1997). Figure 3.2 illustrates the basis for a construction industry conflict continuum, ranging from conflict avoidance to other actions.

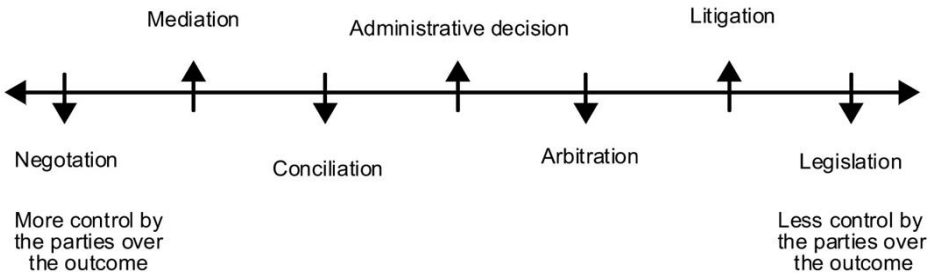

Figure 3.2: Conflict of continuum

Source: Fenn et al ,1997

According to Fenn (1991), construction professional must take responsibility for the conflict and dispute which they create, manage the conflict and provide client with commercial solutions. Two approaches are required: management of conflict and resolution of disputes where the conflict and resolution is too serious to ben managed (Table 3.3).

Table 3.3: Taxonomy of conflict management and dispute resolution in construction industry

CONFLICT MANAGEMENT (NON-BINDING)	**DISPUTE RESOLUTION (BINDING)**
Dispute Review Boards	Adjudication
Dispute Review Advisors	Arbitration
Negotiation	Expert Determination
Procurement Systems	Litigation
Quality Matters Total Quality Management Quality Assurance	Negotiation

Source: Fenn et al (1997: 514)

A useful model has been developed by Smith (1996) to illustrate the broad range of dispute prevention and resolution concepts and approaches, which are currently receiving great attention in the industry (Figure 3.3). This "stair step" illustrates that begins with dispute prevention and ends with litigation. The rising steps in the model depict the ever-increasing levels of hostility and cost as one proceeds up the stairs. As the indicated in the diagram (Figure 3.3), litigation are the most leading to hostility among the participants in construction project, time and cost consuming to achieve resolution, whereas, good risk allocation, incentives for co-operation, disputes potential index and partnering are the opposite. It should be noted that risk allocation, incentives for co-operation and partnering are among the factors, which can be achieve through procurement method.

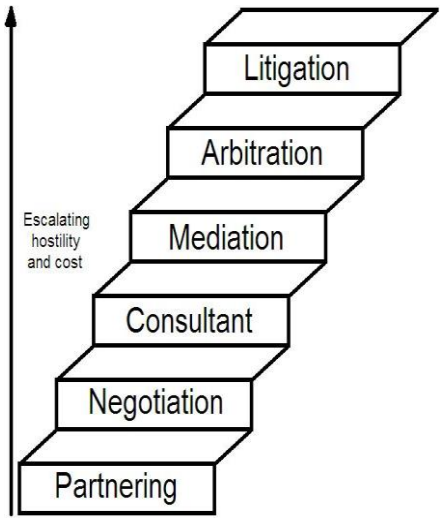

Figure 3.3: Dispute resolution stages and steps.

Source : Smith ,1996

3.4.1 Conflict Management

In managing the conflict for construction industry, the best method is prevention, which includes dispute review boards or advisors, procurement systems and total quality management/quality assurance. As mentioned by Whitfield (1994), greatest emphasis should be placed on the prevention of conflict. No matter how well the prevention methods had been implement, it can only reducing the frequency of conflicts from

happening, not totally eliminated it stressed by Baden-Hellard (1988), construction industry has a built-in potential for conflict arising from the differences always present in values, principles and interests. Thus, when differences arise from unforeseen events, no matter how well the client, design team and contractors have managed the project, better methods of resolving the differences are needed.

3.4.1.1 Dispute Review Board/Person

For larger projects, a dispute review board (DRB), where the cost is shared equally by both parties, and which keeps informed of project progress, is effective. The DRB is a panel, of three experienced people acceptable to both parties, that gives resolution to dispute as soon as they occur (Carmichael, 2002).

This can be taken a step further where the board also looks for potential disputes. The referral of potential problems to the DRB means that plausible arguments are identified at an early stage, the quality of the presentation of claims and their validity are more carefully established, and justification for their rejection is more careful considered.

The presence of a DRB may itself lead to an altitude of compromise from both parties in their day-to-day dealings, and acts as a deterrent to disputes. Regular appearances by the DRB encourages openness and fair play by both parties and may lead to claims being settled before the need for further action. On smaller projects, a dispute resolution person (DRP) can act in the same way as a DRB does on larger projects.

3.4.1.2 Procurement System

According to Bennett *et al* (1990), the procurement system establishes the roles and relationships, which make up the project organization. It establishes the overall management structure and systems, which helps to shape the overall values and styles of the project. As mentioned earlier, prevention is better than cure in managing conflict or

dispute, so the procurement system which locate in the earlier stage of the project life cycle are one of the most effective methods in prevention of conflict. More discussion on this method will be carry out in Chapter 4.

3.4.1.3 Total Quality Management/Quality Assurance

From the research done by Gardiner *et al* (1992), the most confliction areas and stages in construction project are identified. From that research, the context having the most conflict incidents is within the organization, closely followed by the issue of quality and control. Since the quality issues are one of the most confliction areas, so by adopting a good management and controlling system on quality issue, it will reduce the frequency of conflict.

Total Quality Management, from its inception, intuitively recognized the important of bringing organizations and individuals together through teams and processes. These two elements (teams and processes) brought new emphasis on training and technologies. The true heart of TQM is in this central role of blending organizations with its individual performers in competitively meeting the customer needs and demands (Lon Wagner, 1995).

3.4.1.4 Negotiation

When the conflict had happened in construction projects, before it reached a more serious stage and become dispute, immediate action such as negotiation needs to be carry out to resolve the conflict.

In negotiation process, problems are resolved through negotiation by the personnel involved in the project. Genuine discussion and negotiation is encouraged. This, at least, means the parties are still talking to each other. There could, however, be the perception that compromise, implicit in much negotiation, could override legitimate claims. This is countered with the advantages of pragmatism offered by negotiation, which offers speed, low cost and maintenance of relationship between the parties. In

some instances, the parties are amicable and keen to work together in finding a mutually agreed solution for the problem or conflict, and preventing the problem from evolving into a dispute (Carmichael, 2002).

3.4.2 Dispute Resolution

As mentioned by Whitfield (1994), some conflict and dispute are unavoidable, proper management of conflict will ease the impact it has on the construction process, but resolution must follow quickly. Dispute can be resolve by either using informal such as negotiation and alternative resolution methods (ADR) or formal resolution methods such as litigation and arbitration.

Carmichael (2002) are suggested that the step approach to dispute resolution (Figure 3.4) as below:

a) An attempt is made to resolve the problem at the level at which it occurs, in a timely fashion.
b) If this fails, involve people at a higher level with decision making authority, and the potential to compromise in the interests of a commercial solution.
c) If this fails, proceed to an ADR approach using and independent third party.
d) If this fails, used arbitration or litigation

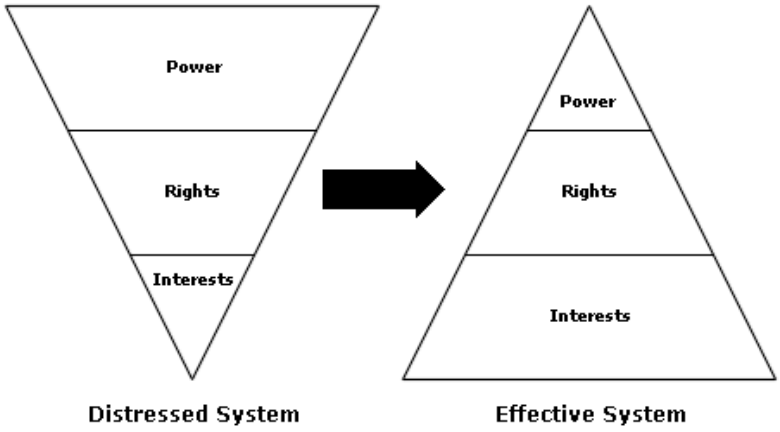

Figure 3.4: Stages approach to dispute resolution.
Source: Carmichael, 2002

3.4.2.1 Informal Resolution Method

Conflicts and disputes cannot be allowed to fester or lie dormant, they must be addressed. They can be resolved either formally or informally. Informal resolution has two major avenues down which disputants may travel as below:

a. Negotiation
b. Alternative dispute resolution (ADR)

a) Negotiation

Negotiation is the only approach which does not involved a third party. As such, it may be described as a non-intrusive approach. Genuine discussion and negotiation should be promoted as preferred way of resolving disputes, and to the mutual advantages of both parties. Negotiation is considered by most appropriate way to resolve any dispute. If negotiation is not successful, ADR can be attempted (Carmichael, 2002).

According to Whitfield (1994), The negotiation should be the first choice of solutions for the resolution of a dispute. The positive benefits of negotiation are:

i. Negotiation is inexpensive
ii. Negotiation maintains relationship

On the negative side the pitfalls of a negotiation are:

i. Negotiations fail after a long and protracted period of discussion because they are not binding.
ii. The informality will permit negotiations to raise surprise issues or irrelevant points.

b) Alternative Resolution Methods (ADR)

As mention by Fenn (1991), general dissatisfaction with litigation and arbitration, which in mimicking high court procedures has become extremely prolonged and therefore, expensive, has prompted parties to disputes and their advisor to look elsewhere for solution. Between litigation and arbitration, arbitration has always been a favored alternative to a court hearing in many technical projects (Carmichael, 2002). One of the solutions is Alternative Dispute Resolution (ADR), which originated in the US where a similar increasing concern with a system of litigation, which becomes unwieldy, inefficient, time-consuming and expensive, prompted a search for commercial alternatives.

