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**CONFLICTS IN CONSTRUCTION PROJECTS IN GHANA: ANALYSIS OF
CAUSES AND MANAGEMENT APPROACHES**

By

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DECLARATION

I, NYARKO MATTHEW, hereby declare that, with exception of the references and quotations from other sources which have been duly acknowledged, the entire project work is my own effort towards MSc and to the best of my knowledge, it contains no material previously published by another person's nor materials which has been accepted for the awards of other degrees of the university.

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DEDICATION

I would like to dedicate my research work to my father, mother and friends who gave me support and helped me a lot in reaching where I have reached now.

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This piece of work of such magnitude could not have been done single handedly. A lot of inspirations were drawn from many people and many sources.

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ABSTRACT

The main aim of every client in construction projects is to attain a successful project, a project that has been properly planned, designed and constructed in accordance with plans and specifications, and completed within initially anticipated cost and time. But the realization of a construction project depends on a number of variables. One of them is how conflicts are approached when it arises. This dissertation looks at the causes and management approaches of conflicts in construction projects in Ghana. The main objective of the study is to identify internal conflicts and their causes. That is, conflicts among the project participants within the project team. To achieve the above objective, the study established from literature and survey critical symptoms of conflicts, factors causing them and the approaches used in resolving the conflicts. The study found that factors causing conflicts are in several forms. There are those related to the nature of contracts, where the contracts are unclear and ambiguous they give room for contracting parties to develop unscrupulous behaviour when post adjustments are needed. There are those factors which are accounted for by the role functions when the parties fail to perform as expected. As such the study confirmed that contractual incompleteness and consequent post contract adjustments and opportunistic behaviour of some construction project participants are root causes of conflicts in Ghana. Nonetheless, the study recognized that there are sufficient mechanisms to deal with conflicts in the standard forms of construction contracts used and when the provisions are against the interests of the parties, the parties resort to amicable resolution approaches. Although the availability of mechanisms in the standard forms of contracts to deal with conflicts, the study proposes a strategy that could be used to reduce the occurrences of conflicts in construction projects.

TABLE OF CONTENT

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
 CHAPTER ONE	 1
1.1 Background of the Study	1
1.2 Statement of the Problem	3
1.3 Aim of the Study	4
1.4 Objectives of the Study	4
1.5 Research questions	4
1.6 Relevance of the study	5
1.7 Research Methodology	6
1.8 Scope of the Study	7
1.9 Organization of the thesis	7
 CHAPTER TWO	 9
2.0 Introduction	9
2.1 The phenomenon of conflicts	9
2.1.1 Latent conflict	10
2.1.2 Perceived conflict	10
2.1.3 Felt conflict	11
2.1.4 Manifest conflict	12
2.1.5 Conflict aftermath	13
2.2 Models of organisational conflict	15
2.2.1 Bargaining model of conflict	15
2.2.2 Bureaucratic model	16
2.2.3 Systems model	17
2.3 Types of conflicts	18
2.4 Functional and dysfunctional conflict phenomenon	21
2.4.1 Conflict and relationship improvement model	24
2.5 Sources of conflicts in construction projects	25

2.5.1 Summary of causes of conflicts; findings from literature	28
2.6 Conflicts management approaches	29
2.6.1 Collaborating (or confronting, integrating, problem solving)	32
2.6.2 Compromising (or negotiating)	32
2.6.3 Smoothing (or accommodating, suppression)	33
2.6.4: Avoiding (or withdrawing, denial)	33
2.6.5 Forcing (or competing, being uncooperative, assertive, power)	34
2.7 Key participants and their roles in building projects.....	37
2.7.1 Client / Employer.....	37
2.7.2 Architect	38
2.7.3 Quantity surveyor	39
2.7.4 Engineers	39
2.7.5 Contractor	40
2.8 Project procurement systems.....	40
2.8.1 The traditional procurement system	41
2.8.2 Design and Build (DB)	41
2.8.3 Management Contracting (MC).....	42
2.8.4 Project Management (PM).....	43
2.8.5 Partnering.....	44
2.8.6 The Build-Operate Transfer Approach (BOT)	44
2.9 Summary	45
CHAPTER THREE	47
Methodology	47
3.0 Introduction	47
3.1 The research design.....	47
3.2 Criteria for judging the quality of research designs	49
3.4 Target Population	50
3.5 Sample and Sampling procedure.....	51
3.6 Sources of data	52
3.7 Research Instrument.....	52
3.8 Procedure for data collection.....	53
3.9 Data analysis	53
3.10 The construction sector in Ghana.....	53

CHAPTER FOUR.....	56
Result and Discussion	56
4.0 Introduction	56
4.1 Areas of conflicts in construction projects in Ghana	56
Causes of conflicts in design errors.....	58
Causes of conflicts in contractual claims	59
Causes of conflicts in multiple meanings of specifications	61
Causes of conflicts in delay of payments	62
Causes of conflicts in communication	64
Causes of conflicts due to excessive contract variations.....	65
Causes of conflicts related to differences in evaluation.....	67
Causes of conflicts related to differing site conditions	68
Causes of conflicts related to errors in project documents.....	70
Causes of conflicts related to public interruption.....	71
Causes of conflicts related to cultural differences	72
Preferences on conflicts resolution approaches	73
CHAPTER FIVE	76
Summary, Conclusions and Recommendations	76
5.0 Introduction	76
5.1 Summary of Finding.....	76
5.2 Conclusion.....	78
5.3 Recommendations	79
REFERENCE.....	82
APPENDICES	85

CHAPTER ONE

Introduction

1.1 Background of the Study

In the process of project performance the participants interact with each other within the project team (organization) as a unit and as individuals or sub-units. They also interact with units outside the project team. Thus, construction projects involve contact among many different participants. Depending on the nature and size of the project, a project team or organization may include the client / financier, consultants (architect, engineer, quantity surveyor etc.), general contractor, subcontractors and material suppliers. The units outside the project team may include government authorities, public institutions, financial institutions, community or communities in which the project is implemented, and other project stakeholders. In view of the composition and interactions that take place in a construction project, participants form a society with a complex set of interrelated relationships. Therefore, cooperation and collaboration of the participants in coordination of resources and time is essential if a project is to be successful, that is, if it is to be completed within the anticipated duration, cost and the quality desired.

The success of a construction project however, depends on a number of variables. One of the key variables is the way the participants to a construction project approach the problems and conflicts facing the project. They contend that, conflicts create adverse environment in a project, foster distrust, and undermines the cooperative nature of the construction process. A study on causes of conflicts and disputes in the Hong Kong construction industry carried out by Yates and Hardcastle in 2003, revealed a dramatic increase in conflicts and disputes in construction industries of

many countries. It was found that, conflicts and disputes led to high attendant cost both in terms of direct and indirect costs (Yates and Hardcastle, 2003). The direct costs found include the costs for lawyers, claims consultants, management time and delays in project completion, while the indirect or consequential costs include degeneration of working relationships, mistrust between participants, lack of teamwork and resultant poor standards of workmanship, the factors which undermine project success.

Ankrah (2005) contend that, in a project environment, conflict is an inevitable byproduct of the organizational activities. Walker (1996) ricocheted this by noting that, in a construction project, participants tend to develop multiple objectives, which could be in conflict with the objectives of the project. Ambrose and Tucker (1999) argue that, the temporary nature of construction projects and their multi-organizational structure make them prone to conflicts. These contentions amount to the assertion that, in a project environment there is a need to acknowledge and plan ahead for conflicts and any subsequent changes arising and to control them. However, planning and control of conflicts in projects demand a comprehensive understanding of conflicts and their causes. This is important in order to setup strategies and mechanisms for their management and prevention in a timely and cost effective manner if the project is to be successful.

Nonetheless, some conflicts may be significant and may produce helpful results to the project.

Loosemore et al (2000) argue that, meaningful or what is termed as functional conflicts give a door way of opportunities to organizational learning and creativity. Therefore, such functional conflicts should be permitted to continue as long as project

constraints are not violated and beneficial results are being received. However, conflicts which negatively affect project, the dysfunctional conflicts should be prevented. This study therefore, explores factors causing conflicts and how they are managed so as to have a clear understanding of conflict situation and propose an effective framework for their management and prevention in construction projects in Ghana.

1.2 Statement of the Problem

The prime objective of a client in a construction project is to attain a successful project; a project that has been properly planned, designed, and constructed in accordance with plans and specifications, and completed within the time and cost originally anticipated by both the owner and the contractor (Harmon 2003). In Africa, most construction projects are rarely completed within the scheduled time, budget and desired quality (Hartkoon, 1997). This is indifferent in Ghana since most construction is way behind schedule. A pilot survey of 15 public construction projects in West Africa made in 1998 and 2003 by the author, Hartkoon, revealed that, all projects studied were behind their respective schedules, construction costs had surpassed their original budgets, and clients expressed dissatisfaction of the quality of work attained. Some of the causes cited were:

- Failure of the designers to understand and interpret the client's requirements in their designs;
- Failure of the contractors to conform to specifications during tender action or construction stage or both;
- Delays caused by parties to complete their assignments;
- Delays in honoring contractor's claims for additional payments; and

- Increase in cost of project inputs beyond the anticipated levels.

The problems cited above and other similar problems manifest adverse environment that exist in the projects. This environment needs to be unwrapped and understood so as to manage it effectively if the client's prime objectives are to be attained. It is against this background that the study therefore, explores factors causing conflicts and how they are managed so as to have a clear understanding of conflict situation and propose an effective framework for their management and prevention in construction projects in Ghana.

1.3 Aim of the Study

The aim of the study, therefore, is to identify issues on which conflicts occur in construction projects, factors causing conflicts and how conflicts are managed. The study intends also to explore the existing conflicts management approaches, and examine their applicability in construction projects in Ghana.

1.4 Objectives of the Study

The specific research objectives are:

1. To identify causes of conflicts among the participants within the project team
2. To identify conflict management systems/mechanisms used in construction projects in Ghana.
3. To make recommendations on how to resolve conflict among project participant

1.5 Research questions

Following the objectives of the study, the following questions will be posed to aid achieve the objectives of the study.

1. What are the internal conflicts and their causes?
2. What are the conflicts management systems used in construction projects in Ghana?
3. What framework can be used to manage conflicts in construction project?

1.6 Relevance of the study

Construction activities are part and parcel of everyday life. Think of houses, schools, hospitals, shopping centers, road, etc. that we use every day, all are products of construction activities. Moreover, construction activities consume various resources that by their nature are scarce. Therefore, it is important that construction projects are done in the most efficient and cost-effective manner.

Conflicts in construction projects are cited by a number of authors such as Harmon (2003), as one of the factors that undermine project success. Therefore, it is important to understand conflicts that a project is likely to face in order to make provision in the project set up for their management and prevention.

This study features within the field of project management. The study, therefore contributes to the research and practice communities, by addressing issues on which conflicts occur and their causes in construction projects in Ghana. Strategies and mechanisms for management and prevention of conflicts in construction projects in Ghana are proposed. The results of the study provides additional knowledge required by clients / financiers, project managers, architects, engineers, quantity surveyors, contractors and other stakeholders in the management of construction projects. The study will also provide further evidence to be used in academic for further research thus, contributing to existing knowledge in literature.

1.7 Research Methodology

To aim at establishing acute indications of conflicts, factors causing such conflicts and preferences on approaches used in resolving conflicts in construction projects in Ghana, literature review will be done to compile a list of conflicts, factors causing them and existing conflict resolution approaches as independent variables. Then verification of independent variables established from literature review in the context of construction industry in Ghana. This will be adopted because when conducting this research it will not be known if the variables that have been found to be important in other countries will also be important in the construction industry in Ghana. Sample of clients, contractors and consultants will therefore be interviewed to verify the variables. That will be adopted because interview is one of the qualitative methods that are appropriate in identifying key variables in new areas like conflicts in construction projects in Ghana.

The next stage will involve questionnaire survey. This stage aims at determining the attitudes of key participants in construction projects on the establish variables; the issues on which conflicts occur, their causes and preferences on conflict resolution approaches. A five – degree rating (Lartet scale) system will be used in all cases. The questionnaire design will target the key members in a construction project team, that is; clients/ financiers, contractors and consultants. The analysis of questionnaire responses will be done using statistical package in order to draw various statistical inferences from the results. In the case study approach, data may be collected through a combination of qualitative and quantitative methods. However, in this study only qualitative methods will be used and various methods of data collection, including; interviews and observations.

1.8 Scope of the Study

The study focuses on internal conflicts in construction projects that is, conflicts occurring within the project organization among participants in the construction project team. The participants are considered in their capacities of firms and not as individuals. For instance where a contractor or an architect, engineer or quantity surveyor is mentioned as a member in a construction team, it is considered to represent a firm. This study therefore, does not include conflicts that may arise at personal or individual level in a construction team, however, it should be understood that conflicts at a firm level may be influenced by conflicts at a personal level. Also, the study covers only construction project participants in Accra.

1.9 Organization of the thesis

The thesis consists of five chapters. Chapter One covers the background to the research, statement of the problem, objectives of the study, research questions, relevance of the study, research methodology, scope and limitation of the study. Chapter two reviews and discusses the phenomenon of conflicts, models of organizational conflicts, types of conflicts, sources of conflicts in construction projects and conflicts management approaches. Chapter Three presents research methodology used in this study. The chapter first discusses research approaches, the research design, criteria for judging the quality of research design, selection of cases and sources of evidence used in this study. Chapter four presents data result and discussion. The construction projects in Ghana selected as case for study are presented. Description of the project, areas/issues on which conflicts were experienced, causes of conflicts identified, how they emerged/surfaced and manage will be discussed in the chapter. A synthesis and discussion of conflicts phenomenon

with reference to literature will be done. Chapter five is a finding, conclusion and recommendations chapter. The chapter discusses the relevance of theoretical premises to the context of this study, conclusion is made, a framework for management of conflicts in construction projects in Ghana is proposed and finally the chapter provides areas for further study.

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CHAPTER TWO

Literature Review

2.0 Introduction

This chapter reviews literature of key concepts of conflicts and conflicts resolution approaches. The chapter first reviews the phenomenon of conflict perceived as a dynamic process comprising latent conflict, perceived conflict, felt conflict, manifest conflict and conflict aftermath which are regarded as conflicts episodes. The bargaining, bureaucratic and systems models which are considered as three models of general conflict theory are also discussed in this chapter. The three levels of conflicts; intrapersonal, interpersonal and intragroup levels are reviewed. The chapter also discusses the functional and dysfunctional phenomenon perceptions of conflicts so as to express the positive and negative sides of conflicts in organisations. The chapter further reviews sources of conflicts in construction projects as determined by various researchers. The chapter ends by reviewing various approaches that can be used in resolving conflicts. The project procurement systems and key participants and their roles in building projects are also discussed.

2.1 The phenomenon of conflicts

Conflict can be more understood if it is well-thought-out as a dynamic process comprising a sequence of conflict episodes. Pondy (1967) identified five stages of conflict episodes namely; latent conflict, perceived conflict, felt conflict, manifest conflict, and conflict aftermath.

Pondy advance that, each conflict episode begins with conditions considered by certain conflict potentials and can be thought of as a gradual escalation to a state of disorder with an open war or aggression as a climax of a conflict episode. However,

that does not mean every conflict episode should pass through every stage to open aggression. Parties to the conflict may not perceive a potential conflict, or if perceived, the conflict may be resolved before hostilities break out (Vaaland and Häkansson, 2003). For good understanding of conflict phenomena, each of the five episodes is discussed below.

2.1.1 Latent conflict

Latent conflict is considered as the first stage of conflict episode. This stage is characterized by conditions or underlying four sources of conflict (Vaaland and Häkansson, 2003). The first condition is competition for scarce resources. This happens when the aggregated demands of participants for resources exceed the resources available in the project or the organisation.

Second condition is drive for autonomy, this happens when one party either seeks to exercise control over some activity that another party regards as his own province or seeks to insulate himself from such control on which is deemed to exercise. Third is divergence of subunit goals. This is a source of conflict when two parties who must cooperate on some joint activity are unable to reach a consensus on cooperation action. And the fourth is the role conflict, this model treats the organisation as a collection of role sets, each composed of the focal person receiving incompatible role demands or expectations from the persons in his role set.

2.1.2 Perceived conflict

In the context of conflict as a dynamic process, the perceived conflict episode follows the latent conflict episode stage. This is a cognitive state when at least one of the parties to a conflict begins to perceive or become aware of a conflict situation but neither party is upset about it.

Nonetheless, Vaaland and Häkansson (2003) argue that, conflict may, or may not stem from a latent conflict, and latent conflict may be present in a relationship without any of the participants perceiving the conflict. This may happen when there are suppression mechanism and attention focus mechanisms which limit the perception of conflict. According to Vaaland and Häkansson the suppression mechanism mainly apply to conflicts related to personal values and the attention focus mechanisms are related to organisational behavior values.

In situations where conflict is perceived when no latent conflicts exist, such conflict can best be handled by “semantic model” of conflict (Vaaland and Häkansson, 2003). According to this model, conflict is said to result from the parties’ misunderstanding of each other’s true position. The model advocates such conflicts may be resolved by improving communications between the parties. However, the problem may arise when the parties’ true positions are in opposition, since open communication may exacerbate the conflict rather than resolving it.

2.1.3 Felt conflict

This is regarded as the stage of conflict episode when a person is aware that he is in disagreement with another person, but that may not make him tense or anxious, and it may have no effect on their affection. In that case the conflict is there but is not felt by any of the parties. The felt conflict according to Pondy (1967) is characterized by the personalization of conflict, which sometimes occurs in business-to-business relations. The personalization of conflict can be explained in two folds; first is from the perspective of inconsistent demands of efficient organization and individual growth which create anxieties within the individual. Anxieties may also result from identity crises or from extra-organizational pressures, as a result individuals need to vent these anxieties in order to maintain internal equilibrium.

Second explanation is from the fact that, conflict becomes personalized when the whole personality of the individual is involved in the relationship.

Hostile feelings are most common in the intimate relations that characterize total institutions, such as monasteries, residential colleges and families. In order to dissipate accumulated hostilities, institutions require certain safety-valves such as athletic activities or norms that legitimize solitude and withdrawal, like non-communication norms prevalent in religious orders.

2.1.4 Manifest conflict.

Manifest conflict refers to a situation when conflict behaviour becomes apparent. Such behaviour can be expressed in the form of open aggression, sabotage, apathy, resistance to the rules, etc. However, the issue could be, how can one decide when a certain behaviour or pattern of behaviour is conflictful? One important factor according to Vaaland and Häkansson (2003) is that, the behaviour must be interpreted in the context in which it takes place. It is therefore, important to have the knowledge of the organizational requirements and of the expectations and motives of the participants' in-order to characterize the behaviour as conflictful. Nonetheless Pondy in Vaaland and Häkansson (2003) contend that one is said to engage in a conflictful behaviour if consciously, but not necessarily deliberately blocks another member's goal achievement.

The interface between perceived conflict and manifest conflict and the interface between felt conflict and manifest conflict are the pressure points where most conflict resolution programmes should be applied. The aim of such programmes should be to prevent conflicts, which have reached the level of awareness or the level of effect from erupting into non-cooperative behaviour. The availability of appropriate and

effective administrative devices is a major factor in determining whether conflict becomes manifest. Nevertheless, the mere availability of such devices is not sufficient to prevent conflict from becoming manifest. If the parties to a relationship do not value the relationship, or if conflict is strategic in the pursuit of sub-goals, then conflictful behaviour is likely to occur.

According to Vaaland and Häkansson, it is common that one conflict breaks out on some specific issue, then the conflict frequently widens and the initial specific conflict precipitates more general and more personal conflicts, which earlier had been suppressed in the interest of preserving the stability of the relationship.

2.1.5 Conflict aftermath

Each conflict episode is one of a sequence of such episodes that constitute the relationships among organization participants. On one hand if the conflict is genuinely resolved to the satisfaction of all participants, the basis for a more cooperative relationship may be laid; or the participants, in their drive for a more ordered relationship may focus on latent conflicts not previously perceived and dealt with. On the other hand if the conflict is merely suppressed but not resolved, the latent conditions of conflict may be aggravated and explode in more serious form until they are rectified or until the relationship dissolves.

However, Vaaland and Häkansson (2003) stated that organisations in nature are not closed systems, the environment in which they are imbedded may become more benevolent and alleviate the conditions of latent conflict, but a more malevolent environment may precipitate new crises. Figure 2.1 below depicts the dynamics of a conflict episode.

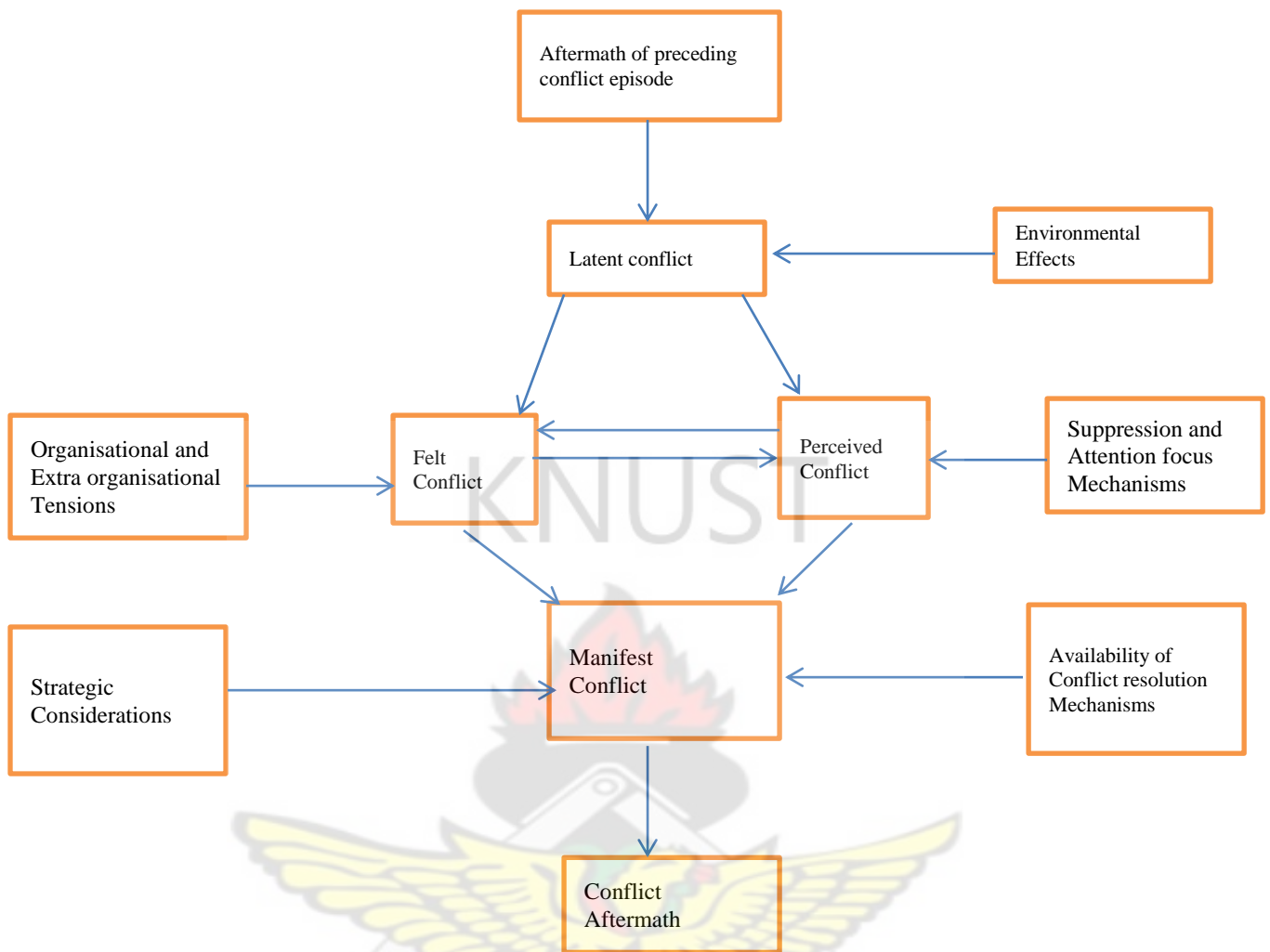


Figure 4.1. The dynamics of a conflict episode. Source: Pondy (1967)

The figure illustrates the dynamic perception on conflict. Latent conflict may exist in the organisation due to environmental effect or as a result of conflict aftermath when the conflict is not resolved. The latent conflict if not attended could give rise to perceived conflict stage. However, the conflict may not be perceived due to presence of suppression and attention focus mechanisms. The perceived conflict could give rise to felt conflict which would create tension among members in the organisation. Both perceived and felt conflict when not attended to would manifest themselves into different forms such as sabotage, aggression, etc. The available conflict resolution

mechanisms and strategies should be applied to prevent prolongation of the conflict. When the conflict is resolved to the satisfaction of all parties, the aftermath of the conflict is more cooperation and strong relationship, while if the conflict is merely suppressed, the conditions and sources of conflicts will remain and hence the latent conflict will persist, leading to another circle of conflict episodes.

2.2 Models of organisational conflict

Ephron in Pondy (1967) asserts that, only a very abstract model is likely to be applicable to the study of all organisational conflict phenomena. To be useful in the analysis of real situations, a general theoretical framework must at least fit several broad classes of conflict, which may occur within the same organisation. This suggests that, different ways of abstracting or conceptualizing a given organisation are required, depending on what phenomena are to be studied. Three models, which are; bargaining, bureaucratic and systems models regarded as basis for general theory of conflicts used as a framework for analysis of several broad classes of conflicts in organisations are discussed below.

2.2.1 Bargaining model of conflict

A reasonable measure of potential conflict among members in a group is the discrepancy between aggregated demands of the competing members and the available resources. In situations where the resources in a group are limited, each competing party strives to acquire the scarce resources on expense of the other party loosing, hence resulting into conflict. Such conflict is described by Walton and McKersie in Pondy (1967) as complex relationships which involve both integrative (cooperative) and distributive (competitive) sub-processes. The integrative sub-

process is largely concerned with joint problem solving among the competing parties, and the distributive sub-process is concerned with strategic bargaining.

A key element in strategic bargaining is that of attitudinal structuring, whereby each party attempts to secure the moral backing of relevant third parties, like the public or government.

An important characteristic of interest group conflict is that negotiation is done by representatives who face the dual problems of securing consensus for the negotiated solution among respective group members, and compromising between the demands for flexibility by his opposite member and the demands for rigidity by his own group. At conflict resolution stage the attempt is normally made to either increase the pool of available resources or to decrease the demands of the parties to the conflict. The bargaining conflict rarely escalate to the manifest level, because normally administrative mechanisms in organisations and market conditions do provide orderly allocation of scarce resources, except when is done as a strategic maneuver.

2.2.2 Bureaucratic model

The bureaucratic approach attempts to minimize conflict by altering the act of supervision, the leadership approach has sought to alter the style of supervision (Pondy, 1967). Leadership theorists have proposed minimizing conflict by using personal persuasion and group pressures to bring subordinates goals more closely into line with the legitimate goals of the organisation. They have actually prescribed solutions, which decrease autonomy and increase dependence. By heightening the individual's involvement in the organisation's activities, they have actually provided the basis for the intense personal conflict that characterizes intimate relations. The

bureaucratic and the leadership approaches to vertical conflict both take the superior-subordinate relation as the unit of analysis.

This model is appropriate for analysis of conflicts along the vertical dimension of a hierarchy that is conflicts among the parties to an authority relation. Vertical conflicts in an organisation usually arise because superiors attempt to control the behaviour of subordinates, and subordinates resist such control. The authority relationship is defined by a set of subordinate's activities over which the subordinate has surrendered to a superior the legitimacy to exercise discretion. The potential for conflicts exist when the superior and subordinates have different expectations about the zone of difference. The subordinate is likely to perceive conflict when the superior attempts to exercise control over activities outside the zone of indifference; and the superior perceives conflict when his attempt to control are thwarted.

2.2.3 Systems model

This model is more appropriate for analysis of conflicts among the parties to a functional relationship. In other words is concerned with lateral conflicts, or conflicts among persons at the same hierarchical level where as the bureaucratic model is about problems of control, and the bargaining model is about problems of competition, the systems model is about problems of coordination. In organisations the roles of each manager with respect to the others at the same level are normally specified by a set of directions, requests, information, and goods which he may receive from other managers. These formal specifications of positions and role are frequently described in written job descriptions, but may also form part of a set of unwritten, stable, widely shared expectations legitimized by the appropriate hierarchical authorities. The

fundamental source of conflict in such systems arises out of pressures towards sub optimization.