Fenn (1991) describes ADR as "techniques exist in other countries, cultures and fields" for disputes to be resolved by the intervention of a third party to aid the disputants without the use of adversarial techniques or the posturing of advocacy. The main ADR alternatives include mediation, conciliation and dispute review boards. Large saving in cost and speed in resolution provided by ADR are the main attraction of the usage, especially with the data acquired from USA, Australia, South Africa, China, Japan, Hong Kong and Singapore. This has led to the setting up of the Centre for Dispute Resolution (CEDR) and International Dispute Resolution Europe Ltd (IDR). The independent non-profit making body, CEDR founded with CBI support by British industry and professionals in order to make ADR available (Fenn, 1991).

b-i) Conciliation

A conciliator must be absolutely independent of the parties to the contract. Impartiality is essential, since the purpose of this process is to precipitate an agreement by persuasion and suggestion. Conciliators do not take sides, take decisions or make

judgments. The conciliator may bring the parties together for an open discussion, which he or she chairs and leads. The conciliator will be seeking to establish common ground, ascertaining the facts that are in dispute. Where conciliation is adopted, it is ultimately up to the parties themselves to reach an agreement, and to decide upon the precise terms of the agreement (John Murdoch and Will Hughes, 1998).

b-ii) Mediation

This procedure is like an extended version of conciliation. The initial stages will probably follow a very similar process, often referred to as shuttle diplomacy, as the mediator consults first with one party and then with the other. However, the end of this process is very different from conciliation in that, if no negotiated settlement results from the process, the mediator will make recommendations to settle based on his or her findings. As a result, it tends to be less open-ended (John Murdoch and Will Hughes, 1998).

b-iii) Dispute Review Board

As discussed earlier, dispute reviews board would normally contain a representative from each contracting party and a mutually agreed impartial third party. All board members would have to be acceptable to both parties for the board to function effectively (Carmichael, 2002). When a dispute occurs, the board is given appropriate documentation. The board may meet informally, or there may be presentations and arguments made. By having open and free discussions, solutions are given quickly.

3.4.2.2 Formal Resolution Method

Formal dispute procedures merely try to find the proper solution, whether or not it suite the parties. This is one reason why people find the arbitral and legal processes so unsatisfactory. On many occasions, winners and losers have left a hearing frustrated because their case, which seemed so simple, now appears too complex for them to follow (Whitfield, 1994).

a) Arbitration

Arbitration is a process disputes between parties without litigation in the court. There is no statutory definition of arbitration. The Concise Oxford Dictionary simply states it as " the settlement of a dispute by an arbitrator". The arbitration with which we are concerned is the settlement of a dispute by a tribunal made up of one, two or three arbitrators whose award (as in a court judgment) is legally binding and enforceable by the courts (C.H.Teoh, 1992). In construction disputes, arbitration is preferred to litigation, its main advantage being the speed with which its hearing can commence compared to delays and uncertainties in the court which may take months. The date of hearing can be set to the convenience of all parties and heard in private, and their peers who are conversant with their work judge the disputants.

b) Litigation

Litigation is the use of court system to resolves disputes. In litigation, the process is from the issue of a writ to a hearing and then on to a judgment. One of the failures of the legal process has been the speed with which solicitors have been prepared to issue writs. After writ has been issue, the plaintiff cannot simply withdraw his writ and forget the matter. If he did so the counterclaim would be found against him along with the costs (Whitfield, 1994).

However, in some cases, litigation may be the only thing left that can resolve a particular dispute; (Carmichael, 2002) this may arise for example where:

i. There are substantial legal issue.
ii. The proceedings are multi-party.
iii. The proceedings are likely to be difficult to control.
iv. There are allegations of dishonesty.
v. One party refuses to acknowledge that a compromise may be necessary, and wants a court ruling totally in its favor.

The relatively recent phenomenon of ADR has been enthusiastically embraced by many members of the industry as a solution. ADR has proved to be quite effective as a tool to resolve disputes. However, described by Smith (1996), ADR procedures, which are employed after a dispute has already arisen, deal primary with the symptoms, not the

root causes of construction project conflict. Therefore, he suggests a more productive solution to construction project's adversarial illness would be employed preventive techniques to attack the root causes for problems, thus avoid conflict altogether.

As well, it is necessary to note the perceptible shift towards dispute avoidance and minimization strategies (Kumaraswamy, 1997), through techniques such as partnering, disputes review board and disputes resolution advisers. The perceived preference to avoid the avoidable disputes and minimize the intensity and impact of unavoidable disputes is a logical response to the high cost of resolving disputes that have affected construction industries in most countries. The Latham Report (1994) called for a reversal of the adversarial relationships and practices that dominated the industry and for a replacement of these with "team working", "collaborative working" and "partnering" between the multiple participants on a construction project.

The management of risk and uncertainty attracted increasing attention from construction industry in recent years. It has been identified that risk and uncertainty are inherent in any construction project (Lowe *et al*, 1996 & Smith, 1996), realistic construction contract risk allocation has been called upon to achieve the goals of all participants and enhance the prospects for a successful project. Moreover, according to Lowe *et al* (1996), procurement methods are the central of allocation of risk, therefore, unrealistically and unfairly shift project risks to parties who are not prepared or not able to assume such risk should be avoided.

In view of the above arguments, preventive measures, such as procurement should have more advantages than others type of conflict management and dispute resolution mechanisms.

3.5 CONCLUSION

The construction industry is notorious for high levels of conflicts and disputes. Each construction project is unique. It is prototype, a one off. This means that every project had to passing a learning curve, which create a fertile ground for conflict and

dispute.

Smith (1996) had list out “top ten list" for specific causes of construction disputes in US. BEC (Building Employers Confederation) had identified five main areas as the causes of conflict in UK construction industry (Harding, 1991). It can be noted that some causes in US are similar with those causes in UK. Many other writers and researchers have attempted to identify the true extent of conflict within the construction industry in a number of ways (Table 3.2), although the vast majority of commentary on the extent of construction specific conflict has been anecdotal.

In managing the conflict for construction industry, various methods had been implemented, which includes dispute review boards or advisors, procurement systems and total quality management/quality assurance. When differences arise from unforeseen events, no matter how well the client, design team and contractors have managed the project, better methods of resolving the differences are needed.

Various dispute resolution methods are used to resolve the dispute arise in construction projects, which can be divided into formal and informal dispute resolution method. For formal dispute resolution, the methods used are litigation and arbitration. In informal dispute resolution method, negotiation and alternative dispute resolution (ADR) such as conciliation, mediation and dispute review board are commonly used.

CHAPTER 4

PROCUREMENT METHODS: CONFLICT MANAGEMENT MECHANISMS

4.1 INTRODUCTION

As discussed in Chapter 3, the best conflict management method is preventing the conflicts from happened. One of the effective conflicts preventive method is by using procurement methods. In this chapter, firstly various types of procurement methods such as traditional, design and built, construction management and partnering will be discussed. How traditional procurement method creates a media for conflicts and disputes also will be examined, and lastly how procurement method act as conflict reduction mechanism will be examined.

Until the 1960s a client with a need for building works would usually commission an architect to prepare drawings identifying his requirements. These drawings would provide the basis for competitive tenders by builders for the execution of the works. It is a system which was established early in the 19th century and which has continued for more than a century and a half. Customarily, it is referred to as the traditional system or, just, "traditional".

4.2 DEFINITION OF PROCUREMENT METHODS

According to Bennett *et al* (1990), the choice of an appropriate procurement system is crucial strategic decision equaled only by the establishment of the client's objectives and deciding the nature of the end product. All three key decisive influences on the level of the success achieved by building projects.

Turner (1990) describes, "whilst the client is always the employer, which of the remaining constituent parts he employs, that is, with whom he signs a contract or contracts and for which purpose that contract is made, is the variable in the procurement options. The variables of who designs, when the design is carried out, who contracts with whom to construct the building, and so on, produced the optional ways of procurement".

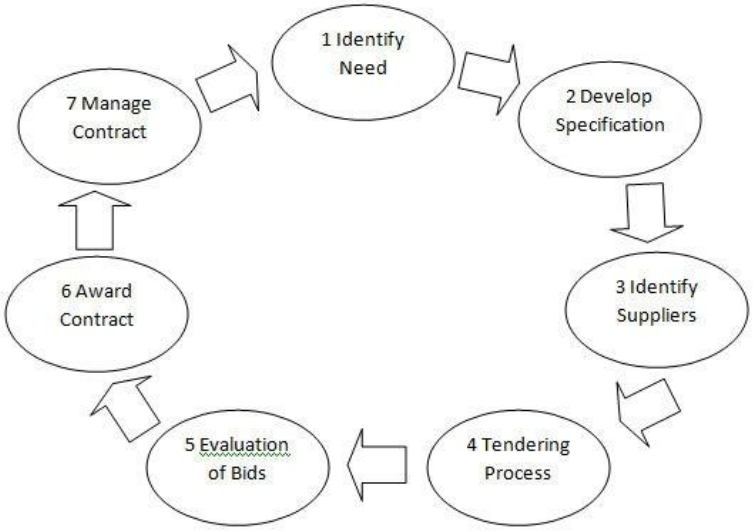

Figure 4.1: Procurement path.
Source: Clamp et al, 1989

Described by Franks (1990) and Masterman (1992), the term "building procurement" method refers to:

> "The organization structure of the amalgam of activities undertaken by the client to manage the design and construction of a building project."

According to Bennett *et al* (1990), the procurement system establishes the roles and relationships, which make up the project organization. It establishes the overall management structure and systems, which helps to shape the overall values and styles of the project. Moreover, Mohsini *et al* (1991) define procurement, which include other forms of acquisition of buildings, as

> "A 'process' term which refers to the acquisition of new buildings or space within buildings either by directly buying, renting or leasing from the open market, or by designing and building the facilities to meet a specific need."

Further, "organizational structure" encompasses those formal and informal means that organizations use to divide and co-ordinate their work in order to establish stable patterns of behavior.

Projects have also become larger and more complex and their clients have encouraged the development of new management based procurement systems. Moreover, the recession of the early seventies also prompted contractors, who could no longer rely on the professions as a source of work, to market package deals as a means of improving project performance (mainly time and cost); and their own position in the market place (Moore, 1984 & Franks, 1992). This has led to a proliferation of ostensibly different procurement systems, each being touted as the "best" (seemingly regardless of the circumstances) by their various advocates.

4.3 EVOLUTION OF PROCUREMENT METHODS

It is generally accepted that a project may be regarded as successful if the it is delivered at the right time, at the appropriate price and quality standards and providing the client with a high level of satisfaction. Increasingly the achievement of these criteria has been associated with the problem of procurement method of the construction. Over the last decade the construction industry responded to increasing expectations of clients by offering a diversity of building procurement methods. Figure 4.2 shows the categories of procurement methods used in construction industry.

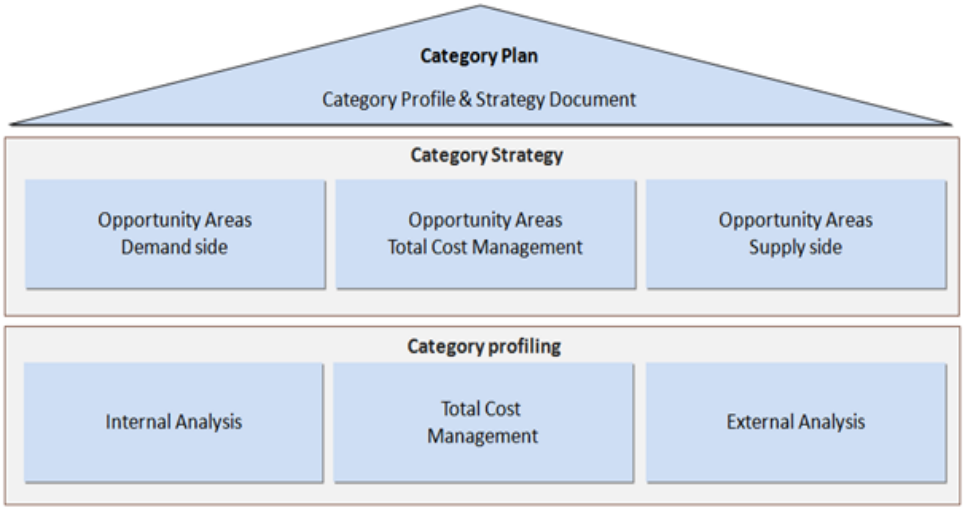

Figure 4.2: Categories of building procurement.
Source: Masterman, 1992

Numbers of different organization have carried out research on the usage of different procurement methods, which are available in the building industry. Example for these are Action on Banwell Report (1967), The Wood Report (1975), Royal Institute of Chartered Surveyor, Junior Organization, Quantity Surveying Division [RICS JO (QS)] survey of 'Contracts in Use' and so on. According to Masterman (1992), the market trend of building procurement systems illustrated by these various analyses is inconsistent and inconclusive, due to the different organizations and individuals carrying out their survey using differing methodologies.

4.3.1 Traditional Procurement Method

The traditional procurement system is the way in which clients have normally obtained their buildings for the last century and a half (CIRIA, 1983). Bennett *et al* (1990) recognize the traditional method as "the client appoints consultants for design and cost control and later selects a main contractor to carry out the work". This description implies that the design and construction phases are performed by two separate entities.

Most works is currently done on this basis, involving Standard Form such

as JCT 80 or ICE 5th or 6th (Latham, 1994). This is the route with the industry is most familiar, but it is also where many of the problems emerge through lack of co-ordination between design and construction. Figure 4.3 illustrates the evolution of building team of traditional procurement method in construction industry.

The parties to a building contract are the employer and the contractor. Those appointed by these two, employer and contractor, would complete the "building team" which listed on Table 4.1.

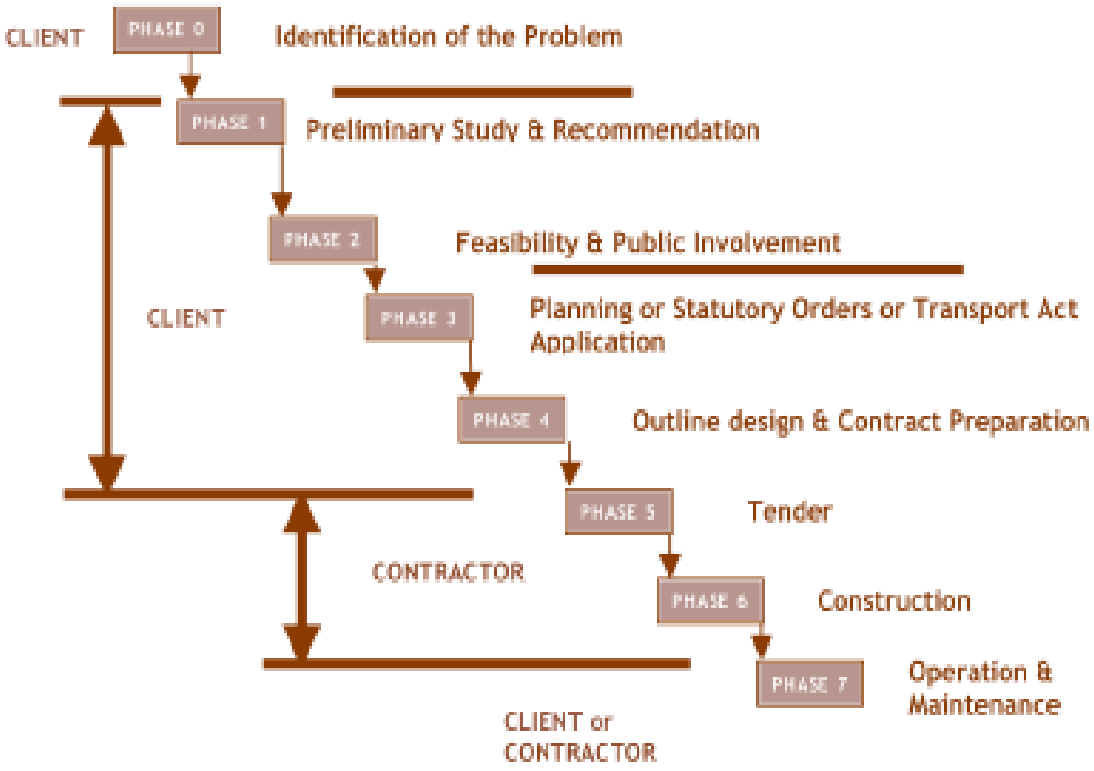

Figure 4.3: Historic development combination of separate firm to form the building team as used today.

Source: Baden-Hellard ,1988

Table 4.1: Design team vs construction team

DESIGN TEAM	CONSTRUCTION TEAM
Employer (or client) *	Contractor (or principal contractor) *
Project Manager	Site Agent (or foreman, described in the contract as the person-in-charge)
Planning Supervisor *	Nominated Sub-Contractor *
Architect *	Domestic Sub-Contractor *
Quantity Surveyor *	Clerk of Works *
Structural Engineer	
Building Services Engineers	
Nominated Sub-Contractor *	

Source: The Aqua Group (1996)

It should be noted that only those marked with an asterisk (*) are mentioned in the contract. This list is not exhaustive and to it could be added planners, landscape consultants, process engineers, programmers and the like. Equally, some roles may be combine and roles such as the project manager or planning supervisor may be fulfilled by individuals or firms from varying technical backgrounds.

The client separately appoints specialist consultants as his agents, on a fee basis, usually with an architect as the primary professional advisor. The employer accepts that design work will be generally separate from construction, consultants are appointed for design and cost control and the contractor is responsible for carrying out the works (Clamp *et al*, 1989). The responsibility extends to all workmanship and materials and includes all work sub-contractors and suppliers. The contractor is usually appointed by competitive tendering on complete information, but may be if necessary be appointed earlier by negotiation on the basis of partial or notional information (Clamp *et al*, 1989).

The role of the architect is traditionally that of independent designer and inspector of the construction process in traditional procurement method. This dual role is formalized in the RIBA Plan of Work for design team operation (RIBA, 1980); which lists a separate design and management function for the architect at each work stage.

Banwell Report in 1964 claims that, in the traditional method, the main contractor has no opportunity to contribute his building expertise during the design stage. Hence, the traditional system is a sequential process and the design is usually largely completed before work commences on site. The independent consultants fully design the project and prepare tender documents upon which competitive bids, often on a lump sum basis, are obtained from main contractors (Masterman, 1992).

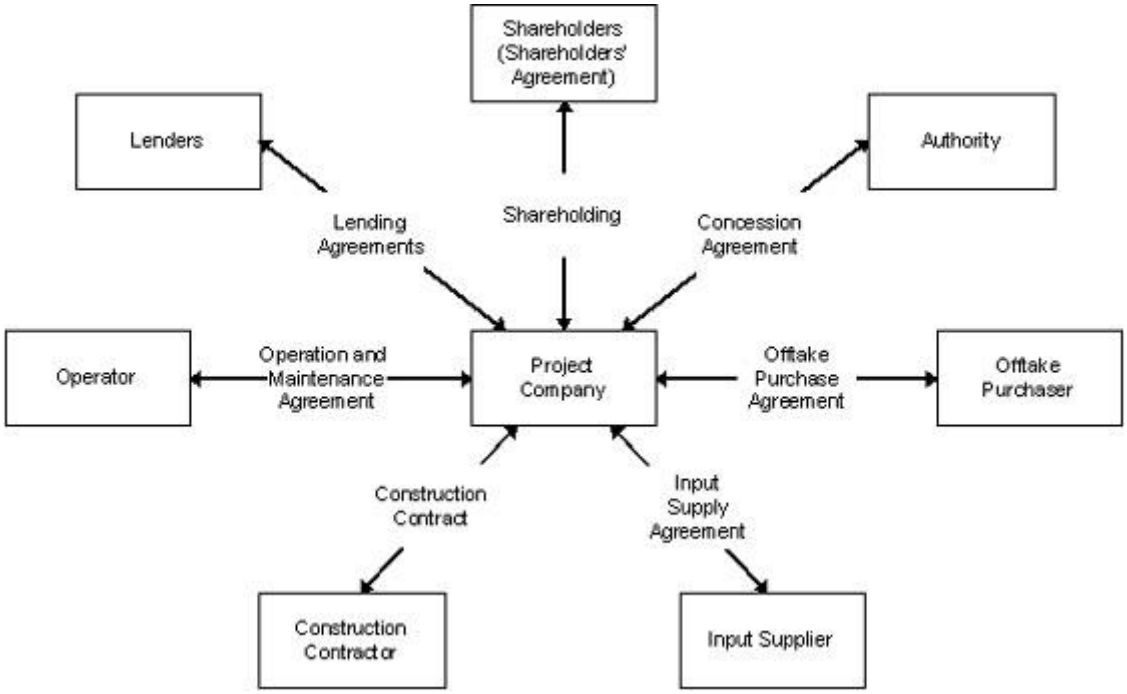

Figure 4.4: Traditional system organizational structure and contractual relationship.
Source: Masterman ,1992

As illustrated in Figure 4.4, theoretically, design is totally separated from construction in the traditional system and the successful construction tenderer will carry out the works under the inspection of the original design consultants. However, due to the changes in working practices and the ever-increasing use of indirect labour by main contractors, sub-contractor usually performs the majority of all work.