For organisations which are goal oriented rather than procedure oriented, the subunits will for various reasons, have different sets of goals, or different preference sequence orderings for the same set of goals. If two subunits having different goals are functionally interdependent, then conditions exist for conflict. Important types of interdependence could be in respect of common usage of some service or facilities, sequences of work or information flow prescribed by task or hierarchy, and rules of unanimity or consensus about joint activity.

Two ways of reducing conflicts in lateral relationships as pointed by Vaaland (2004) are to reduce goal differentiation by modified incentive systems and to reduce functional interdependence. However, if the parties to the conflict are flexible in their demands and desires, the conflict is likely to be perceived only as a transient disturbance. Furthermore, conflict may not be perceived, if alternative relationships for satisfying needs are available. This is one of the persuasive arguments for building in redundant channels of work and information flow in organisations.

2.3 Types of conflicts

Conflicts may be considered in three levels; level one may be viewed as intrapersonal conflict. That is the conflict that takes place within the individual. Level two is interpersonal conflict; the conflict experienced between individuals in the same group or unit. Examples are coworkers, roommates, unit members and etc. Such conflicts exists whenever people interact or come together to accomplish a common goal or objective. Level three is the intra-group conflict, the conflict between groups in the same organisation, team or command. The interpersonal and intra-group conflicts can

further be categorized into three types: the relationship, task and process conflicts (Jehn, 1997; Simmons and Peterson, 2000).

Relationship or emotional conflict is a perception of interpersonal incompatibility and typically includes tension, annoyance, and animosity among group members (Simmons and Peterson, 2000). A number of studies done by researchers such as Jehn (1995) documented the negative effects of relationship conflict on group and organisation satisfaction and commitment.

Relationship conflict negatively affects group decision quality in three ways. First, it limits information processing ability of the group because the group members spend most of their time and energy focusing on each other rather than on the group problems. Second, it limits group members' cognitive functioning by increasing their stress and anxiety levels and third, it encourages antagonistic or sinister attributions for other group members' behaviour, which can create a self-fulfilling prophecy of mutual hostility and conflict escalation.

Task or cognitive conflict is a perception of disagreements among group members about the content of their decisions and involves differences in viewpoints, ideas, and opinions. According to Jehn (1997), task conflict can improve decision – making outcomes and group productivity by increasing decision quality through incorporating devil's advocacy roles and constructive criticism. Groups use members' capabilities and prior knowledge better when the conflict is task-focused, rather than when conflict is absent or relationship-focused. Jehn further contend that moderate levels of task conflict are constructive, since they stimulate discussion of ideas that help groups perform better. Groups with an absence of task conflict may miss new ways to

enhance their performance, while very high levels of task conflict may interfere with task completion.

According to Simons and Peterson (2000), a number of researchers have found that task conflict can lead to increased satisfaction with the group decision and a desire of members to stay in the group, and also have shown a cross relationship between the two forms of conflict.

Researchers have established that efforts to stimulate potentially beneficial task conflicts run a substantial risk of triggering detrimental relationship conflict. Simmon and Peterson suggest two possible explanations; first they contend that, task conflict leads to relationship conflict through a process of misattribution.

Group members constantly interpret the behaviour of other group members – they infer intentions, appraise whether the source of the behavior they see is internal or external, and assess the completeness and accuracy of the arguments made by others. When this attribution process points toward personal attachment or hidden agendas, then task conflict triggers relationship conflict. The second explanation is the behaviour of group members. In the process of task conflict, some group members may use emotionally harsh language, intimidation tactics, or adhomonym arguments. From such behaviour and conduct other members can feel bruised, humiliated, offended, disrespected or even brutalised thus causing relationship conflicts.

While on the other hand it is possible that relationship conflict could trigger task conflict. This may happen when one group member attempts to make life difficult to another group member by sabotaging any influence that the other might have and by so doing a task conflict is manufactured.

Jackson et al (2008) define process conflict as an awareness of controversies about aspects of how task accomplishment will proceed. It pertains to issues of duty and resource allocation such as; who should do what or how much one should get. This may happen when for instance group members disagree about whose responsibility is to carry out and complete a specific duty. Jackson et al in their study of process conflict identified three sub-categories of process conflict which are; scheduling and timing referring to issues of attendance punctuality and time spent on a particular work. Contribution and workload; referring to issues of fairness in workload distribution, commitment and follow up of assigned works, conflict over credit recognition and conflict about members not showing up at all. Work method and approach; referring to issues such as conflicts over ideas or work method. Process conflict may activate latent conflicts or may detract from the benefits of healthy task conflict.

2.4 Functional and dysfunctional conflict phenomenon

The phenomenon of conflict is considered along two different perspectives. According to Vaaland and Håkansson (2003), the first perspective regards conflict as a disease in organisations with primarily disruptive, dissociating, and dysfunctional consequences. In this perspective, the study of conflict has aimed to resolve it and to minimize its deleterious effects because of fear that too little coherence can develop into destructive conflict and a diffusion of focus. In projects this is achieved through detailed contracts and a high degree of specification. Furthermore, price mechanisms and institutionalized patterns of behaviour are used as instruments to reduce emergence and growth of conflict.

The second perspective holds that, conflict can be functional. In a project environment according to Loosemore (2000) conflicts can enhance creativity and innovation. History tells that conflicts like the two world wars stimulated inventions which led to development of radar, jet-propelled aircraft, the United Nations, the World Bank, the international Monetary Fund just to mention a few. The cold war conflict led to development of nuclear power and space race which provided communication satellites and cell phones widely used today (Loosemore, 2000:2-3). Vaaland and Häkansson (2003) argue that, “several scholars within industrial network approach and conflict theory argue that development and creativity are stimulated by imbalance and problems. This is backed by the old Japanese proverb that the moment two bubbles are united, they both varnish”. Indeed as proclaimed by Vaaland (2004), without conflicts, progress and creativity disappear.

Gadde and Häkansson in Vaaland and Häkansson (2002), illustrate how conflict may be functional and dysfunctional by a figure with two axes, the first axis indicate the degree of collaboration between two parties, and the second indicate the degree of conflict in connection with business relationships as shown in figure 2.2.

The figure reflects that, by viewing collaboration and conflict as two dimensions, it is possible to identify four combinations. The most interesting is the fourth quadrant “well developed” characterised by a high degree of conflict and at the same time a high degree of collaboration.

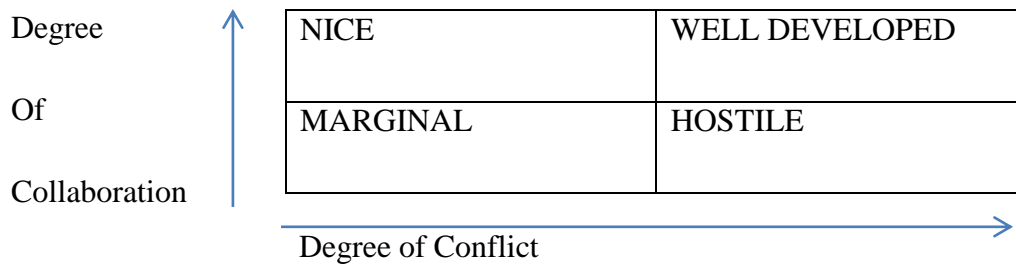


Figure 4.2: Functional and dysfunctional conflict model Sources: Vaaland and Häkansson(2003)

This situation is explained by Vaaland and Häkansson (2003) basing on the studies of industrial business relationship as an indication of a typical well developed buyer – seller relationship, expressing an efficient process that is accompanied with technological complexity, strong activity interdependencies, large number of internal and external third parties directly and indirectly involved, and time pressure. This exemplify a typical situation for a complex construction project that demands specialized knowledge and skills in the design and construction process and involve various participants who come together on temporary basis to compose a building.

The main argument that conflicts can be functional is based on the view that the origin for improvement can be found in conflict as long as it is accompanied by cooperation. According to Vaaland (2004), conflict is characterized as functional when it adds necessary tension and motivation to the relationship that extends opportunities and speed up innovation. The question is how in a project a hostile relationship can be transformed into a well-developed relationship.

In other words, as Vaaland advocate, how can “steam” be released without removing the functional conflict? The conflict and relationship improvement model as discussed below explains how “steam” can be released.

2.4.1 Conflict and relationship improvement model

Based on an initial assumption of a “hostile” relationship the proposed model by Vaaland (2004), takes the parties through a process that identifies conflicting events, assesses and analyses the events, and applies the results in a balancing process which could be through steps involved are discussed below.

Step 1: The initial relational position; this can either be nice, marginal, hostile or well developed as shown in figure 2.2. If the position is hostile, then there is a reason to apply the model. One important indication of the relational position is the presence and extent of latent conflict.

Step 2: Identification of conflictful events; this is based on both parties’ perceptions of events that cause tension in the relationship. One of the parties or both can identify the events from unobtrusive data sources, or by obtrusive sources such as interviews.

Step 3: Assessment criteria; this is done by addressing core issues related to the event’s effect on the relationship. In the assessment it is important to consider the perceived sources of the conflictual events and the perceived importance of the events to the parties in relation to the negative consequences arising from the events.

Step 4: The event perceptions and perceptual distance; at this stage both parties separately should assess all perceived conflictual events in relation to the agreed assessment criteria. The parties’ assessment of all conflictual events is then structured to reveal perceptual distances.

Distances can be judged through the use of frequencies, classification of issues, the events’ relatedness to distinct phases of the project, or relatedness to resource or activity interdependencies.

The purpose of this stage is to provide an overview of the issues that the parties need to reach consensus on in order to improve the relationship. The analytical results are then carried into the next step.

Step 5: The balancing process; the aim is to reveal the reasons behind the perceptual distances in order to reach two mutually exclusive organisation goals. This process involves either reducing the distance through removing conflictual event per se, clearing out misunderstandings, or removing the uncertainty about the extent and effect of an event.

In all situations conflict “hidden” in the relationship is disclosed and becomes subject to mutual interpretation, thus reducing the risk of events threatening the relationship. The strength of the model is that, each stage of the process involves actions and interpretations by both parties. However, in order to reduce the risk of further escalation of tension while discussing the core issues of conflict, a third party could be engaged to facilitate the process.

2.5 Sources of conflicts in construction projects

In any construction project, on one hand the contractors’ primary concern is to complete the project in time and to make a financial gain while on the other hand, the client requires a facility as good, but as economic as possible. These two aims when simply considered together seem to be contradicting, and even the procedure undertaken to achieve them may result in conflict. Moreover, the teams that come together to execute a building project comprise members of various professional disciplines as discussed in chapter three with diverse norms, standards and morally allowable patterns of behaviour. Therefore it is evident that, undertaking a project under such environment competitive tensions can arise due to a variety of factors,

which are inherent in the various contractual relationships in the construction industry (Weddikkara, 2003).

These include the nature of the project, the creation of a temporary multi-organisation, and the time and financial constraints all of which can be attributed to the project participants' culture, attitudes, and the legal system that work alongside and within the construction industry.

Many authors have made studies to examine the causes of conflicts in construction projects. Diekmann and Nelson (1985) and Semple (1994), underlined major sources of construction conflicts to be a combination of design errors and scope increases of work. Thamhain and Wilemon (1999) categorized causes of conflict over the life cycle of a project into seven major sources, namely, project priorities, administrative procedures, technical opinions and performance trade-offs, manpower resources, cost, schedules and personality.

Watts and Scrivener (1994) in Weddikkara (2003) carried out an analysis and comparative study of sources of disputes from judgments in building disputes from the courts of Australia and the UK. They identified 290 sources from 60 cases in each country. In UK the most common cause was negligence, while in Australia it was determination of the agreement. Contractual conflicts stem from a combination of uncertainty and the limited ability of people to think and communicate. They suggested that, there are three basic factors that drive the development of a conflict. First is the high degree of uncertainty arising from complexity of projects, second are imperfect contracts, and third is the opportunistic behaviour of many parties who try to take advantage of one another in the competitive market place.

Grotons (1994), findings outline three reasons for disputes; first is project uncertainty, uncertainty arising from pre-existing conditions, outside forces and their complexity, which cause change beyond the parties' expectations. Second is process problem; problems in the contracting process including incomplete scope definitions, unrealistic operations (with regard to cost or completion date) and poor performance in the execution of work. And third is peoples' issues; issues and problems that arise between people as a result of poor interpersonal skills, poor communications, lack of responsiveness and unethical or opportunist behaviour. Colin et al (1999) were interested in identification of sources, causes and main effects of conflict. They considered the "source of conflict" to a person in the organisation or initial action that stimulate or initiate the action resulting in a conflict. They considered "causes of conflict" as on how conflicts develop and the "effect" of conflict as the main effects of the conflict on the construction project. They identified the sources of conflict in the order of culpability as the contractor, architect, client and the subcontractor with the contention that organisations act through individuals as a result all conflicts events emanate from the key actors in the organisation, and therefore the greater the involvement in the construction process the more the incidents of conflict. They also identified that, organisations exhibit identifiable modes of behaviour, such behaviour relates to the organisational culture, which is built from the corporate arms and professional background of the key actors within the firm.

Weddikkara (2003) contend that conflict situations in construction projects arise due to various contractual relationships that exist in the construction industry and many conflicts evolve from un-clarified assumptions, differing expectations or when

inevitable shortfalls occur in the performance of the responsibilities outlined in the contract and where the resolution procedures are inadequate.

2.5.1 Summary of causes of conflicts; findings from literature

The list of causes of conflicts could be not exhausted as different authors have come up with different perceptions in different contentions. However, based on broad literature review the causes can be summarized as given in table 2.1 below. The causes are given in four categories; the common root causes category, this include primary causes that are commonly expected to cause conflicts in building projects. The second category is of causes generated by them-selves; these are causes that arise from the environment or state of affairs created by members in the project team, for instance if there is poor communication or personality clashes among members in a project team that may cause conflicts at some stage of project life. The third category is of common proximate causes; these are considered as closest or immediate factors responsible for causing conflicts in building projects. For instance incomplete tender documents which do not prescribe the extent of work to be done will cause conflicts at the time of payment due to lack of quantities that could provide the base for payment. Lack of quantities in the tender document is the proximate cause of conflict in such cases.

The forth category of causes of conflicts is claims; claims are demands made for a right or requirement. If the demand is not honoured, it will aggrieve the person making such demand and hence cause conflict with the other person who is turning down the demand.

Therefore, un-honoured claims such as financial claims for additional works, claims for extension of time etc. may cause conflicts in building projects.

Common root causes	Causes generated by Themselves	Common proximate cause	Claims
Unrealistic time / cost /quality targets (by the client)	Clients' lack of information or decisiveness	Internal conflicts (eg. In joint ventures)	Variations
Unrealistic tender Pricing	Unrealistic information expectations (contractor)	Inadequate contract Administration	Unforeseen ground conditions
Inappropriate contract Type	Inadequate brief	Inadequate contract Documents	Ambiguities in contract documents
Adversarial (industry) Culture	Poor communication	Inaccurate design Information	Interference with utility lines
Uncontrollable external Events	Personality clashes	Incomplete tender Information	Exceptionally inclement weather
Unclear risk allocation	Lack of professionalism of project participants	Inadequate design Documentation	Delayed site possession
Unfair risk allocation	Lack of competence of project participants	Inappropriate contractor selection	Delayed design information
	Vested interest	Inappropriate payment Modalities	Acceleration of work
	Changes by the client	Inappropriate contract Form	Suspension of work
	Slow claim response		Other disruptions (by employer or others)
	Exaggerated claims		Interest on claims
	Estimating errors		Substantial increase in quantities
	Others, work errors		Price fluctuations (escalations)

2.6 Conflicts management approaches

Conflict management according to Stickley (2002) seeks to involve parties in a consensual process and empower them to resolve their incompatibility or difference,

understand their respective rights and interests of each other and settle their incompatibility or differences themselves and not solving it by way of an imposed decision. It is an approach based on finding the interest of the parties and accommodating legitimate needs without vindicating legal or contractual rights. In conflict management as noted by Nardin (1971), each party must perceive that the continued existence of the other is both necessary and desirable from the point of view of his own self-interest. Where common self-interest exists, coordination will occur and be reinforced, and conflict management will evolve. Therefore, facilitation of a coordinated approach is a key to conflict management.

However, it should be acknowledged that conflict management is the principle that all conflicts cannot necessarily be resolved, but learning how to manage conflicts can decrease the odds of nonproductive conflict escalation. Conflict management also involves acquiring skills related to conflict resolution, self-awareness about conflict modes, conflict communication skills, and establishing a structure for management of conflict (The foundation coalition, <http://www.foundationcoalition.org/teams>). Another interesting aspect is to think of how do people respond to conflict? Fight or flight? Physiologically people respond to conflict by “get away from it” or by getting ready to “take on anyone who comes on the way” (Stickley, 2002). Nevertheless, according to Stickley neither of the two responses is bad, what is important to learn, regardless of initial physiological response to conflict, is that one should intentionally choose a response to conflict that is productive to solving the problem at hand.

According to Zikmann in Fenn and Gameson (1992:55) there are passive and active conflict responses.

The passive responses are in three forms; first is the denial of the existence of conflict, second is the avoidance of the conflict and third is capitulation to the demands and

threats of other project participants. Capitulation brings an incorrect perception that a conflict has been resolved when in fact it has only been unwillingly suppressed. In general as implied from the three forms, the passive response does not deal with the problem in hand, and often results into frustration, gradual withdraw of cooperation, concealed hostility and cultivation of false sense of security, creation of “no go” areas and encourage shallow commitment to project goals.

The active responses to conflict according to Zikmann in Fenn and Gameson (1992:56) are normally either aggressive or creative in nature. The aggressive response include attempts to dominate others particularly those perceived as weaker parties. This can occur when unreasonable demands are made or one-sided solutions are imposed on others. The undesirable consequences of this approach can often be the stifling of future initiative, reduced creativity and creation of the environment where poor decisions are allowed to go unchallenged. On the other hand adopting this response can create an environment in which parties regularly “over inflate” initial demands. Moreover significant time and resources can be wasted in arriving at solutions, which are at best only partially acceptable to the parties.

The active responses can take several forms as referred by Zikmann. Blake and Mouton in Cheung and Chuah (1999) identified the five classical main modes or methods of resolving or handling conflicts as collaborating, compromising, smoothing, avoiding and forcing. Subsequent researchers have largely concurred on these, but some have called them by different terms. Each of these methods with other common alternative terms given in brackets is discussed below.

2.6.1 Collaborating (or confronting, integrating, problem solving)

Under this approach, the conflicting parties meet face to face and try to work through their disagreements. This approach focuses more on solving the problem and is less combative.

According to Cheung and Chua (1999), the attitudes of parties to the conflict if this approach is adopted should be to generate the “best” solution even though the original views of either or both parties may need to be modified or discarded. Both parties should aim to seek a win – win situation.

This mode as suggested by Kerzner (2003:293) can be used: when conflicting parties can both get at least what they wanted and even more, when a common power base can be created, when cost for resolution of conflict in hand should be reduced, when skills are complementary, when a conflict fundamentally involves attacking a common foe, when there is trust between conflicting parties, when there is enough time for resolving the conflict, when there is confidence in the person’s ability and when the ultimate objective is to learn. This approach exemplifies a creative active response to conflict.

2.6.2 Compromising (or negotiating)

Compromising fundamentally is to bargain or search for solutions with a give and take attitude so that both parties leave with some degree of satisfaction. Compromising as suggested by Kerzner (2003:293) is often the result of confrontation. The theory suggests this mode to be used when: no outright winner or loser can emerge, maintaining relationship between conflicting parties is important, the stakes involved in the conflict are moderate, parties to the conflict are equally strong, sufficient time is available for negotiation to reach agreement and when

parties to the conflict are not sure whether they are right or not with their claims. This approach like collaborating exemplifies a creative active response to conflict.

2.6.3 Smoothing (or accommodating, suppression)

This approach mainly attempts to reduce the emotions that exist in a conflict. It does that by emphasizing areas of agreement, strong points, and areas of commonalities and de-emphasis or even suppresses any differences in viewpoints among conflicting parties. An example of smoothing would be to tell someone; “we have agreed on three of the five points and there is no reason why we cannot agree on the last two points”. Smoothing does not necessarily resolve a conflict, but tries to convince both parties to remain at the bargaining table because a solution is possible. In smoothing one may sacrifice one’s own goals in order to satisfy the needs of the other party Kerzner (2003:293).

The theory suggests this mode to be used when: an overarching goal need to be reached, there is a need to create an obligation for a trade-off at a later date, there are low stakes involved in the conflict, liability is limited, to maintain harmony among the conflicting parties, any solution is adequate, creation of good will among conflicting parties is important, there is a high possibility of losing the claim at stake in the conflict and when there is need to gain more time. Indeed this approach has some features of a passive response to conflict because under this approach some problems are left unresolved.

2.6.4: Avoiding (or withdrawing, denial)

This approach is often regarded as a temporary solution to a problem. The problem and the resulting conflict can come up again and again. Some people view avoiding as cowardice and an unwillingness to be responsive to a situation (Kerzner (2003:294).

The theory suggests this mode to be used when: there is possibility of winning, the

stakes are low, the stakes are high but one is not ready yet to pursue them, when one wants to gain time, to unnerve one's opponent, to preserve neutrality or reputation, when one think the problem will go away or may win by delaying. This is a passive response to conflict as classified by Zikmann in Fenn and Gameson (1992:55).

2.6.5 Forcing (or competing, being uncooperative, assertive, power)

This approach happens when one party tries to impose the solution on expense of the other party. This leads to a win – lose situation. Kerzner (2003:294) asserts that, conflict resolution works best when resolution is achieved at the lowest possible levels. The higher up the conflict goes, the greater the tendency for the conflict to be forced with the result being a “win– lose” situation in which one party wins at the expense of the other.

The theory suggests this mode to be used when: exists a do-or-die situation, there is certainty that you are right, stakes involved in the conflict are high, important principles are at stake, one part in the conflict is stronger than the other, a party to the conflict wants to gain power or status, the conflict is on short term deals, maintenance of the relationship is not important, it is understood that a game is being played and when a quick decision has to be made. This is a typical aggressive conflict resolution approach as classified by Zikmann in Fenn and Gameson (1992:55).

Thamhain and Wilemon in Cheung and Chuah (1999) found that different modes of conflict resolution might lead to either positive or negative consequences to conflict management. An avoiding approach may intensify the conflict in future as it is neglected and left unresolved. A smoothing approach may have similar consequences although the conflicting parties are less resentful as there is inherent emphasis on identifying some common grounds in resolving the conflict. A forcing approach always leads to a win – lose situation thereby generating feelings of resentment

among conflicting parties regardless of whether they come out as winners or losers. It is advised that before using this approach, one should always assess the probable effects on the team members and all the parties involved.

The compromising approach can generate resolutions that satisfy to some degree both conflicting parties, but most probably may not be the optimal ones. It would be too risky to use this approach to handle for instance disagreements over quality or technical performance issues in construction projects. The collaboration approach was found to be the most effective solution in handling conflicts (Cheung and Chuah, 1999). Under this approach the conflicting parties set out with a positive frame of mind in search of what is the best course of action to take.

Each of the above five modes can be characterized by two scales; assertiveness and cooperation. The Thomas-Kilmann Conflict Mode Instrument (TKI) developed by Kenneth W. Thomas and Ralph H. Kilmann is a conflict style inventory developed to measure an individual's response to conflict situation and widely used instrument for assessment to determine the appropriate conflict mode to be used. The instrument is based on two scales; assertiveness set as a horizontal scale and cooperation as a vertical scale as shown in figure 2.3

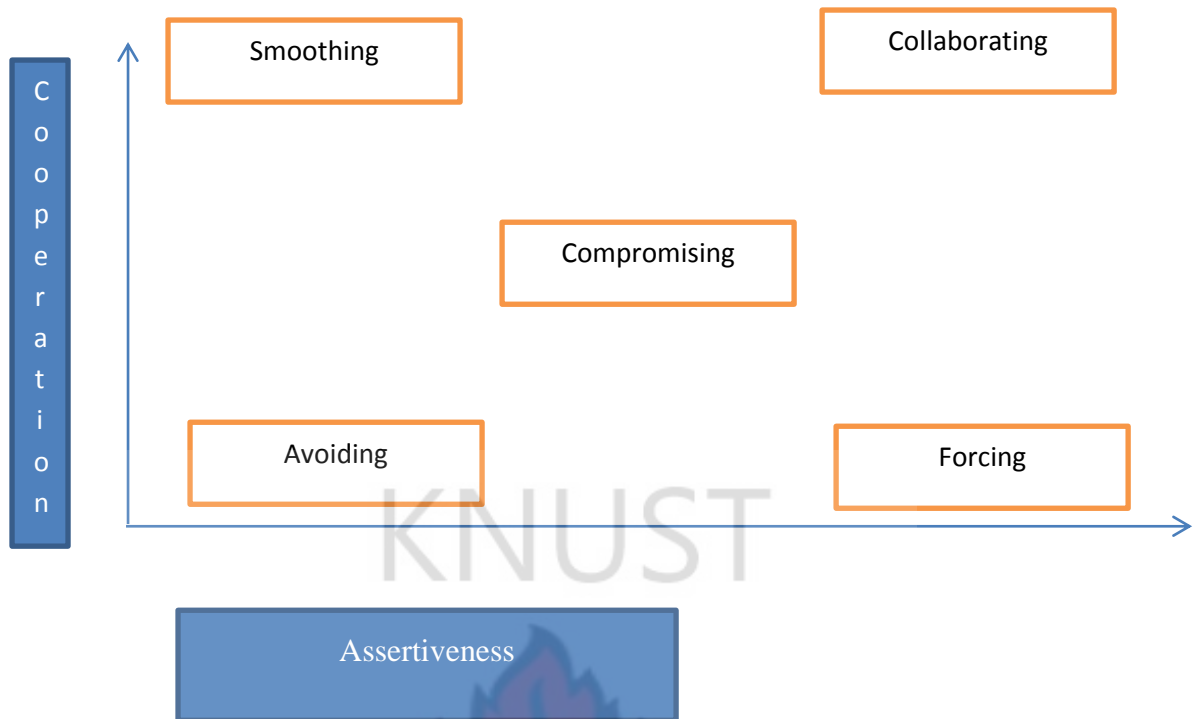


Figure 2.3: Thomas-Kilmann conflict mode instrument (TKI) Source: World Wide Web at <http://www.cpp-db.com> downloaded December 7th, 2013.

The instrument as shown in figure 2.3, the avoiding mode is low assertiveness and low cooperation as the person simply withdraws and refuses to deal with the conflict. The forcing mode is high assertiveness and low cooperation as the party places great emphasis on his or her own concerns and ignores those of others. The compromising mode is moderate assertiveness and moderate cooperation as both parties give up some and split the difference to reach an agreement. The smoothing mode is high cooperation and low assertiveness, one of the parties gives in to the other at the cost of his or her own concerns. The collaborating mode is high assertiveness and high cooperation, under this style the attempt is to have a solution that will meet the needs of all parties in conflict. However as contended by Brandt and Murphy (2000) in management of conflicts, it is important to recognize one's predominant conflict management style because it influences the manner in which the conflict will be managed.

2.7 Key participants and their roles in building projects

Construction is a teamwork, which demands high level of performance from each one in the team. However, it should be noted that, the participants who come together have different cultural diversity arising from their specific professions. Based on traditional procurement approach which is predominantly used in Ghana the key participants in a building project include: client / financier, contractors, sub-contractors, design team consisting of architect, engineers (structural, civil and services engineers), quantity surveyor, and a project manager may be involved in some projects. These parties come together to form a temporary organisation to undertake a project in hand for a specific period.

This section discusses the key participants in a typical construction project and how they are engaged in a project team in order to reflect on relationships existing among the project participants.

2.7.1 Client / Employer

The client in a building team is the owner or the developer of a construction project, and when employs a contractor to undertake the works, is also referred to as the employer. In most projects the client is also the financier of the project although there are projects where the financier may be a different entity. Under the traditional procurement system the client enters into a contract with the design team (consultants) for design work and supervision of construction works, and a separate contract with

general contractor for construction works. The key role of a client when is also a financier in a building project is to finance the project.

In Ghana clients / financiers of building projects are: the central government through its various ministries and institutions, local government through municipalities and district councils, private organisations and individuals.

2.7.2 Architect

In Ghana every construction should be designed and supervised by an architect. The architect is appointed by the client / employer and normally is a team leader of a building design team (AQRB Form of Agreement Terms and Conditions for appointment of an Architect, 2000 edition). The scope of the work undertaken by an architect may be divided into two phases, the pre-contract and post-contract phases.