The traditional system, as its name implies, relies on the separate professional

disciplines working within established procedures. Thus the use of standard forms of contract, standard methods of measurement and co-ordinated project information are all essential to the smooth functioning of the traditional system. It is essentially a sequential approach. Therefore the client must allow time for all the professions to play their full part in the correct sequence.

The traditional system relies on the use of well-understood forms of construction. This is the case because it is unrealistic to ask the contractor to give a firm lump sum price for unfamiliar or innovative construction work.

The traditional system provides a basis for efficient construction when the contract is based on well-considered and complete project information and the client is determined not to allow the agreed design to be altered. While the traditional forms of contract make extensive provision for variations, the uncertainty generated by excessive change inhibits efficiency and may well leave the client with a building of poor quality, delivered late at a high price.

There are various accelerated forms of the traditional system, which differ from the parent system only in the way, which the contractor is appointed or reimbursed. These variants are attempts to speed up the traditional process by overlapping and integrating the design and construction stages to varying degrees.

Two variants are (Bennett *et al*, 1990):

i. Sequential - contractor bid on completed design and cost documents.
ii. Accelerated - a contractor is appointed early on the basis of partial information, by negotiation or in competition, possibly on a two-stage basis.

4.3.2 Design and Build

Masterman (1992) defines the design and build as "an arrangement where one contracting organization takes sole responsibility, normally on a lump sum fixed prices basis, for the bespoke design and construction of a client's project". Therefore the

design and build procurement system is concerned with single point responsibility by one contracting organization which is given responsibility for the whole building project from initial briefing through construction of the building.

Two main factors, which determine the success of the design and build procurement systems, are the client's brief and the quality assurance procedures. It is essential that clients state all their requirements before entering into a design and build contract. The JCT with contractor's design form of contract (JCT CD81) allows this statement to be as detailed as necessary to reflect those matters, which the particular client regards as important. Equally the contract allows for the elements in which the client has no particular requirement, to be defined in performance terms. These performance statements may be very simple, in effect asking merely for a competent answer. Thus the client's brief can be short, leaving much discretion to the contractor and so allowing him to concentrate on producing the most efficient design. Or the brief may be very detailed, leaving the only hidden or insignificant elements to the contractor's decision. In either case the attraction of the JCT CD81 form is that the contractor is responsible for delivering a complete building for a firm price and to a fixed completion date.

The overall performance depends, in practice, on good quality assurance procedures. These should be linked closely to the brief. At each stage of the complete design, manufacturing and construction process, the client's advisors should check the proposals, the components or the complete building for conformance to the standards defined in the brief. The more the defined answers or required performance can be expressed in terms of objective measurements, the more likely is the success of the project. It follows from two requirement of success, that design and build is unsuitable for complex, innovative projects. It also allows that clients should not change the design because the systems provided no equitable basis for valuing variation.

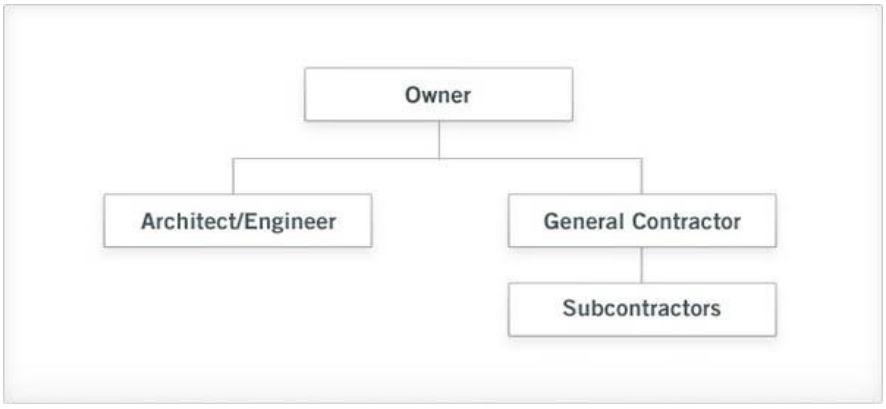

Figure 4.5: Design and build system organizational structure and contractual relationship.

Source: Masterman, 1992

4.3.3 Construction Management

Masterman (1992) defined the construction management system as " The Construction manager adopts a consultant role with direct responsibility to the client for the overall management of the construction of the project, including liaising with design consultants, to meet agreed objectives".

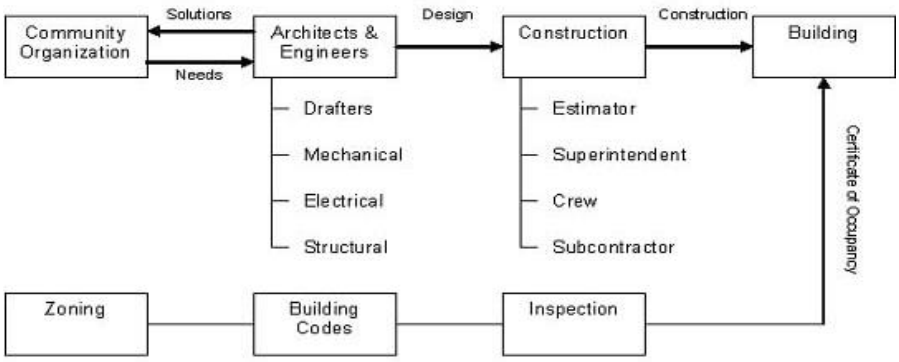

Figure 4.6: Construction management system organizational structure and contractual relationship.

Source: Masterman, 1992

Under this procurement system, a fee-based professional provides the management service and all construction contract are directly between the client and trade (package) contractors. Under this approach, the client is enters into a direct contract with the individual work contractors. The construction manager acts as the employer's agent when dealing with each of the separate contractors. The main characteristics of the system are:

i. The construction manager is appointed as a consultant during the initial stages of the project and has equal status to the members of the design team.
ii. Reimbursement is made by means of a lump sum or percentage fee for management services.
iii. The physical construction of the projects are carried out by works, or package, contractors who are employed by the client and co-ordinated, supervised and administered by the construction manager.

Suggested by Latham (1994), the client commissions a project which involved high degree of innovation, many new designs details, hands-on involvement and seeks strong management to produce the intended result, the nest route is construction management.

4.3.4 Partnering

When the employer has an ongoing requirement for a building team they may wish to consider the concept of partnering (sometimes referred to as "alliance"). Although a relatively new concept within the construction industry, partnering has been used effectively within industry, especially the Japanese electronic and motor industry (Sawczuk, 1996 & Simms, 1991). Partnering may be a way forward towards more harmony on construction projects (Whitfield, 1994). Some large clients, such as supermarkets, hospital groups and developers have now developed links with contractors and sub-contractors on whom they can rely on.

In the report entitled “Partnering: Contracting without Conflict” issued by the National Economic Development Office (NEDO, 1991), the adopted definition of partnering is set out as:

> “A long-term commitment between two or more organizations for the purpose of achieving specific business objectives by maximizing the effectiveness of each participant's resources. The relationship is based on trust, dedication to common goals and an understanding of each other's individual expectations and values. Expected benefits include improved efficiency and cost effectiveness, increased opportunity for innovation and the continuous improvement of quality products and services.”

Partnering is a contractual arrangement between the employer and the other members of the building team which can be open ended or alternatively set our to cover a term of a given number of years. This is in contrast to the usual method of a contractual relationship being entered into on “a job” basis.

Sir Michael Latham in his report “Constructing the Team” (1994) welcomed the use of partnering arrangements where the parties would agree to work together within a relationship based on trust. However, Latham (1994) did warn that there was the possibility of partnering arrangements being too "cozy" to the detriment of the employer. Therefore there is a need to review partnering arrangements on a regular basis to confirm that they remain a beneficial arrangement for all members of the building team involved (Sawczuk, 1996).

To make a partnering arrangement work, there needs to be a considerable amount of input and effort by all parties involved. There also needs to be regular evaluation and monitoring of the arrangement to make sure the relationship is not being misused or abused. In the NEDO (1991) report, several features are set out for a successful partnering arrangement and these include:

i. A proper and careful selection process for selection of the right partner.
ii. Sufficient trust and confidence in the selected partner;

iii. A thorough understanding and acceptance by the partnering team of the requirements of the partnering relationship;
iv. A flexible and willing approach to adapt partner's requirements;
v. A commitment to the arrangement at executive level in each of the partners organizations.

For partnering to work effectively, there is a need for a greater emphasis on regular meetings and workshops to:

i. Develop personal and working relationships;
ii. Promote a cultural change towards partnering (i.e. from mere compliance to co-operation);
iii. Promote active co-operation;
iv. Evaluate the partnering arrangement so as to promote continuous improvement in performance and quality;

Establish a mission statement setting out the general aims of the team and a charter setting out team objectives. There are, however, some potential difficulties with adopting the partnering concept within the construction industry:

i. The typical construction project involves numerous organizations such as the main contractor, sub-contractors, consultants and employer. For the partnering to succeed there needs to be a commitment by all parties not just a selection.
ii. When the employer has several projects there may be a project that is not suited to the contractor's or consultant's expertise. Therefore the employer may need to consider a select number of contractors and consultants from which they can choose the appropriate team on a job-by-job basis. This does however weaken the partnering philosophy.

The awarding of repeat business without competition may, as Latham (1994) said, become too "cozy" and some organizations may find it difficult to accept this

arrangement. However, *Trusting the Team* by the Reading Construction Forum, it is found that partnering would able to reduce the cost of a project by up to 10% and on a series of projects or strategic partnering, this could be increased up to 30% reduction in cost. Further the US Army Corps of Engineers, who use a particular form of partnering, claim an 80-100% reduction in cost overruns, a virtual elimination of time overruns and 75% less paperwork. The Corps, who is major public sector's construction client, also report significant improvement in site safety and better morale. Within the public sector government policy dictates that goods and services are acquired by competition to ensure value for money for the taxpayer.