During the pre-contract phase, the architect based on the client's requirements often given in a project brief, formulates the project idea in terms of size, function and appearance then transforms these into plans that can be used for construction. During the post contract phase the architect is involved in supervision and administration of the project so as to provide the client with an acceptable and satisfactory project upon completion. Depending on the nature, sophistication and specialist knowledge required in the design, supervision and administration of the project, the architect may require the assistance of consultants from other professional disciplines like engineers and quantity surveyors.

2.7.3 Quantity surveyor

The quantity surveyor is another member in a construction project team. The quantity surveyor's role mainly is of a building cost advisor that includes forecasting the cost of the project, preparation of tender and contract documents, preparation and control of financial expenditure of the project. According to AQRB Form of Agreement Terms and Conditions for appointment of a quantity surveyor, 2000 edition) a quantity surveyor may be employed direct by the client / employer of the project or by a design team leader to work on behalf of the client in a building project. However on the other hand quantity surveyors are also employed by contractors to work on project matters related to cost and contract.

2.7.4 Engineers

There are different engineering disciplines required in construction projects. The most common disciplines are civil, structural, mechanical and electrical engineering.

The engineers in line with their areas of specialisation are responsible for design and supervision of their respective areas of expertise. Engineers as is the case of quantity surveyors may be directly employed by the client or may be employed by a design team leader to work on behalf of the client. However, engineers also are employed by contractors to work on their behalf in particular for supervision and management of construction works.

2.7.5 Contractor

The contractor is a member in a construction project who carries out the actual physical construction works of the structure. In Ghana depending on the nature of project, there may be a general or main contractor who has a contract with the client.

The contractor is fully responsible for undertaking the project works within time, cost and quality stipulated in the contract. However, depending on the complexity of the project, some parts of the work may require specialized skills, for instance electrical, plumbing and air conditioning installations that may demand involvement of a specialist or sub-contractor in a project. Two forms of subcontracting are mostly used:

(i) Domestic sub-contracting; under this arrangement the main contractor engages a sub-contractor who is fully under his control, and the subcontractor has no contractual relationship with the client. (ii) Nominated sub-contractor whereby under this arrangement, the sub-contractor is nominated by the client through his consultants, and is approved by the contractor who enters into a contract with him. However, the nominated sub-contractor has some limited contractual links with the client.

2.8 Project procurement systems

Construction projects involve coalition of separate organisations, which come together on temporary basis to form a project team in order to implement and achieve project objectives. The coalition is in form of institution or governance structure (procurement system) that express contracting system and relationships between

various members involved in the project. There are various contracting systems and different procurement options that can be adopted for a building project. This section discusses various procurement systems commonly used in building projects in order to appreciate the interactions taking place among the project participants. The systems discussed include; traditional procurement system, design and build, management contracting, project management, partnering and construction-operate transfer approach.

2.8.1 The traditional procurement system

This system has been widely used in United Kingdom and most of commonwealth countries Ghana being one of them for a number of decades (Ramus, 1993: 11). Essentially it is the procurement method, which separates the design and construction responsibilities. The client engages an architect and other design consultants to design a project or any form of structure and a contractor is appointed after a competitive tender or through negotiation to carry out the construction. It is a fragmented approach involving the client /employer, the design team (architect, engineers and quantity surveyor), the general contractor and sub-contractors.

2.8.2 Design and Build (DB)

Under the DB system the contractor is responsible for design as well as construction. The important characteristic of this system is the single point responsibility of the contractor for the entire project execution by taking up the role of both the professional design team and the construction. The relationships and communication

link in the system, which gives the contractor a central role. The single point responsibility of the system offers a non-adversarial and less confrontational environment, greater contractor participation and effectiveness in resolving conflicts and disputes at design interfaces and design and construction interfaces (Weddikkara, 2003). However, literature informs that DB is not a preferred route for projects where the client's requirements cannot be adequately defined, post contract design changes are likely to occur or there are complex pre-design research or investigation to be undertaken. Other disadvantages of the system are lack of competition, monitoring of quality and the restriction in the flexibility of design. Changing client profile and requirements could lead to extensive changes of the originally conceived DB system. Therefore, in selecting this type of procurement due regard must be given to the suitability of the project in view of the advantages and disadvantages of the system otherwise the system could give rise to occurrence of conflicts.

2.8.3 Management Contracting (MC)

The MC evolved at the beginning of 1970's as a method of building complex projects in a shorter time (Ramus, 1993: 31). The key feature of MC system is that it overlaps the design and the construction processes and by that it reduces the pre-contract period.

In MC system the managing contractor acts as a link between the client/employer and the interfacing or works contractors in the project.

The benefits of MC are reduction in program time, value for money, flexibility in absorbing design changes during the construction period and bringing together a team chosen for their professional abilities to act together in the client's best interest from inception to completion of the project. The MC brings together the two processes of

design and production that introduces the building skills from the contractor to the design team at the early design / feasibility stages of the project.

This arrangement facilitates co-operation, unification and encourage a teamwork spirit both on the site and the consultants' offices to construct a building to meet the client's objectives in respect of quality, time and cost. This could be perceived as a passive avoidance of conflicts among project members. However, one of the drawbacks of the system is that the final cost of the project is not known until when the last works contract has been signed.

2.8.4 Project Management (PM)

PM system is perceived as the overall planning, control and co-ordination of a project from inception to completion aimed at meeting client's requirements and ensuring completion on time, within cost and to required quality standards (RICS, 1986). The system is not a procurement system in itself, as it does not include the site construction process but essentially provides general supervision (Ramus, 1993: 38). Under this system the project manager is the client's representative with the authority to supervise and control the entire planning and building operation from acquisition of the site to completion of the project and settlement of the accounts.

The key role of a project manager is planning, organising and coordinating the services provided by the design team, main contractor, and subcontractors as well as those concerned with development and marketing. The project manager's task essentially is geared towards establishing an internal environment within the project for effective operation of individuals working together in groups. Project manager establishes relationships and communications links of the parties in the system. This system is fragmented more or less the same as the traditional procurement, and therefore prone to occurrence of conflicts if the project manager is not effective.

2.8.5 Partnering

Partnering is not a procurement method in itself, rather is the arrangement that involves two or more organisations working together to improve the performance, agreeing mutual objectives, devising a way for resolving disputes and committing themselves to continuous improvement, measuring progress and sharing the gains. Literature indicates that there are two categories of partnering, which are strategic partnering and the project partnering.

Strategic partnering takes place when two or more firms use partnering on a long-term basis to undertake more than one construction project, and project partnering is when two or more firms come together in a partnering arrangement for a single project. The essential factors which form the foundation for successful partnering relationships are mutual trust and understanding as central core factors and relationship building activities, openness, continuous and structured meetings, economic incentive contracts, predetermined dispute resolution methods and facilitation as “petals” of partnering “flower” (Nyström, 2005). Partnering can achieve significant benefits for all parties if approached correctly and in right spirit and attitude. A successful partnering according to Crowley and Karim (1995) will enable overcoming traditional roles of adversarial management, poor quality and performance cost overruns and delays. The non-adversarial culture of a partnering relationship as pointed out by Weddikkara (2003) will reduce conflicts. However, it should not be assumed that conflicts would not occur in a partnering arrangement, it is still important to have conflicts resolution procedures in place.

2.8.6 The Build-Operate Transfer Approach (BOT)

BOT is essentially a form of project financing whereby a client, mostly the government awards to a group of investors a concession for development, operation,

management and commercial exploitation of a particular project (UN Commission, 1996). Unlike the traditional project financing by which the employer assumes responsibility for obtaining finance and guaranteeing its repayment, in BOT payment responsibilities are assumed by the developer.

The developer undertakes to complete the construction and to operate the facility for a certain period of time with a view to recouping its costs and gaining profits. The developer has a keen interest in the feasibility, design, construction and operation of the facility.

The advantages of BOT projects are the potential for mobilizing the private sector, access to technologies and skills not available and serve as a parameter for measuring the performance of similar projects carried out using traditional procurement procedures. However, one of the disadvantages of BOT is a big number of contractually interrelated parties such as lenders, construction companies, equipment suppliers, independent capital investors and purchases or end uses of the project.

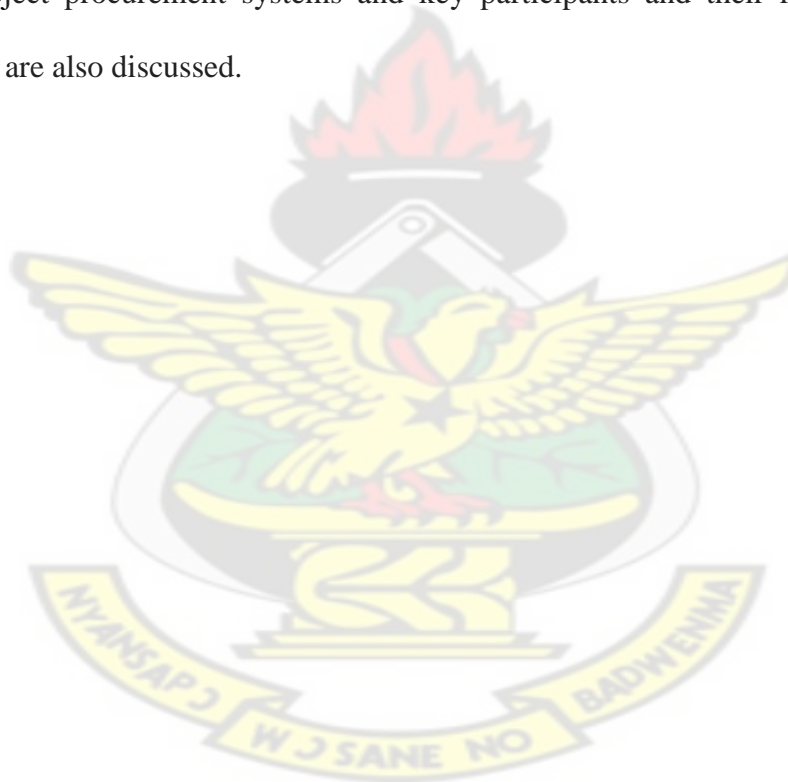
2.9 Summary

The key concepts of conflicts and conflicts resolution approaches have been reviewed in this chapter. The phenomenon of conflict as a dynamic process comprising of a sequence of conflicts episodes involving latent conflict, perceived, felt, manifest and conflict aftermath have been discussed. The three models of organizational conflicts; the bargaining, bureaucratic and systems models which are regarded as basis of general theory of conflicts that can be used as a framework for analysis of conflicts in organizations have been reviewed.

The three levels of conflicts namely; intrapersonal, interpersonal and intra-group conflicts with the associated relationship, task and process conflicts categories of

interpersonal and intra-group levels of conflicts have been discussed. The two conflicts perspectives; functional and dysfunctional conflicts and how dysfunctional conflicts can be transformed into functional conflicts have been reviewed. The chapter also has cited various sources of conflicts in construction projects established from literature and summarized in table 2.1.

The two categories of conflicts management approaches; the passive responses which include denial, avoidance and capitulation, and the active responses which include collaboration, compromising, smoothing, avoidance and forcing have been reviewed. The project procurement systems and key participants and their roles in building projects are also discussed.



CHAPTER THREE

Methodology

3.0 Introduction

This chapter describes various methods used in this study and the reasons for choosing such methods. Kothari (2002) noted that methodology is the various steps that are generally adopted by the researcher in studying his research problem along with the logic behind them. This chapter outlines the study design, judging the quality of research, study population, research, sampling procedure and the data collection instruments that will be used in this study. It also describes how data was analyzed and study area.

3.1 The research design

A research design is the program that guides the investigator in the process of collecting, analyzing, and interpreting observations (Nachmias & Nachmias, 1993). In other words Yin (2003), considers it as an action plan for getting from here to there. Where here, is regarded as the initial set of questions to be answered, and there, is some set of conclusion about the questions. This research focuses on the understanding of conflicts situation in construction projects in Ghana. The study aim at establishing critical issues of conflicts and their causes in construction projects in Ghana. Interview survey will be intended to verify conflicts and their causes identified in literature review in the context of the construction industry in Ghana. This approach was adopted because; it was not known if the issues and causes of conflicts that have been theorized to be important in other countries were also relevant in Ghana.

At this stage a sample of key participants in a construction project (clients, contractors and consultants), were interviewed to verify and explore new findings of conflicts and their causes in the industry. Exploratory interviews were used, since they are empirical in nature and assist the researcher to develop ideas compared to standardized interviews (Oppenheim, 1994).

The study also involves Questionnaire survey and aim at determining the attitudes of key construction project participants on criticality of conflicts and their causes between various project participants. The five degrees rating system was used. The questionnaire design target key project participants, that is; prominent clients, contractors, and consultants (architects, engineers structural and civil, and quantity surveyors). A representative sample of those based in Accra will be selected. This is because most key project participants in Ghana are based in Accra, or at least they have their branch offices there. The questionnaire replies will be analyzed using the SPSS to draw various statistical inferences. This stage intended to map out the most critical conflicts and their causes among various participants in construction projects in Ghana.

The nature of investigation: The fundamental nature of this study is exploratory. It intends to answer questions about why do conflicts occur between project participants, how do they develop / progress, and how are they managed / prevented in construction projects in Ghana. As contended by Yin (2003), a case study is appropriate for exploratory inquiry where “why” and “how” research questions need to be answered. Moreover, case studies provide an opportunity to study the case in a natural setting, taking a holistic approach in order to have in-depth understanding of a complex phenomenon like conflicts in construction projects. The choice of this

method has been reinforced by the fact that the nature of investigation did not attempt to have control over events and that the study's focus was on a contemporary issue.

3.2 Criteria for judging the quality of research designs

Yin (2003) identified four tests that can be used to measure the quality of a research design at various research stages, these include: construct validity, internal validity, external validity, and reliability. This section explains how the quality of research design was tested.

Construct validity: this refers to establishment of correct measures for the concepts being studied. People who have been critical of case studies often point to the fact that a case study investigator fails to develop a sufficiently operational set of measures and that subjective measures are used to collect data. In line with suggestions by Yin (2003) and Stake (1995), this problem will be addressed by; use of multiple sources of evidence (triangulation of data), the establishment of chain of evidence by linking the research questions and propositions to the data will be collected and conclusion that will be made. This approach, in addition of capturing the strengths and weakness of each source of evidence, also provide a complementary function for each source.

Internal validity: This has been given more attention in experiments and quasi-experimental research (Yin, 2003). It is mainly concerned with causal (explanatory) case studies rather than exploratory cases considered in this study.