Perhaps one of the main benefits of partnering is the departure from an adversarial attitude, which is a prevalent feature in the construction industry worldwide. The partnering arrangement seems to incorporate an in-built form of Alternative Dispute Resolution (ADR) capability. The parties are able to tackle and resolve problems as they arise without waiting until the end of the project and then having to refer the matter to courts.

Partnering is being proposed as a possible solution to the problem of communications and conflict by both industry leaders and business consultants (Baden-Hellard, 1995). This concept of working together with common goals and objectives has seemingly worked successfully in other industries, such as the automotive industry (NEDO, 1991).

4.4 HOW TRADITIONAL PROCUREMENT METHOD CREATE A MEDIA FOR CONFLICTS AND DISPUTES

In seeking an answer to why alternatives to the traditional system have evolved one might start with Sir Harold Emmerson who was asked by the Minister in 1962 to make a quick review of the problems facing the construction industry. His report included the now famous phase that:

"In no other important industry is the responsibility for design so far removed from the responsibility for production."

He concluded that the client suffered as a result of this divorce. Moreover, Emmerson (1962) suggested that an improvement is needed in co-ordination and co-operation between parties involved in the construction process.

In 1964, the Banwell Report produced by the National Economic Development Office (NEDO) urgently called on the industry to change its attitude and "think and act as a whole". Moreover, according to Mohsini *et al* (1991), the traditional process of procurement is shown to be deficient, because of:

i. The difficulties it presents in defining the roles of the building participants
ii. The increasing complexity of the interactions of technical, economic and social forces at play within the industry.

Traditional procurement systems and the contractual and legal framework by which participants are bound together are often criticized as being confrontational and adversarial. This is in combination with competitive, tendering which seeks to driven costs down initially. Subsequently this action leads to disputes and conflict, which revolve around financial self-interest, between the various stakeholders (e.g.client, design-team, consultants, main contractor, sub-contractor, suppliers) throughout the construction process.

The Construction Industry has traditionally operated through competition, driven by the client's need to achieve the lowest-cost bid (Hinks *et al*, 1996). As a result, relationship have tended to be adversarial, with the parties concerned resorting to contractual claims, which lengthen time-scales and driven costs. The Latham Report (1994) identified this sort of adversarial relationship, together with industry fragmentation, as the greatest barriers to improving quality and productivity. Claims and counter-claims between clients and their architects; contractors and their employees; contractor and their sub-contractors are legion. Moreover, as laughed by Nicholson (1992), the construction industry in fact spends more on contesting claims than it spends on research and development.

Through co-operation both risk and benefits can be shared, allowing businesses

to develop and improve product or service quality (Hinks *et al*, 1996).

4.5 HOW PROCUREMENT ACT AS CONFLICT MANAGEMENT MECHANISMS

As mentioned by Judge John Newey (1992), where disputes are concerned, prevention is much better than cure! Moreover, Baden-Hellard (1992) suggests that any attempt to resolve conflict expeditiously, economically and effectively should start as early as possible in the chain of events causing the situation.

A new structure is needed that sets all parties a common goal of fast, economical construction of the required quality (Simms, 1991).

The identified need for collaborative working, teamwork and partnering, in preference to entrenched adversarial relationship between project participants, is reflected in the growing usage of non-traditional types of procurement. As noted by Kumaraswamy (1997), the design and build or project led management led types of construction procurement are based on minimizing the adversarial friction and on facilitating teamwork.

According to Mohsini *et al* (1995) the overall performance of the building project is highly dependent upon the organizational design of the project organization (procurement systems), particularly since inter-organizational conflict in temporary multi-organizations is found to cause a loss of project level performance (Mohsini *etal*, 1991 & Mohsini *et al*, 1992).

There is a movement to development and promote new innovative methods of claim prevention and dispute resolution. Mediations, mini trials and dispute review boards are used as ways of settling disputes earlier and cheaper than the traditional route. Suggested by Simms (1991) that industry should seek to avoid disputes, rather than seek to resolve them quicker.

It would be appear that teamwork may be an effective way forward but only if

the members are bound together by mutually set, internalized goals rather than by contractual arrangements alone (Langford *et al*, 1992).

Current methods of building procurement are inherently conflict oriented. Previous studies by Heath *et al* (1994) and Baden-Hellard (1992) have demonstrated that much of the conflict, which arises, is attributable to the method of procurement adopted and the use of standard forms of documentation.

As mentioned by Lavers (1992), the avoidance of conflict, can be achieved more mechanistically through selection and tuning of procurement vehicles; the contractual and other relationships between the parties in a construction project.

4.6 CONCLUSION

Four distinct types of procurement method, namely Traditional, Design and Build, Construction Management and Partnering had been review for its characteristics and how it operated.

Traditional procurement method, which clearly dividing the design and construction process, to be carried out by different firm had created a fertile ground for conflict and dispute. The innovative procurement method such as construction management, partnering and design and built, which stress in collaborative working, teamwork, are able to entrenched adversarial relationship between project participants, and leading to conflict and dispute reduction.

CHAPTER 5

DATA COLLECTION AND ANALYSIS

5.1 INTRODUCTION

This chapter reports the research into the chosen procurement methods namely, Traditional, Design and Build, Construction Management and Partnering with reference to conflicts and disputes. As referred to Chapter 1, the aim of this dissertation is to investigate the impact and extent of current procurement methods as conflict and dispute management mechanisms. Moreover, the data collection also sought to comply with the objectives of this dissertation listed below:

i. To study the conflict management and dispute resolution methods in construction industry.
ii. To examine the importance of innovative procurement method as a conflict reduction mechanism between the parties involved in construction industry.
iii. To provide critical overviews of the traditional approach to a procuring construction project with regard to potential conflicts which may occurs.
iv. To examine the extent of innovative procurement methods, Partnering, Construction Management and Design-and-Build, as compared to Traditional procurement method in minimizing conflicts in construction projects.

In this chapter, the adopted methodology will be justified and collected data will be analyzed, interpreted and presented.

5.2 METHODOLOGY

A postal questionnaire is considered to be the appropriate approach for the analysis survey. The postal questionnaire is selected in view of its clear advantages over other methods, especially the interview, which would take longer time to achieve the same size of sample. Moreover, by using the postal survey, a wider geographical coverage is possible.

5.2.1 Sampling

As the research involves 4 distinct types of procurement method, namely Traditional, Partnering, Construction Management and Design-and-Build, multistage sampling has been adopted to ensure the samples provide a good representation of the population and more sensible data could be collected. The first stage of sampling was though cluster sampling. A list of contact numbers for client, contractor, engineer and quantity surveyor was compiled through the source as below:

i. Pertubuhan Akitek Malaysia (PAM)
ii. Real Estate & Housing Developer's Association Malaysia (REHDA)
iii. The association of Consulting Engineer Malaysia (ICEM)
iv. Master Builder Association Malaysia (MBAM)
v. The Board of Quantity Surveyors Malaysia (LJBM)

The second stage of sampling was adopting the simple random sampling with accordance to Table 5.1.

Table 5.1: Detail breakdown of sampling.

Type of Sample	Sent	Percentage
Clients	20	13.33%
Architectural Consultants	20	13.33%
Engineering Consultants	20	13.33%
Construction Managers	20	13.33%
General Contractor	40	26.68%
Quantity Surveyor	10	6.67%
Multi-Disciplinary Practice	20	13.33%
Total	150	100.00%

150 questionnaires have been directed to the selected firms for data collection. According to Fellows *et al* (1997) the normal expected useable response rate is ranging from 25% - 35%. By assuming 30% of responses rate, 45 numbers of responses will be collected by sending 150 numbers of questionnaires, which will provide sufficient data for this research. Therefore, 150 numbers of questionnaires should meet the requirement mentioned above and within the time and financial resources available.

5.2.2 The Questionnaire

The questionnaire shown in **APPENDIX** was used for the purpose of this research. The questionnaire was consist of eight questions, **QUESTION 1** and **2**, was to collect the information about the surveyed company's background. **QUESTION 3**, **4**, and **5** of the questionnaire, would collect information of the projects undertaken by the company with regard to disputes and procurement methods and the causes of dispute. **QUESTION 6** would seek to find out the most frequent used dispute resolution techniques in construction industry, whereas **QUESTION 7** was to collect the views of respondents with regards to the most potential adherent of dispute in each chosen procurement method. The last question, **QUESTION 8** was to collect the respondents view with regards to the possibility of innovative procurement method in reducing construction conflicts and dispute as compare to traditional procurement methods. This question also aims to find out the areas of conflicts that can be reduce by implementing innovative procurement methods.

The questionnaire had been designed in such as way that to eliminate the bias of respondent about the question and to provide an unambiguous picture about what the research is intended. Much effort has being emphasized on the wording of the questions, structure of the questionnaire, layout of the questionnaire, in order to avoid the misunderstanding of the respondents, thus increase the response rate and the accuracy of the research.

150 questionnaires were posted to the selected firms. The respondents were given four weeks period that is deemed to have sufficient time for them to complete the questionnaire, to return the questionnaire with the provided pre-stamped envelope.

5.3 RESPONSES TO THE QUESTIONNAIRE

Out of the 150 questionnaires sent, only 38 were completed properly, giving a response rate of 25.33%. Three of the questionnaires received were uncompleted, therefore, could not be included in the data analysis. Although the response of Malaysia construction industry was not very encouraging, it is fall within the expected response rate (25%-35%) according to Fellow *et al* (1997).

Most of the companies refused to answer the questionnaire and gave various excuses, among the most common reasons were:

> "The competent person to fill the questionnaire is not available"
>
> " … as a matter of company policy, we do not complete individual questionnaires…"
>
> "Regretfully as we are receiving an ever increasing number of similar request, we are unable to respond to each one individually."

Table 5.2: The summary of responses from this field survey.

	Number	**%**
Questionnaire circulated	150	100.00
Total respondents	41	27.33
Properly completed questionnaire received	38	25.33

5.4 RESULTS AND DISCUSSIONS

5.4.1 Question 1 & 2

The intention of **QUESTION 1** and **2**, was to establish the basis of the sample in term of the role involved by respondents in construction industry and the size of the firms, which measured by annual turnover in a particular year.