External validity: The third test has to do with the problem of knowing whether a study's findings are generalizable beyond the immediate case study. One of the critiques of case study approach is that the study provide little basis for scientific generalization. "How can you generalize from a single case?" This is a frequent asked question (Yin, 2003). However,

Yin refers the same question being asked about an experiment! He gives a short answer that case studies, like experiments, are generalizable to theoretical propositions and not to populations or universes. In this sense, the case study, like the experiment, does not represent a “sample” the generalization is analytical and not statistical generalization.

Therefore, in this study the propositions made are tested through both factual and theoretical replication logic in order to achieve analytical generalization.

Reliability: According to Yin (2003), the objective of this test is to be sure that if a latter investigator follows the same procedures as describe by an earlier investigator, and conduct the same case study all over again the latter should arrive at the same findings and conclusions. Generally the goal of reliability test is to minimize the errors and biases in a study. This test will address in the study by preparing prior to the data collection a case study protocol that guided the process of collecting data. The protocol is detailed enough, showing the questions to be asked, identification of the project participants to be interviewed, documents to be sought, and archival records to be collected.

3.4 Target Population

The population of the study will be nominated by screening the possible construction projects that have the following characteristics (nomination of cases by screening is one of the approaches suggested by Yin (2003:77-78)):

- Public projects. The projects that seem to be most affected by delays, cost overruns, and poor quality of workmanship. The public projects were selected because it is relatively easy to get information compared to private projects.

- A project that has been completed recently, or is in the final stages of completion for the reason that information is available and still fresh in the memories of the project participants.
- The projects should be of medium or large size. In Ghana standards the value of such projects should be above GHC 600,000 or equivalent to about US\$ 300,000. Small projects are excluded on the assumption that they are simple in nature and therefore are not prone to conflicts.

Therefore, any project those fall within the screening approaches above form part of the population for the study.

3.5 Sample and Sampling procedure

Out of the list of prospective projects, a purposeful sampling of cases that are information rich was made in the second stage of selection. For the number of cases to be selected, an analogy from statistical studies was used as the selection criterion by establishing levels of significance as suggested by Yin (2003), that, “much as the choice of “ $p < .05$ ” or “ $p < .01$ ” is not derived from any formula but is a matter of discretionary and judgmental choice but what is important is that, the selection of the number of replications depends on the certainty the researcher wants to have about the results.

In this study the researcher will consider thirty 30 construction projects as the sample size where all the project key construction participants [clients, contractors, and consultants (architects, engineers structural and civil, and quantity surveyors)] are present. This will be through purposive identification of projects within Accra which has been completed within the last 6 months or still ongoing and with the financial strength of not less 1 million Ghana cedis. This information about the projects will be

obtained from the Accra Metropolitan Assembly (AMA) and Ministry of Works and Housing.

3.6 Sources of data

The study depended on both primary and secondary data. Primary data was made up of first-hand data collected by the candidate through the use of questionnaires, interviews and site visits (observation). The secondary sources of data were obtained using relevant books, journals, magazines and research papers.

3.7 Research Instrument

The research data was collected mainly through interviews and questionnaires. Field observations through site visits were also employed to gather data on causes of conflict in construction projects.

The questionnaire, which consisted of 6 major sets of closed-ended questions, is designed to obtain data on the sources and causes of conflicts, the questionnaire further sought to obtain information on the level of knowledge of construction professionals and these causes of conflicts in construction projects in the Ghanaian building industry are managed. Interviews were also used to obtain more specific information about the causes of conflicts in construction projects in Ghanaian construction.

The questions will be constructed using the Likert scale. The respondents will be asked to rank on a scale of 0-5 factors that cause conflicts in construction projects where 0= “Not Applicable”, 1= “Very Low”, 2= “Low”, 3= “Moderate” 4= “High” and 5= “Very High” Concerning the management of the conflict of construction projects, the respondents were asked to indicate their level of agreement to the application of the principles of conflict resolution. Given the conflict areas that will be

mentioned respondents will be asked to choose which resolution approaches do they or would it apply by indicate the approaches by raking from 1 for the most used and preferred to 5 the least used and preferred one. Among the resolution approaches are; Collaboration, Compromising, Smoothing, Avoiding and Forcing.

3.8 Procedure for data collection

Following the high level of literacy of the major players in construction project and considering their busy schedules, they will be given questionnaires for one week before collection. However, those who could not get time to answer the questionnaire, the researcher will use the questionnaire to interview them by administering through a face-to-face session.

3.9 Data analysis

The completed questionnaires will be edited to ensure completeness, consistency and readability. Once the data had been checked, they will be arranged in a format that enables easy analysis. Quantifiable data from the questionnaires was coded into the software for analysis. Statistical Package for Social Sciences (SPSS 16.0) will be selected because it is considered to be user-friendly. The following statistical techniques which are grouped under various headings were then employed to analyze the data collected from the survey.

3.10 The construction sector in Ghana

The construction industry in Ghana, as in other parts of the world, is huge and a crucial segment in economic development. No matter what one does, there is construction, as it cuts across all sectors. Being among the top drivers of the Ghanaian economy, including agriculture, manufacturing and mining, its importance cannot be over emphasized, especially as the country is one of the most active economically in

West Africa. It is well known that an active construction industry adds to growth as it employs skilled and unskilled labour, from engineers and consultants to artisans and labourers.

Construction and maintenance of buildings, housing, roads, bridges and other physical infrastructure are crucial to generate employment, development and growth. But the question remains whether the players in the industry, especially contractors, are playing the roles expected from them to drive it harder. In Ghana local contractors are ill-equipped, lack the necessary qualifications and finances and have been beaten by foreign contractors who have won the major construction works, be the roads, bridges, and other infrastructure. From a low point in the 1970s and 1980s the share of construction in the GDP has moved up from 4.5% in 1975 to 8.5% by the turn of the century and has been doing about the same levels since.

The sector grew by 10% in 2008 but registered a negative growth rate of 1% in 2009 due to the global economic recession.

The Ministry of Roads and Highways (MRH) is charged with the responsibility of providing and maintaining a safe, reliable and efficient road infrastructure to promote economic growth. In order to successfully and effectively carry out the programmes of the government, the Ministry implements its programmes and projects with the support of the Ghana Highway Authority (GHA),

Department of Feeder Roads (DFR), Department of Urban Roads (DUR), Road Fund Secretariat and the Koforidua Training Centre. The policy objectives for the road sector are outlined in the Sector's Medium Term Development Plan (SMTDP).

These objectives are in line with the thematic areas of the National Medium Term Development Plan (NMTDP), which, among others, seeks to create a sustainable, accessible, effective and efficient road network that meets user needs. It also seeks to

create a vibrant investment and performance-based management environment that maximises benefits for public and private sector investors.

The Road sector observed an annual average growth rate of 8% from 2000 to 2008 in its network size. The total portfolio of roads stands at 67,291km at the end of 2008. 19% are trunk roads, 63% are feeder roads and 18% are urban roads. In the meantime, improvements in road condition have been gradual. 83% of trunk roads, 36% of urban roads and 72% of feeder roads are considered being in either good or fair condition. The main sources of financing road development and maintenance are the

Government itself has continued to deliver houses. Under the 2010 budget, it says it will continue exploring avenues for securing funding with the view of completing the 5,140 safe, decent and low income affordable units at Borteyman, Nungua, Kpone, Tema, Asokore-Mampong, Kumasi, Tamale, Koforidua and Wa. Construction of the third phase of the affordable units at Ho, Skondi/Takoradi, Sunyani, Cape Coast and Bolgatanga will also commence together with the construction of 10,000 units at Nsakina and Amasaman in the Ga East. The Government will also facilitate the acquisition process of 50,000 acres of land in Accra and regional capitals to accelerate government's affordable housing programme as well as support the private sector in housing delivery.

That the construction and housing industry plays a significant role in the national developmental agenda is an unarguable fact. What however appears to be debate able is whether the industry has the much expected driving force required to assert its vital contribution towards accelerated national growth in terms of infrastructural development. The challenges facing the industry especially relating to private sector development, growth and sustainability of professionalism are still enormous.

CHAPTER FOUR

Result and Discussion

4.0 Introduction

This chapter covers the statistical analysis and interpretation of causes of conflicts in construction projects and resolution approach in Ghana. In this study any variable considered as conflict area is deemed to be, if the mean score is more than 2.5 as a standard score and less than 2.5 is otherwise.

4.1 Areas of conflicts in construction projects in Ghana

Identified areas of conflicts in construction projects in Ghana	Mean	Standard deviation	Rank
Delays in payments	4.91	0.75	1
Contractual claims	3.81	0.90	2
Extensive contract variations	3.12	1.04	3
Differences in evaluation	2.99	1.11	4
Poor communication	2.91	1.15	5
Design error	2.88	1.01	6
Multiple meanings of specifications	2.77	1.22	7
Different site conditions	2.65	1.21	8
Errors in project documents	2.61	1.09	9
Public interruption	2.43	1.19	10
Cultural differences	1.11	1.29	11

Respondents were asked to rate eleven areas of conflicts in construction projects established from interviews and literature review. Table 4.1 represents the results.

Based on the mean value criterion, the first ranked area is delay in payments. The client / financier is the one who makes payments to both contractors and consultants, and yet the operationalization of the project depends on a smooth cash flow, therefore, if there are conflicts in this area, the project progress will be negatively affected. Therefore, following the result, delays in payment is a major cause of construction conflict in Ghana.

Contractual claims were ranked as second area of conflict. Extension of contract period and financial claims are typical issues of disagreements in this area. The third ranked area of conflict is excessive contract variations. Excessive contract variations imply that, the client or financier has to provide extra funds to the project. The fourth ranked area of conflict is differences in evaluation. The normal practice in construction contracts is that, a contractor evaluates the work that he has done and submits a claim for payment to the consultant. The consultant on behalf of the client assesses the claim and recommends to the client the amount that should be paid to the contractor. Disagreement could arise from the difference in the value claimed by the contractor and that assessed by the consultant.

Poor communication among project members was ranked as fifth area of conflict, misinterpretation and misunderstanding of information sent / received could give rise to conflicts in this area. Design errors were ranked sixth. Multiple meaning of specification, differences in site conditions, Errors in project documents and public interruptions were ranked seventh, eighth, ninth and tenth respectively. The last area in the rank is cultural differences, which has the mean value of 1.11, which is the lowest. The cultural difference and public interruption have means score value less than 2.50, the mean standard score of the rating, therefore, they are considered not significant areas of conflicts in construction projects in Ghana. However, other areas

are considered significant since their mean score values are over the mean standard score of rating as reflected in table 4.1 above. That is all other variables considered as conflict area is deem to be, since the mean score were more than 2.5 as a standard score.

Causes of conflicts in design errors

Table 4.2: Ranking of causes of conflicts in design errors

Identified areas of conflicts in construction design errors	Mean	Standard deviation	Rank
Cheap designers hired instead of quality	4.07	0.99	1
In-adequate brief	3.13	1.02	2
Inadequate time for design	2.92	1.37	3
Inexperience of the designer	2.86	1.44	4
Incompetent designer	2.62	1.35	5
Misinterpretation of client's requirements by the designer	2.31	1.42	6
Wrong design data	2.24	1.39	7

Design error is one of the significant areas of conflicts in construction projects as reflected in table 4.1. The causes for conflicts related to design errors and the rating results are shown in table 4.2. The first ranked cause of conflicts in design errors is cheap designers hired instead of quality. This refers to the process used for engaging consultants, where the method of selection mainly is based on technical (80%) and financial (20%) competition. The consultant submitting a lowest financial proposal scores the highest mark (100%) and that becomes a benchmark of all other bidders. When that is combined with technical proposal, it gives room of selecting a consultant

who is cheap but not capable of providing the services to the standard expected. The second ranked cause of conflicts related to design errors is inadequate briefing. Document prepared by the designer containing the requirements of the client which the designer should consider in the design. If the brief is not adequate, the design will not cover adequately the desires of the client. The third ranked cause of design errors is inadequate time for design, which means that, contracts are concluded when the design is not complete leading to problems of in-complete contracts. Inexperience of designers and incompetent designers are ranked number four and five consecutively. These two causes are closely related since competency in professional work is acquired to a larger extent through experience. Misinterpretation of client's requirements and wrong design data are ranked number six and seven respectively. Though these last two causes were not found critical, because their mean score values are below the mean standard rating value of 2.50.

Causes of conflicts in contractual claims

Table 4.3: Ranking of causes of conflicts in contractual claims

Causes of conflicts in construction contractual claims	Mean	Standard deviation	Rank
Incomplete tender information	3.79	1.14	1
In-adequate contract administration	3.49	1.22	2
Unclear risk allocation	3.11	1.25	3
To offset unrealistic tender price	2.93	1.42	4
Inadequate contract documents	2.8	1.21	5
In-appropriate contract type	2.11	1.17	6

Contractual claims mainly are those claims related to extension of contract period and financial claims. The causes of conflicts in this area are shown in table 4.3. Incomplete tender documents are ranked as the first cause of conflicts in contractual claims. Indeed when the contract is based on incomplete tender documents it provides ground for opportunistic behaviour. Inadequate contract administration is ranked as the second cause of conflict in this area. The project consultants have the role of administering the contract on behalf of the client, therefore the consultants should have the necessary competency and experience in contract administration. However, as reflected in table 4.2, incompetency and inexperience of designers was cited as one of the significant causes of design errors, which again are reflected in poor contract administration.

Unclear risk allocation is ranked as third cause of conflicts giving rise to contractual claims.

Every contract has risks that should be taken by the parties. If the allocation of risks is not fair, then disagreements are likely to occur when a risk event happens and someone has to bear the outcome arising from it. The fourth ranked cause of conflict is the tendency of contractors submitting claims so as to offset unrealistic low tender prices. Contractors may strategically submit a low tender in order to win the bid. When that happens, after winning the project, the contractor will come up with unrealistic claims in-order to offset his low priced tender.

The fifth ranked cause of conflict in this area is inadequate contract documents. Construction project documents may comprise of; contractor's letter of acceptance, contractor's tender, conditions of contract with contract data, specifications, drawings and bills of quantities. When one of these documents or some important information in any of these documents is missing it provides ground for conflicts.

The last cause of conflict in this area is in-appropriate contract, which has a mean score value of 2.11 that is below the average rating mean score value and therefore, it is not a significant cause of conflicts in this area. This partly may explain the fact that construction contracts used in Ghana are standard contracts as such they have undergone rigorous tests and checks before they are put into use in-order to minimize problems.