The aim of **QUESTION 1** and **2** was to examine some background information of the respondents. This was to ensure the data were collected from the key players (i.e. clients, architects, engineers, construction managers, general contractors and quantity surveyors) in construction industry and the companies' size was "large" in terms of annual turnover.

The assumption is that construction companies with greater annual turnover would involve in more different projects using different types of procurements, such as those chosen (traditional, design and build, construction management and partnering) as they will have more resources and information to be collected for this research.

5.4.1.1 Question 1

The **QUESTION 1** gives validation to the dissertation research criterion in that all firms responding fall within the pre-selected construction industry participants, with no respondent was apart from the selected profession.

Key players in the construction project participants are among the respondents.

With 31.58% of the total respondent, the General Contractor contributed the biggest portion of the research data; follow up by Client (18.42%), Multi-Disciplinary Practice (15.79%), Engineering Consultants, Construction Managers (10.53%), Architectural Consultants (7.9%) and Quantity Surveyor (5.26%). However, General Contractors are not those who have the highest response rate, only 30%, the second highest after client (35%). Table 5.3 shows the detail breakdown of the response rate among the professions.

Table 5.3: Response rate among the profession.

Respondents	Sent	Received	Response Rate
Client	20	7	35%
Architectural Consultants	20	3	15%
Engineering Consultants	20	4	20%
Construction Managers	20	4	20%
General Contractor	40	12	30%
Quantity Surveyor	10	2	20%
Multi-Disciplinary Practice	20	6	30%
Others	-	-	-
Total	150	38	25.33%

5.4.1.2 Question 2

Table 5.4: The annual turnover of the respondents by year ending.

Turnover by year end	Number	Percentage
Up to RM50 million	12	31.58%
RM51 to RM 100 million	8	21.05%
RM101 to RM200 million	7	18.42%
Over RM201 million	11	28.95%
Total	38	100.00%

From Table 5.4, 68.42% of the responded companies have annual turnover of over RM51 million The recession which had seriously affected the turnover for the construction related company, we consider that the company with annual turnover more than RM51 million are fall within the category of large company. Hence, meet the criteria of the sample being set for large company, in term of annual turnover.

5.4.2 Question 3 & 4

In **QUESTION 3**, respondents were requested to state the number of projects procured within the past two year in accordance to type of procurement methods. The intention of fixing two years as the period of research was to standardize the data collected so that all the information for the project is referred to a same period of time.

For **QUESTION 4**, respondents are requested to enter the number of projects, which led to dispute with reference to **QUESTION 3**. As conflicts and disputes are distributed along a continuum component (Figure 3.2), therefore, different individual might interpret it differently. For example, contractor would interpret the disagreement of claims submitted to client, which subsequently led to reduction in amount of claims, as a dispute. To avoid the confusion over the occurrence of dispute for this research, dispute was defined as when party issuing the WRIT to other party. Writ is a typical action to commence court proceedings (Uff, 1996)

From the data obtained from **QUESTION 3** concerning number of project procured under each type of procurement method, progression to **QUESTION 4**, where number of project led to dispute were recorded, the extend of frequency of dispute in each type of procurement methods chosen would be established. Moreover, **QUESTION 3** and **4** were enclosed in the beginning part of the questionnaire is designed to counter check the information collected from **QUESTION 7**.

From the data collected as shown in Table 5.5 concerning number of projects undertaken by each surveyed firm, progression to number of project led to dispute, the frequencies of dispute for each type of procurement methods were calculated. The frequency of dispute was calculated by engaging the number of projects led to dispute and divided by number of project procured, therefore, the more disputable a procurement method is, the greater the frequency of dispute. Further the procurement methods have been ranked according to the frequency of dispute as Table 5.5.

From Table 5.5, Traditional procurement method, with 0.12 of the frequency of

dispute has the most projects referred to legal proceedings, trailed by Construction Management (0.09) and Design and Build (0.08). As anticipated, the low number of projects led to dispute in Partnering, with only 0.04 frequency of dispute has assured the place of the least project referred to legal proceedings, hence less conflicts and disputes will arise. Moreover, among the number of project led to dispute, Traditional has the greatest portion of the total amount (70.46%) and showing an increased as compare with the percentage of number of project procured (61.04%), which contradicted with other procurement methods.

Table 5.5: Distribution of number of project produced within last two years versus number of project led to dispute among the chosen procurement method

Type of Procurement	Number of Projects Procured		Number of Projects Led to dispute		Frequency of Dispute (per project)	Ranking
Traditional	260	61.04%	31	70.46%	0.12	1
Construction management	55	12.91%	5	11.36%	0.09	2
Design and Build	87	20.42%	7	15.91%	0.08	3
Partnering	24	5.63%	1	2.27%	0.04	4
Total	426	100.00%	44	100.00%	0.10	

From the comparison analysis of data collected for Traditional and other chosen procurement methods, which summarized in Table 5.6, it shown that there are reduction of project led to dispute for project procured under innovative procurement methods as compared to traditional method. The most significant reduction in projects led to dispute is under partnering methods, reduce by 66.7%.

Table 5.6: Traditional versus other procurement methods

Procurement	Frequencies Of Dispute (F)	Procurement	Frequencies Of Dispute	Difference (D)	Reduction (D*100/F)
Traditional	0.12	Construction management	0.09	0.03	27.3%
Traditional	0.12	Design and Build	0.08	0.04	33.3%
Traditional	0.12	Partnering	0.04	0.08	66.7%

5.4.3 Question 5

QUESTION 5 calls for indicating the frequencies of causes of dispute by adopting the Likert scale. A 4-point scale of responses has been adopted as if by using an odd number of responses points, respondents may be attempted to "opt out" of answering by selecting the midpoint (Fellows *et al*, 1997). Therefore, the respondents were asked to indicate the frequencies of causes of dispute encountered by the following scale:

1	Not Encountered
2	Less Frequent
3	Frequent
4	Very Frequent

The list of causes of dispute was being constructed by synthesizing several research works. Most of the causes were adopted from research done by Smith (1996), “top ten list” for specific causes of construction disputes and the rest were adapted from research done by Langford *et al* (1992) and Harding (1991). Thirteen (13) causes of dispute were produced and inserted in the **QUESTION 5**. To further analysis the collected data, important index is being employed to rank the causes of dispute. The formula of important index is shown below:

$$\frac{\sum(aX) - 100}{b} \qquad (5.1)$$

Where

a = Constant expressing the weighting given to each response (1 to 4),

b = Number of option for weighting, if 4-point scale of responses is assigned, then $b = 4$

X = n over N where

n = Frequency of the response,

N = Total of responses.

The reason of adopting important index, as a ranking tool is that this method does takes all the data in the same variable into consideration.

	Ranked 1	Ranked 2	Ranked 3	
Data A	4	6	10	4
Data B	8	4	4	8

For example, two sets of data, **DATA A** and **DATA B** to be considered. One with a slightly right skewed distribution (**DATA A**) and another with a bimodal distribution (**DATA B)**, with rank sum correlation ranking method; the **DATA B** will be ranked higher than the **DATA A**, without considering the distribution of remaining data. However, by adopting methods of important index, the **DATA A** with 64.58-index point will be ranked higher than the **DATA B** with 62.5-index point.

Table 5.7 and 5.8 shows the data collected and the ranked results. For traditional procurement method (Table 5.7), payment is the number one problem that causing dispute and conflict in construction projects (88.82 index point). With 82.24 index point, absence of team spirit among the participants involved in construction project are ranked second after disputes over payment.

This is tailed by unfairly distribution of project risk among the project participants, causing by the contract clauses (75.66 index point), poor communication (75.00 index point) and ambiguous contract provision (73.68 index point). Both contract clause and ambiguous contract provision are regarded as dispute caused by forms of contract. These results further strengthen the argument of Clegg (1992) that contract normally cause conflicts or disputes. The poor communication between and among the parties involved in the project, are ranked third for the dispute causes. As the research done by Higgin *et al* (1963) who identify the area of communication as a major dilemma of the construction industry, forty years after, this dilemma remains among the top ranked causes of dispute.

Table 5.7: Causes of dispute (traditional procurement method)

Cause of dispute	Not encountered	Less Freq	Freq	Very Freq	%	Rank
Disputes over payment.	0	3	11	24	88.82	1
The absence of "team spirit" among the participants.	1	6	12	19	82.24	2
Contract clauses, which unrealistically and unfairly shift project risk to parties who are not prepared or not able to assume such risk.	1	8	18	11	75.66	3
Poor communications between and among the parties involved in the project.	2	9	14	13	75.00	4
Ambiguous contract provisions	1	9	19	9	73.68	5
Reluctance on the part of project participants to deal promptly with changes and unexpected conditions	1	10	21	6	71.05	6
Contract administrators who want to avoid making tough decisions by passing the problem to a higher authority within the organization, or to a lawyer, rather that resolving the problem at the project level	3	10	19	6	68.42	7
Unrealistic expectations on the part of certain parties who do not have sufficient capacity to accomplish their goals	4	16	13	5	62.50	8
Deficient management, supervision and co-ordination efforts on the part of the project participants	4	16	14	4	61.84	9
A predisposition toward adversarial relationships on the part of some or all of the parties to the project	2	19	15	2	61.18	10
Role conflict or ambiguity of role among the participants.	4	21	8	5	59.21	11
Contractors who submit unrealistically low bids.	9	13	13	3	56.58	12

\

For innovative procurement methods (Table 5.8), the payment issue remain as the main causes of dispute for Malaysia construction industry. Contract clause and

ambiguous contract provisions are ranked second and third, with index point of 61.84 and 59.87. The absence of team spirit among the participants had lower ranked (ranked No.3) if compared with traditional procurement method. (Ranked No.2) The poor communication problem was reduced drastically in innovative procurement method, ranked No.10 compared to ranked No.4 for traditional procurement method.