Causes of conflicts in multiple meanings of specifications

Table 4.4: Ranking of causes of conflicts in multiple meanings of specifications

Causes of conflicts in multiple meanings of specifications	Mean	Standard deviation	Rank
Use of outdated specifications	3.94	0.93	1
Cut and paste tendency	3.57	1.39	2
In-experience of specification writer	3.22	1.26	3
Vested interest	2.86	1.12	4
Peculiar / complicated project	2.71	1.18	5
Negligence	2.70	1.39	6

The results of ranking of causes of conflicts in this area are shown in table 4.4. The first ranked cause is the use of outdated specifications. Experience has shown that most consultants were still making reference to the standard specification of construction materials and standard methods of measurement of construction works first edition of 1970. These documents contain some materials that are outdated and no longer in use, like asbestos materials, cast iron pipes to mention a few. These documents do not cover most of new construction materials currently used like gypsum boards, metal sheets roofing tiles, paints, varnishes, etc. Cut and paste

tendency is ranked second cause of conflict in this area. From interviews it was noted that some consultants do not give sufficient attention when writing specifications. As a result they use a cut and paste style to amend specifications of previous projects to suite new projects without sufficient care. In-experience of specification writer is ranked number three. This cause compliments the first two ranked causes, since a consultant with adequate experience and competency will take more care in writing specifications knowing the consequences it has on the project. Vested interest, peculiar or complicated project and negligence of the specification writer are ranked number four, five and six respectively. However, based on the values of mean standards, all causes are considered significant to conflicts in multiple meanings of specifications in construction projects since the values are more than the mean standard score rating value of 2.50.

Causes of conflicts in delay of payments

Table 4.5: Ranking of causes of conflicts in delays in payments

Causes of conflicts in delay of payments	Mean	Standard deviation	Rank
Unnecessary bureaucracy in the payment process	4.73	0.72	1
Poor financial projection on the client's side	4.12	0.96	2
Lack of funds	3.68	1.29	3
Delays in the evaluation process	3.44	1.21	4
Inadequate contract provisions for enforcement of timely payments	3.13	1.17	5
Excessive claims made by the contractor	2.96	1.22	6

Delay in payments is ranked first as the area most prone to conflicts in construction projects. Determinants causing delay in payments are ranked in table 4.5. As

mentioned earlier, the clients / employers are the members in a contract responsible for payments both to the contractor and the consultants. The standard period set within which the contractor should be paid is 4 weeks, short of which the contractor has a remedy for claiming interest on the amount for number of days delayed at existing bank commercial interest rate. From interviews it was noted that, in most public institutions the payment process involves so much bureaucracy making it impossible for payments to be done within the time specified in the contracts.

The second ranked cause of conflicts in delay of payments is poor financial projection on the client's side. It was noted from interviews that, some public projects start without proper budget and cash flow forecast. Lack of funds is ranked number three which complements the second cause. The fourth cause is delay in evaluation process of claims submitted by contractors. The normal procedure in construction contracts in Ghana is the contractor prepares his claim for the value of work he has done for which he is seeking payments. The claim is submitted to the consultants for assessment so as to recommend to the client a fair amount that should be paid to the contractor in respect of the work done. The time for assessment by the consultants is at large as noted in the three standard forms of contracts is commonly used for construction projects in Ghana.

The fifth ranked cause is inadequate contract provisions for enforcement of timely payments. Contract has a provision for enforcing the client to pay the contractor within the time set in the contract by setting a penalty for payment of interest on delayed payment.

However, lack of a clause in the contract that could enforce the consultants to assess and recommend the payment to the client within a specific time undermines the whole purpose. The last ranked cause is excessive claims made by the contractor. This may

cause delays in payment due to additional time required by the consultants to assess the claims in questions, and may also compel the client to seek additional funds which originally were not budgeted for the project. However, all the six causes have mean scores values over 2.50 therefore, all causes are considered as significant causes of conflicts in delay of payments in construction projects in Ghana.

Causes of conflicts in communication

Table 4.6: Ranking of causes of conflicts in communication

Causes of conflicts in communication	Mean	Standard deviation	Rank
Poor feedback system	3.96	1.13	1
Negligence	3.17	1.41	2
Non adherence of communication procedures set	2.98	1.15	3
Ineffective means of communication	2.71	1.13	4
Lack of communication procedures	2.69	1.28	5
Deliberate blockage of information flow	2.53	1.48	6

Causes of conflicts in communication are ranked as shown in table 4.6. Poor feedback system is ranked first. Effective communication is a two-way phenomenon, when a message is sent to the recipient it is important that the receiver acknowledges receiving the message and is interpreted in the same meaning as sent by the sender. If this does not happen then communication is not complete, since the receiver may give different meaning to the message sent without the knowledge of the sender. Therefore, feedback is vital for effective communication and where lacking, conflict is likely to occur as reflected in the findings.

Negligence is ranked as the second cause of conflicts in communication. This may arise when parties to the project do not effectively fulfill their obligation of disseminating information as and when required. Non-adherence of communication procedures set is ranked third. Different procurement systems, apart from contractual links, they also provide communication links among project participants. The lines of communication on various matters on the project are clearly spelled out. If such links are not followed conflicts are bound to occur.

Ineffective means of communication is ranked as fourth cause of conflicts related to communication in construction projects. The common means of communication in construction projects include; meetings, letters, instructions, memorandums, documents like drawings, bills of quantities etc. in contracts when such means are not sufficiently used, communication breakdown among project participants is likely to occur. Lack of communication procedures and deliberate blockage of information were ranked number five and six respectively. Nevertheless, all causes have mean standard score values over 2.50. Therefore, all are considered to be important factors causing conflicts on communication in construction projects.

Causes of conflicts due to excessive contract variations

Table 4.7: Ranking of causes of conflicts in excessive contract variations

Causes of conflicts in excessive contract variations	Mean	Standard deviation	Rank
Change of scope of works as a result of changes in clients' requirements	4.01	0.99	1
Change of scope of works as a result of design errors	3.44	1.01	2
Errors in drawings	3.09	1.03	3
Errors in specifications	2.97	1.27	4
Errors in bill of quantities	2.83	1.35	5
Misinterpretation of contract information	2.65	1.33	6

Excessive contract variations are ranked third as an area prone to conflicts in construction projects in Ghana. Table 4.7 shows the ranking of factors causing excessive variations in construction projects. Change of scope of works as a result of changes in client's requirements is ranked first. This is related to inadequate brief cause that is ranked as second cause of conflicts related to design errors. When the client's requirements are not adequately covered in the brief and hence not sufficiently considered in the design, it is likely that the client will demand the missing requirements to be added at a later stage of the project causing variations of work to the original contract.

Change of scope of works as a result of design errors was ranked second cause of conflicts related to excessive variations. Errors in the design are committed by designers (architects and engineers). This is related to design concept and layout, if such errors are discovered after signing the contract, it's financial and time implications to the contract may be enormous to cause conflicts in the project.

Errors in the drawings, specifications and bills of quantities are ranked number three, four and five consecutively. The three causes are closely related, as errors in the drawings will affect quantities in the bills of quantities, as well as changes in the specifications will also have effect on specifications in the bills of quantities. Correction of errors for all three causes has financial and time implication to the project, thus creating ground for conflicts.

Misinterpretation of contract information is ranked number six. This happens when different parties to the contract assign different meanings on the same information thus causing misunderstandings and disagreements. As reflected from the values of mean standard scores in table 4.7, all values are above 2.50 the mean standard score

of rating, therefore all factors are considered important causes of conflicts related to excessive variations in construction projects in Ghana.

Causes of conflicts related to differences in evaluation

Table 4.8: Ranking of causes of conflicts related to differences in evaluation

Causes of conflicts in differences in evaluation	Mean	Standard deviation	Rank
Tendency of consultants / clients underpricing	3.85	1.64	1
Profit making or loss balancing approach of the contractor by using inferior items	3.77	1.52	2
Tendency of contractor claiming high prices	3.03	1.42	3
Dubious claims by contractor	2.89	1.24	4
Unclear method of pricing the contract	2.69	1.22	5

Conflicts related to differences in evaluation were ranked as fourth area prone to conflicts in construction projects. The ranking of causes of conflicts in this area are shown in table 4.8. The tendency of consultants under-pricing claims submitted by contractors was ranked first. Consultants from professional ethical point of view are supposed to be impartial when undertaking their assignments. However, it was learned from interviews that often contractors are not honest when preparing their claims. There is a tendency of contractors submitting inflated claims with an assumption that the consultants will assess and bring the claim down to a realistic value.

Profit making or loss balancing approach of contractors by using inferior items is ranked as second cause of conflicts in this area. From interviews it was noted that, some contractors tend to cheat by using inferior and cheaper material contrary to what

is in the contract, while they still claim for the prices quoted for the items specified in the contract which are higher than the actual cost of the inferior item supplied.

The tendency of contractors claiming high prices is ranked as third cause of conflicts in evaluation. This may happen when new items are introduced in the contract and there are no clear methods of pricing provided in the contract. Contractors tend to be opportunistic by inflating the prices and thus leading to disagreements with the consultants and the client. Dubious claims and unclear method of pricing the contract are ranked fourth and fifth cause of conflicts related to evaluation. All five factors as shown in table 4.8 have mean score values over 2.50, therefore all are considered significant causes of conflicts related to differences in evaluation in construction projects in Ghana.

Causes of conflicts related to differing site conditions

Table 4.9: Ranking of causes of conflicts in differing site conditions

Causes of conflicts in differing site conditions	Mean	Standard deviation	Rank
Lack of money	3.76	1.28	1
Ignorance of client and consultants on the importance of site investigation	3.58	1.43	2
Lack of knowledge of site conditions	3.33	1.41	3
Superficial investigation of site conditions	3.10	1.06	4
Carelessness of site investigator	2.41	1.10	5
Wrong interpretation of site investigation	2.17	1.49	6
Lack of necessary construction permit from regulatory authorities	0.96	.66	7

The causes of conflicts in this area are ranked as shown in table 4.9. Lack of money was ranked first and ignorance of importance of site investigation second. From interviews it was noted that some clients are not willing to spend money for site investigation, as they perceive the risk involved in designing and constructing without proper site investigation is not worth the money to be spent for site investigation.

Lack of adequate knowledge of site condition was ranked as third cause of conflicts related to differing site conditions. Without detailed site investigation like soil investigation, one is likely to have knowledge only on physical features of the site on and above the ground level only which is not adequate for design purpose. However, it was noted from interviews that, designers do take precaution when designing without adequate site investigation by providing design allowances over and above the standard allowances required (the extra allowance some labeled it as “factor of ignorance”).

Superficial investigation of site conditions, carelessness of site investigator, wrong interpretations of site investigation report and lack of necessary construction permit from regulatory authorities were ranked fourth, fifth, sixth and seventh cause of conflicts related to differing site conditions. However, all four causes were found to be less important as their mean score values are less than 2.50 the average mean value of rating as shown in table 4.9.

Causes of conflicts related to errors in project documents

Table 4.10: Ranking of causes of conflicts in errors in project documents

Causes of conflicts in errors in project documents	Mean	Standard deviation	Rank
Inadequate time for tender documents preparation	3.97	1.19	1
Incompetent personnel in preparation of documents	3.75	1.29	2
Inexperience of personnel involved in preparation of documents	3.01	1.34	3
Low consultancy fee	2.39	1.53	4
Negligence	2.21	1.44	5

Conflicts related to errors in project documents was ranked seventh and is one of the crucial areas prone to conflicts in construction project in Ghana as shown in table 4.1. The causes of conflicts in this area are ranked as shown in table 4.10. Inadequate time for preparation of tender documents was ranked first. It was noted from interviews that, clients often take long time in making decisions, but when it comes to implementation they often give consultants little time to prepare the tender documents, as a result due to urgency and lack of time for checking the documents mistakes are committed. The second and third ranked causes of conflicts are incompetent and inexperience of personnel involved in preparation of tender documents. These two causes are closely related, because competency partly is acquired through experience. Low consultancy fee and negligence were ranked fourth and fifth respectively, although are considered less important factors as their mean score values are less than 2.50 the mean standard score value of rating.

Causes of conflicts related to public interruption

Table 4.11: Ranking of causes of conflicts in public interruption

Causes of conflicts in public interruption	Mean	Standard deviation	Rank
Poor public relationship between the project people and the public	3.56	1.06	1
Unfair compensation for displaced people	3.49	1.02	2
Non adherence to public authorities regulations	3.35	1.27	3
The project involves displacement of people	2.81	1.34	4
Public resistance due to pollution of the environment to be caused by the project	2.31	1.11	5

Conflicts related to public interruptions as reflected in table 4.1 are considered not important area of conflicts in construction projects in Ghana. However, table 4.11 shows the ranking of factors that may cause conflicts in that area as poor public relationship between project participants and the public was ranked first and unfair compensation for displaced people was ranked second. This may happen when the project is at a place which is inhabited by people and the people have to be displaced and compensated before commencement of the works on site. The third cause is non-adherence of public authority's regulations, like regulations for electricity, water and sewerage utilities connection.

The fourth ranked cause is the process involved in displacing people from the area where construction will take place and the last is public resistance due to pollution of the environment to be caused by the project. However, this was found to be less important as the mean score value is less than 2.50 the mean standard score value of rating.

Causes of conflicts related to cultural differences

Table 4.12: Ranking of causes of conflicts in cultural differences

Causes of conflicts in cultural differences	Mean	Standard deviation	Rank
Professional culture problems	2.43	1.39	1
Working norms	2.40	1.41	2
Language problem	1.97	1.52	3
Adversarial industry culture	1.84	1.31	4

Conflicts related to cultural differences were found not important in construction projects in Ghana as shown in table 4.1. However, the causes of conflicts in this area were found to be; professional culture problems which is ranked first. This factor relates to the way each field of practice conducts its business. Each profession for instance has its formal code of conduct that often is intermingled with informal conduct. Both conducts together describes and delineates one profession from the other and forms a professional culture of that specific group. It is very common to hear people saying, someone talks or behaves like an engineer or like an architect, or you are too sensitive to cost like an economist, you are really strategic like a contractor etc. When people from different professions come together to execute a construction project, conflicts may arise from their different professional cultural background. However, this factor was not found to be crucial in construction projects in Ghana as its mean score value is less than 2.50, the mean standard value of rating.

The second ranked cause of conflicts related to cultural differences is working norms. Each organisation or firm has its characteristics that are peculiar and define the firm being considered. For instance the way of assigning activities, control, monitoring, rewards and penalties for non- performance, etc. vary from one firm to another. When

different firms come together to undertake a project, such differences may cause conflicts among the firms.