Table 5.8: Causes of dispute (innovative procurement methods)

Cause of dispute	Not encountered	Less Freq	Freq	Very Freq	%	Rank
Disputes over payment.	1	10	18	9	73.03	1
The absence of "team spirit" among the participants.	1	19	17	1	61.84	2
Contract clauses, which unrealistically and unfairly shift project risk to parties who are not prepared or not able to assume such risk.	4	18	13	3	59.87	3
Poor communications between and among the parties involved in the project.	2	20	15	1	59.87	4
Ambiguous contract provisions	2	24	10	2	57.90	5
Reluctance on the part of project participants to deal promptly with changes and unexpected conditions	2	24	11	1	57.24	6
Contract administrators who want to avoid making tough decisions by passing the problem to a higher authority within the organization, or to a lawyer, rather that resolving the problem at the project level	3	23	11	1	56.58	7
Unrealistic expectations on the part of certain parties who do not have sufficient capacity to accomplish their goals	8	15	13	2	55.92	8
Deficient management, supervision and co-ordination efforts on the part of the project participants	7	16	14	1	55.92	9
A predisposition toward adversarial relationships on the part of some or all of the parties to the project	6	21	9	2	54.61	10
Role conflict or ambiguity of role among the participants.	7	18	12	1	54.61	11
Contractors who submit unrealistically low bids.	11	16	8	3	51.97	12

From Table 5.9, generally the frequency of dispute occurrence in innovative procurement method is lower than traditional procurement method, lower by 5.36% - 27.2 %. The top three most significant reducing in frequency of dispute occurrence are absence of team spirit (reduce by 27.2%), poor communication among the project participants (reduce by 27.19%) and reluctance in dealing with changes (reduce by 19.43%). Dispute over these three causes can be reducing by implementing innovative procurement method. The outcome can be explained as below:

Partnering is emphasize in long term relationship, sharing the common goal, will definite reduce those dispute causes created by human. Partnering is being proposed as possible solution to the problem of communication and conflict (Hinks et.al, 1996).

Construction management which using the specialist service in managing a project, will reduce the dispute from happens. Construction manager will ensure all the project's parties are working in harmonic environment, with team spirit, no communication breakdown, towards the successful of the project.

Design and build, which core concept is the single responsibility will reduce the top three dispute causes as discuss above. The company who undertaking the project under this procurement method are responsible for design and construction processes, so it will reduce the problem like absence of team spirit, poor communication and also reluctance in dealing with change which are frequent face in traditional procurement method.

Table5.9 : Comparison causes of dispute (traditional versus innovative procurement method)

Cause of dispute	Important Index		Different (D)	Reduction (D*100/A)	Rank
	Traditional Method (A)	Innovative Method			
Disputes over payment.	88.82	73.03	15.79	17.78%	7
The absence of "team spirit" among the participants.	82.24	59.87	22.37	27.2%	1
Contract clauses, which unrealistically	75.66	61.84	13.82	18.27%	4

and unfairly shift project risk to parties who are not prepared or not able to assume such risk.					
Poor communications between and among the parties involved in the project.	75.00	54.61	20.39	27.19%	2
Ambiguous contract provisions	73.68	59.87	13.81	18.06%	5
Reluctance on the part of project participants to deal promptly with changes and unexpected conditions	71.05	57.24	13.81	19.43%	3
Contract administrators who want to avoid making tough decisions by passing the problem to a higher authority within the organization, or to a lawyer, rather that resolving the problem at the project level	68.42	55.92	12.32	18.01%	6
Unrealistic expectations on the part of certain parties who do not have sufficient capacity to accomplish their goals	62.50	54.61	7.89	12.62%	8
Deficient management, supervision and co-ordination efforts on the part of the project participants	61.84	56.58	5.26	8.51%	9
A predisposition toward adversarial relationships on the part of some or all of the parties to the project.	61.18	57.90	3.28	5.36%	12
Role conflict or ambiguity of role among the participants.	59.21	55.92	3.29	5.56%	11
Contractors who submit unrealistically low bids.	56.58	51.97	4.61	8.15%	10

5.4.4 Question 6

QUESTION 6 has been designed in such a way that to allow the respondent to indicate the dispute resolution methods, which they used before for projects procured under traditional and innovative procurement methods. This question aims to examine the most frequent used dispute resolution method and also to find out any differences in choosing dispute resolution methods under different procurement methods (Traditional Vs Innovative). These dispute resolution methods are discussed in detail in Chapter 3.

Data collected is summarized in Table 5.10 and 5.11. For projects procured under traditional procurement method, the most popular dispute resolution method is arbitration with 86.84% respondent indicating this method. As the arbitration clauses is being incorporated into form of contract, i.e. JKR203A, JCT 80, therefore it should not be surprised that it is being top ranked.

Table 5.10: Dispute resolution methods (traditional procurement method)

Method of Dispute Resolution	Frequency		Ranking
Arbitration	33	86.84%	1
Negotiation	27	71.05%	2
Litigation	21	55.26%	3
Mediation	12	31.58%	4
Conciliation	10	26.32%	5
Dispute Review Board/Advisor	8	21.05%	6

Table 5.11: Dispute resolution methods (innovative procurement method)

Method of Dispute Resolution	Frequency		Ranking
Negotiation	30	78.95%	1
Arbitration	24	63.16%	2
Litigation	14	36.84%	3
Mediation	8	21.05%	4
Dispute Review Board/Person	7	18.42%	5
Conciliation	6	15.79%	6

The negotiation method, which is inexpensive and able to maintain the relationship between disputants (Whitfielf, 1994) are second favorable dispute resolution method. While the litigation, which is time and cost consumed are among the

popular way (ranked third) to resolve dispute in construction industry.

For projects procured under innovative procurement method, top three most frequent used methods in resolving dispute are negotiation (78.95%), arbitration (63.16%) and litigation (36.84%). The top three dispute resolution methods under innovative procurement methods are similar to traditional procurement method. The only different is under innovative procurement methods, the negotiation method is more favorable than arbitration. This may due to project's participants under innovative procurement system are able to develop and maintain a better relationship, so every times conflict and dispute happened, they will used the most economic and less time consume method, which is negotiation before move to other dispute resolution methods. In both procurement methods, the results shown that the arbitration is more preferable than litigation, similar to the statement made by Teoh (1992) in Chapter 3.

5.4.5 Question 7

The respondents were being requested to rank the chosen procurement methods, namely Traditional, Design and Build, Construction Management and Partnering, in **QUESTION 7** according to their extent of conflicts and disputes adherent.

As mention in beginning of this section, in **QUESTION 3** and **4**, **QUESTION 7** is set to collect the level of conflict or disputes in each procurement method. In **QUESTION 3**and **4**, the levels of dispute in each chosen procurement methods is measured through project basis, whereas in **QUESTION 7**, from difference perspective, the levels of conflict and disputes in each chosen procurement methods is being measured through collecting the views and experience of respondents with regard to the chosen procurement methods. Again, the important index is being adopted in the analysis of collected data.

Table 5.12 Summarizes the collected data from **QUESTION** 7

Type of Procurement	Rank	Rank	Rank	Rank	%	Rank
Traditional	4	1	4	29	88.16	1
Construction management	3	18	16	1	59.87	2
Design and Build	9	11	14	4	58.55	3
Partnering	22	8	4	4	43.42	4

From the Table 5.12, Traditional is ranked first (1), follow with construction management, design and build and Partnering is ranked last (4). From data retrieved from **QUESTION 3** and **4**, parenthetically, the result obtained is the same as in **QUESTION 7**.

5.4.6 Question 8

This question aims to find out the opinions of the respondents about the possibility to reduce the construction conflict and dispute by using innovative procurement method. It also seeks to determine which area/aspect of the conflicts that can be reducing by implementing this procurement system.

82% of the respondents think that the innovative procurement method can reduce the construction conflict and dispute, while 18% of the respondents do not think so.

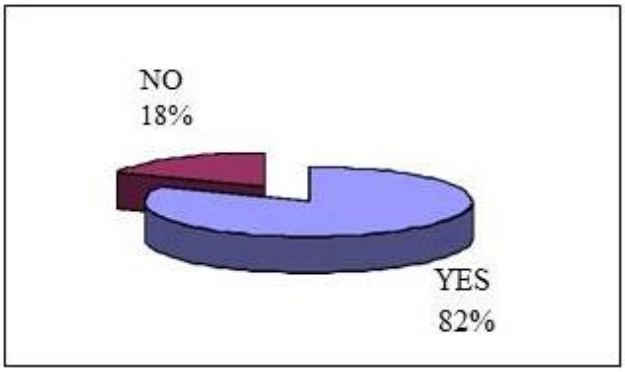

Figure 5.7: Can innovative procurement method reduce dispute?

The second part of the question is aims to identify the causes of dispute that can be reduce by innovative procurement method, data collected is summarized in Table 5.13.

Table 5.13: Area of dispute causes can be reduce by innovative procurement method

Causes of dispute	Respondents	Percentage	Rank
The absence of "team spirit" among the participants	24	63.16	1
Contract clauses, which unrealistically and unfairly shift project risks to parties who are not prepared or not able to assume such risk.	20	52.63	2
Poor communications between and among the parties involved in the project.	18	47.37	3
Disputes over payment	18	47.37	4
Reluctance on the part of project participants to deal promptly with changes and unexpected conditions.	13	34.21	5
Contract administrators who want to avoid making tough decisions by passing the problem to a higher authority within the organization, or to a lawyer, rather that resolving the problem at the project level.	13	34.21	6
Ambiguous contract provisions	11	28.95	7
Deficient management, supervision and co-ordination efforts on the part of the project participants	10	26.32	8
Role conflict or ambiguity of role among the participants	10	26.32	9
A predisposition toward adversarial relationships on the part of some or all of the parties to the project	7	18.42	10
Contractors who submit unrealistically low bids	6	15.79	11
Unrealistic expectations on the part of certain parties who do not have sufficient capacity to accomplish their goals.	6	15.79	12

This part of **QUESTION 8** is also design to counter check the information collected from **QUESTION 5**. In **QUESTION 5**, the reduction of conflict and dispute for construction industry are calculated through actual project basis, whereas in **QUESTION 8** is measured through collecting the opinions of the respondents. From the Table 5.13, in the opinion of the respondents, the top five dispute causes can be reduce by using innovative methods are absent of team spirit, contract clause, poor communication, dispute over payment and reluctant in dealing with changes. The top five dispute causes shown in this question are similar to **QUESTION 5**, except the payment problem.

5.5 CONCLUSION

The survey reveals that the most common and preferable dispute resolution methods, either for project procured under traditional or innovative procurement system, are arbitration, negotiation and litigation (Table 5.10 and 5.11).

The most common used procurement system, Traditional has the highest dispute rate compare to other innovative procurement methods (Table 5.5). This study also determined the causes of dispute that can be most effectively reduce by innovative procurement methods, start with absence of team spirit, poor communication among the project participants and reluctance in dealing with changes (Table 5.9).

Table 5.6 clearly shown that innovative procurement method is able to reduce the construction conflict and dispute to a significant extend, reducing by 66.7% for partnering method as compare to traditional procurement method.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

This is the last chapter of the study, which will conclude all the study that had been carried out. It included the literature review and findings of the field study that carried out in Chapter 5. After the conclusion, recommendations will be suggested to reduce the conflict and dispute problems for Malaysia construction industry.

6.2 FINDINGS

The results from the study shows that the aim and objective as mentioned in Chapter 1 had achieved successfully.

6.2.1 Nature of Conflict and Its Management

In Chapter 2, the theory and literature review of general conflicts and its management had been examined and reviewed. Generally there are two perspectives on the conflict. In one tradition, conflict is seen as destructive. In another tradition, conflict is seen as constructive. Many researchers like Handy(1993), Huckers (1995), Filley (1995) and Bisno (1998) had determined different causes of conflict. Various methods had been proposed by the researchers for handling conflict. Filley (1975) proposed three strategies, the win-lose, lose-lose and win-win strategy for dealing with conflict. Schein (1980) suggested reducing the negative consequences and preventing group conflict in managing conflict. Handy (1993) proposed to turn the conflict into fruitful competition or purposeful argument, and if this is not possible, to control the conflict.

6.2.2 Conflict Management and Dispute Resolution Methods in Construction Industry

Various conflict management and resolution methods in construction industry had been discussed in Chapter 3, sub-topic 3.4, by using literature study. In managing conflict, various methods such as dispute review boards or advisors, procurement systems and total quality management/quality assurance had been discussed. Various dispute resolution methods had been reviewed to resolve the dispute arise in construction projects, which can be divided into formal and informal dispute resolution method.

The most common and favorable used dispute resolution methods for Malaysia construction industry had revealed via postal questionnaire. The results are shown in sub-topic 5.4.4, Table 5.10 and 5.11. The result shown that the most favorable dispute resolution methods are arbitration, negotiation and litigation for projects procured under either innovative or traditional procurement method.

6.2.3 Importance of Innovative Procurement Method as a Conflict Reduction Mechanism Between The Parties Involved in Construction Industry

As mentioned in Chapter 4, prevention is better than cure and prevention should take place as earliest possible. The procuring process, which placed at the initial stage of the project life cycle, is a good preventive measure. The implementation of innovative procurement methods, which emphasized in setting of same goals, teamwork, are able to acts effectively as conflict reduction mechanism in construction industry. The findings from field study in Chapter 5 also reveal that the usage of innovative procurement method is able to reduce the conflicts and dispute in Malaysia construction industry. In view of results obtained from QUESTION 3, 4 and QUESTION 7 in Chapter 5, the Traditional procurement method are the most led to disputes or conflicts procurement methods, whereas Partnering is the least disputable procurement among the chosen innovative procurement methods.

6.2.4 Critical Overviews of The Traditional Approach To a Procuring Construction Project With Regard To Potential Conflicts Which May Occur

From QUESTION 5, the causes of conflict and dispute for traditional and innovative procurement methods had been determined. For traditional procurement method (Table 5.7), payment is the number one problem that causing dispute and conflict in construction projects following by absence of team spirit among the participants involved in construction project and unfairly distribution of project risk.

The comparison for frequency of occurrence dispute between traditional and innovative procurement had be carried out, the top three most significant reducing in frequency of dispute occurrence are absence of team spirit (reduced by 27.2%), poor communication among the project participants (reduced by 27.19%) and reluctance in dealing with changes (reduced by 19.43%). All the three causes as stated above can be classified as " Human cause", which can be reduce by implementing innovative procurement method.

6.2.5 Extent Of Innovative Procurement Methods, As Compared To Traditional Procurement Method In Minimizing Conflicts In Construction Projects

From the result obtained in QUESTION 3 and 4 in Chapter 5, the comparison analysis of data collected for traditional and other chosen procurement methods, which summarized in Table 5.6, it shown that there are significant reduction of project led to dispute for project procured under innovative procurement methods as compared to traditional method, especially partnering method which are able to reduce the dispute rate by 66.7% as compared to traditional procurement method.

The result from Question 7 show that traditional procurement method had been selected as highest potential procurement method which will led to conflict and dispute. Also, in QUESTION 8, which is measured through collecting the opinions of the respondents related to the above issue, 82% of the respondents believed that the innovative procurement method is able to reduce the construction conflict and dispute.

6.3 CONCLUSION

The findings of the study clearly show that the innovative procurement method is able to reduce the construction conflict and dispute to a significant extend as compared to traditional procurement method. With this finding, the aim of this study is considered successfully achieved. However, due to the limitation on time and research resources, it was not possible for this dissertation to investigate this topic into great details. Moreover, a total 150 questionnaires sent, only 38 were completed properly and usable for data analysis. Therefore, it is advisable that the findings of the study to be considered as indicative rather than definitive.

6.4 RECOMMENDATIONS

The high conflict and dispute rate in construction industry will definite affected the work progress and quality. Moreover, the dispute resolution processes are high time and cost consumption. To provide a harmony and peaceful working environment for this industry, the maximizing usage of innovative procurement method shall be encourage.

6.5 RECOMMENDATIONS FOR FUTURE STUDY

This study are focus on the big firm, to obtain a better representing finding on this issue, further study shall cover small to medium size construction firms. The further study can examined the causes of dispute in each type of procurement method and find out the best method in prevent and resolve these disputes. The usage of innovative procurement method is one of the preventive methods for conflict and dispute, the new management approached, Total Quality Management (TQM), can be study for its effectiveness in reducing construction conflict and dispute.

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APPENDIX

QUESTIONNAIRE

QUESTIONNAIRE: CONFLICT MANAGEMENT AND PROCUREMENT METHODS

PART I

PLEASE TICK ONE UNLESS OTHERWISE STATED

Q1 Which of the following titles most accurately describes your organization?

- ☐ Client
- ☐ Architectural Consultants
- ☐ Engineering Consultants
- ☐ Construction Managers
- ☐ General Contractor
- ☐ Quantity Surveyor
- ☐ Multi-Disciplinary Practice
- ☐ Others

Q2 What was the approximate annual turnover of your company for the year ending?

- ☐ Up to RM50 million
- ☐ RM51 to RM100 million
- ☐ RM101 to RM200 million
- ☐ Over RM201 million

PART II

Q3 How many projects of all sizes has your company commenced during the past **TWO YEARS** were procured under the following procurement methods?

	Traditional	Design and Build	Construction Management	Partnering
Number of projects procured	☐	☐	☐	☐

Q4 How many of the projects in **Question 3** led to dispute? (For the purpose of this research, dispute is said to occur when party issuing the WRIT to another party)

	Traditional	Design and Build	Construction Management	Partnering
Number of projects led to dispute	☐	☐	☐	☐

QUESTIONNAIRE

Q5	In your experience, among the projects that experienced dispute, by using the given scale, please indicate the frequencies of the causes of dispute listed below?

	Traditional				Innovative			
	Not Encountered	Less Frequent	Frequent	Very Frequent	Not Encountered	Less Frequent	Frequent	Very Frequent
1. Contract clauses, which unrealistically and unfairly shift project risks to parties who are not prepared or not able to assume such risk.	☐	☐	☐	☐	☐	☐	☐	☐
2. Unrealistic expectations on the part of certain parties who do not have sufficient capacity to accomplish their goals.	☐	☐	☐	☐	☐	☐	☐	☐
3. Ambiguous contract provisions.	☐	☐	☐	☐	☐	☐	☐	☐
4. Contractors who submit unrealistically low bids.	☐	☐	☐	☐	☐	☐	☐	☐
5. Poor communications between and among the parties involved in the project.	☐	☐	☐	☐	☐	☐	☐	☐
6. Deficient management, supervision and co-ordination efforts on the part of the project participants.	☐	☐	☐	☐	☐	☐	☐	☐
7. The absence of "team spirit" among the participants.	☐	☐	☐	☐	☐	☐	☐	☐
8. Reluctance on the part of project participants to deal promptly with changes and unexpected conditions.	☐	☐	☐	☐	☐	☐	☐	☐
9. A predisposition toward adversarial relationships on the part of some or all of the parties to the project.	☐	☐	☐	☐	☐	☐	☐	☐
10. Contract administrators who want to avoid making tough decisions by passing the problem to a higher authority within the organization, or to a lawyer, rather that resolving the problem at the project level.	☐	☐	☐	☐	☐	☐	☐	☐
11. Role conflict or ambiguity of role among the participants.	☐	☐	☐	☐	☐	☐	☐	☐
12. Disputes over payment	☐	☐	☐	☐	☐	☐	☐	☐

QUESTIONNAIRE

PART III

Q6 From your experience in handling dispute, which of the methods listed below that you used before for traditional and innovative procurement methods projects.

	Traditional	Innovative
Mediation	☐	☐
Conciliation	☐	☐
Litigation	☐	☐
Arbitration	☐	☐
Dispute Review Boards/Advisors	☐	☐
Negotiation	☐	☐

Q7 **RANK** (**1** for **LEAST** and **4** for **MOST**) which procurement method do you think has the most potential for conflicts or disputes: -

☐ Traditional

☐ Design and Build

☐ Construction Management

☐ Partnering

QUESTIONNAIRE

Q8	Do you think **Innovative procurement method** can reduce the construction conflicts and dispute as compare to traditional procurement method?

☐ Yes

☐ No

If Yes, in which aspect

Contract clauses, which unrealistically and unfairly shift project risks to parties who are not prepared or not able to assume such risk.	☐
Unrealistic expectations on the part of certain parties who do not have sufficient capacity to accomplish their goals.	☐
Ambiguous contract provisions.	☐
Contractors who submit unrealistically low bids.	☐
Poor communications between and among the parties involved in the project.	☐
Deficient management, supervision and co-ordination efforts on the part of the project participants.	☐
The absence of "team spirit" among the participants.	☐
Reluctance on the part of project participants to deal promptly with changes and unexpected conditions.	☐
A predisposition toward adversarial relationships on the part of some or all of the parties to the project.	☐
Contract administrators who want to avoid making tough decisions by passing the problem to a higher authority within the organization, or to a lawyer, rather that resolving the problem at the project level.	☐
Role conflict or ambiguity of role among the participants.	☐
Disputes over payment.	☐