The third cause of conflicts in this area is language problem. The official language used in construction contracts in Ghana is English. However, it is mostly used in formal communication like in contract documents, written correspondences - letters, instructions etc. all have to be in English otherwise most verbal communication is done in “Twi” and the other local languages. It was noted from interviews that, language was not a major problem even for foreign firms whose personnel could speak English. It was a problem only for few Chinese construction firms whose personnel could not speak either of the two languages; they could communicate with the help of an interpreter and sometimes by using body language as was narrated during interviews. The adversarial industry culture of conflicts was ranked fourth cause. From practice and literature it was found that, the construction industry compared to other industries like manufacturing, agriculture etc. is most prone to conflicts. Nevertheless as mentioned earlier, conflict related to cultural differences was found not crucial in construction projects in Ghana, similarly the cause of conflicts in this area are considered less important as their mean score values are less than 2.50 the mean standard score rating value.

Preferences on conflicts resolution approaches

This section aimed at establishing preferred approaches of resolving conflicts in construction projects in Ghana. Since preferences and appropriateness of the approach may vary depending on the nature of the conflict, the data was collected and analysed in respect of different areas of conflicts established in the preceding sections.

Table 4.13: conflicts resolution approach

Conflict Areas	Conflict resolution approach mean score value (most preferred with least score and less preferred with highest score)				
	Collaboration	Compromising	Smoothing	Avoiding	Forcing
Design errors	1.51	1.98	2.23	3.69	3.58
Contractual claims	1.60	1.78	2.11	3.42	3.00
Multiple meanings of specifications	1.69	1.74	2.16	3.24	2.89
Delays in payments	1.88	2.09	2.88	2.99	2.94
Poor communication	2.00	1.86	2.17	3.06	3.33
Excessive contract variations	1.41	1.68	2.33	3.21	3.55
Differences in evaluation	1.58	1.90	2.23	3.34	3.35
Differing site condition and limitations	1.66	1.89	2.33	3.05	3.32
Errors in project documents	1.82	2.05	2.64	3.10	3.52
Public interruption	1.22	1.64	2.12	2.81	3.22
Cultural differences	1.39	1.47	2.19	2.87	3.46

The mean score value of preferences for each approach was established for each area of conflict. The approach with lower value is the most preferred and the approach with higher value is the least preferred. As shown in table 4.13 the most preferred approach for resolving conflicts related to errors in design is collaboration with a least mean score value of 1.51, followed by compromising approach with a mean score value of 1.98. The next closely preferred approach is smoothing with mean score value of 2.23, this is followed by forcing with a score of 3.58 and the least preferred is avoiding with a highest score of 3.69.

On conflicts related to contractual claims collaboration again is the most preferred approach with a mean score value of 1.60 followed by compromising with the value of 1.78. Next is smoothing with mean score value of 2.11, and forcing and avoiding approaches are the least preferred approaches with mean score values of 3.00 and 3.42 respectively. The order of preferences for resolution approaches for conflicts related to multiple meanings of specifications and delays in payments have the same order as above for conflicts related to contractual claims with mean score values as shown in table 4.13.

For conflicts related to communication problems, the most preferred resolution approach is compromising with a mean score value of 1.86 followed by collaboration, smoothing, avoiding and forcing with mean score values as shown in table 4.13. Approaches most preferred for resolution of conflicts related to excessive contract variations, differences in evaluations, differing site conditions, errors in project documents, public interruptions and cultural differences are in the order of; collaboration being the most preferred, followed by compromising, smoothing, avoiding and the least preferred approach is forcing. In general as shown in table 4.13, the most preferred approach is collaboration, followed by compromising, smoothing, avoiding and last is forcing.

CHAPTER FIVE

Summary, Conclusions and Recommendations

5.0 Introduction

This chapter captures the major findings that emerged from the study and the conclusions drawn. It also covers the recommendations given and areas suggested for further research.

5.1 Summary of Finding

The results presented above unveil and provide an outline of the nature of conflicts in construction projects in Ghana. The main areas of conflicts, their causes, intensity of conflicts at various stages of project life, the members in a project team among which conflicts do occur and different conflicts resolution approaches have been discussed in chapter four.

Among the areas of conflicts identified in the order of criticality are: delays in payments, contractual claims, excessive variations, and differences in evaluations, poor communication, design errors, errors in project documents, and multiple meanings of specifications, differences in site conditions, public interruptions and cultural differences.

1. The study observed that lack of funds and bureaucracy in payment process were found to be the key causes of the conflict in construction projects. The strategy used to resolve the conflict was to provide a condition in the contract requiring the client to pay the contractor interest on the amount due for payment over the period delayed. However, that was not effective for the three cases, since the crucial problem was lack of funds.

2. Again, it was revealed that conflict was in respect of differences between the amount claimed by the contractor against the amount valued and certified by the consultant. The causes were exaggerated claims made by contractors, different methods of valuation used by consultants compared to those used by contractors and the tendency of consultants' under-valuing contractor's claims.
3. Besides, conflict was in failure of the client to pay the contractor within the time stipulated in the contract. Lack of funds and bureaucracy in payment process were found to be the causes of the conflict in projects. The strategy used to resolve the conflict was to provide a condition in the contract requiring the client to pay the contractor interest on the amount due for payment over the period delayed.
4. Conflict in design changes was in respect of changes in the use of the construction which were in conflict with the interest of financiers. It was resolved by the client complying with the requirements of the financiers.
5. Furthermore, the study found that conflict in communication was experienced between the consultant and contractor due to non-adherence of communication procedure set in the contract.
6. The study discovered that conflict in design errors area was on some facilities spaces designed which did not meet the user's requirements as was experienced. This was caused by bounded rationality of the consultants due to limited knowledge and misunderstanding of the requirements of the client.
7. Conflicts in the area of multiple meanings of specifications were caused by inadequate and unclear specifications. The study expressed a high degree of

contractual incompleteness and that can be associated with inadequate and unclear specifications given in the contracts.

8. It was discovered that conflicts arising from public interruption were experienced due to misunderstanding of communication procedure between the project members and other persons who are not part of the project team but are project stakeholders. This conflict was resolved by setting a communication system that took into account the interests of the stakeholders. In nature, construction projects are carried out in a limited and confined space as such conflicts arising from public interruption could be minimized.

5.2 Conclusion

The main objective of the study as set in chapter one was to identify issues on which conflicts occur in construction projects, factors causing conflicts and how conflicts are managed. In conclusion there are a number of issues and areas on which conflicts do occur in construction projects in Ghana. The most prominent areas of conflict include delays of payments to the contractor by the client, issuing certificates of payments to the contractor by the consultants, evaluation of contractor's claims, design changes, poor communication, errors and mistakes in the design, multiple and different meanings of specifications, incompatibility between the contractor and nominated subcontractors and evaluation of contractor's claims.

Factors causing the conflicts are in several forms. There are those which are related to the nature of contracts, where the contracts are unclear and ambiguous, this gives room for contracting parties to develop opportunistic behaviour when post adjustments are needed.

There are those factors which are related to role functions, when the parties fail to perform as expected, like failure of the consultant to evaluate the contractor's claims in good time.

Based on findings presented, it is concluded that there are sufficient mechanisms and approaches for management of conflicts in construction projects in Ghana. The approaches used include those provided in the contracts where resolutions are determined from contract provisions. Such resolutions fundamentally are based on the forcing approach which is appropriate for resolution of conflicts where important principles for instance those related to technical issues like when specifications are being compromised. However, when there was no provision in the contract or when the contract provision was against the interests of the parties to the contract, negotiations were mostly used to seek agreeable solution to the conflicting parties by employing collaboration, compromising, smoothing and avoiding approaches.

On the basis of the investigation, for the intensity of conflicts at various stages of project life it is concluded that there are more conflicts during the construction stage of the projects compared to pre-design, design and post-construction stages.

5.3 Recommendations

The strategies and mechanisms for management and prevention of conflicts in construction projects should be considered in light of the causes of conflicts and management strategies identified. Therefore, a proposed framework for effective management of conflicts in construction projects in Ghana should consider the following:

1. The client / employer should have a clear mind of the project in terms of requirements and scope. This could be done with an assistance of a design

team by preparing a project brief. This will reduce needless changes brought up when the project is at implementation stage.

2. A realistic budget and financial projection of the project should be prepared so as to know the financial commitment before the start of a project.
3. The contracts of engagements should be clear and specific on the roles and duties of each party in a contract and should cite out remedies for failure to perform. This will reduce conflicts related to negligence, delays in payments and communication.
4. The contracts should provide some economic incentives, safeguards and guarantees and sureties so as to give trust and confidence to each party in the contract. This will reduce the risk of opportunistic behaviour.
5. The selection of design team and contractors should be based on ability and capacity to undertake the assignment. This could be achieved if the selection criteria are well set and the assessment is properly done. This will reduce conflicts arising from bounded rationality of the design team and contractors.
6. There have to be at all project stages mutual trust and understanding among all project participants. This could be achieved if there are relationship construction activities such as openness and regular meetings in the project. This will create a forum for discussions and resolving conflicts at an early stage.

Future research

1. Further studies could be conducted on the effects of conflicts in construction projects. It would be important to investigate changes to a

construction project brought about by conflict resolutions in order to assess functional and dysfunctional conflicts in construction projects.

2. How conflicts at individual level (personal conflicts) influence conflicts at project level.

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APPENDICES

Questionnaire

Questionnaire on causes and management of conflicts in construction projects in Ghana
QUESTIONNAIRE TO (Please tick your designation):

Client/Employer	
Civil engineer	
Structural engineer	
Architect	
Services engineer	
Quantity surveyor	
Sub- contractor	
General contractor	

Class of registration (for contractors).....

Years of experience in construction industry:.....

Introduction

Conflict is a state of opposition, disagreement, or incompatibility between persons or a group of persons over ideas, interest, beliefs, feelings, behavior or goals. In building projects a number of participants' team up together to form a project team for implementation of a project in hand. However, conflicts (as defined above) do happen between various members in a team. Based on your experience in various building projects,

1. How do you rate the following as areas of conflict in construction projects.

The rating should be as follows: 0 = not applicable, 1= very low, 2 = low, 3 = moderate, 4 = high, 5 = very high.

1.1 Design error	
1.2 Contractual claims (on extension of time and financial claims)	
1.3 Multiple meanings of specifications	
1.4 Delays in payments	
1.5 Poor communication	
1.6 Extensive contract variations	
1.7 Different site conditions	
1.8 Public interruption	
1.9 Differences in evaluation	
1.10 Cultural differences	
1.11 Errors in project documents	

2.0. For each of the below areas of conflicts, how do you rate the following as the cause of conflict.

The rating should be as follows: 0 = not applicable, 1= very low, 2 = low, 3 = moderate, 4 = high, 5 = very high.

2.1.Design errors	
2.1.1. Misinterpretation of client's requirements by the designer	
2.1.2. Inexperience of the designer	
2.1.3. Incompetent designer	
2.1.4. Inadequate time for design	

2.1.5. Wrong design data	
2.1.6. In-adequate brief	
2.1.7. Cheap design hired instead of quality	
2.2. Contractual claims (on extension of time and financial claims)	
2.2.1. Incomplete tender information	
2.2.2. Inadequate contract documents	
2.2.3. To offset unrealistic tender price	
2.2.4. In-adequate contract administration	
2.2.5. In-appropriate contract type	
2.2.6. Unclear risk allocation	
2.3. Multiple meanings of specifications	
2.3.1. Negligence	
2.3.2. Inexperience of specification writer	
2.3.3. Cut and paste tendency	
2.3.4. Use of outdated specifications	
2.3.5. Peculiar / complicated project	
2.3.6. Vested interest	
2.4. Delays in payments	
2.4.1. Lack of funds	
2.4.2. Poor financial projections on the client's side	
2.4.3. Excessive claims made by the contractor beyond client's financial projections	
2.4.4. Unnecessary bureaucracy in the payment process on the client's side	
2.4.5. Delays originating from evaluation process of the contractor's by the consultants	
2.4.6. Inadequate contract provisions for enforcement of timely payments	
2.5. Poor communication	
2.5.1 Lack of communication procedures	
2.5.2. Non adherence of communication procedures set	
2.5.3. In effective means of communication	
2.5.4. Negligence	
2.5.5. Poor feedback system	
2.5.6. Deliberate blockage of information flow	
2.6. Excessive contract variations	
2.6.1. Change of scope of works as a result of changes in requirements ordered by the client	
2.6.2. Change of scope of works as a result of design errors	
2.6.3. Errors in bill of quantities	
2.6.4. Errors in drawings	
2.6.5. Errors in specifications	
2.6.6. Misinterpretation of contract information	
2.7. Differences in evaluation	
2.7.1. Unclear method of pricing in the contract	
2.7.2. Tendency of contractor claiming high prices	
2.7.3. Dubious claims by contractors	
2.7.4. Tendency of consultants / clients under-valuing	
2.7.5. Profit making or loss balancing approach of the contractors by using inferior items in lieu of the ones specified in the contract	
2.8. Differing site condition and limitations	
2.8.1. Lack of money, time, experts in site investigation	
2.8.2. Lack of knowledge of site conditions	
2.8.3. Carelessness of site investigator	
2.8.4. Superficial investigation of site conditions	
2.8.5. Wrong interpretation of site investigation	

2.8.6. Ignorance of client and consultants on the importance of site investigation	
2.8.7. Lack of necessary building permit from regulatory authorities	
2.9. Errors in project documents	
2.9.1. Inadequate time for document preparation	
2.9.2. Incompetent personnel in preparation of project documents	
2.9.3. Inexperience of personnel involved in preparation of documents	
2.9.4. Low consultancy fee	
2.9.5. Negligence	
2.10. Public interruption	
2.10.1. Public resistance due to pollution of the environment to be caused by the project	
2.10.2. The project involves displacement of people	
2.10.3. Unfair compensation for displaced people	
2.10.4. Poor public relationship between the project people and the public	
2.10.5. Non adherence to public authorities (e.g. Municipal councils)	
2.11. Cultural differences	
2.11.1. Language problem	
2.11.2. Working norms problem	
2.11.3. Professional culture problems	
2.11.4. Adversarial industry culture	

3.0: CONFLICT RESOLUTION APPROACHES:

- **Collaboration**; is the conflict resolution approach involving parties meeting face to face and collaborating to reach an agreement that satisfies the concerns of both parties; win – win style.
- **Compromising**; is the conflict resolution approach by which conflicting parties bargain to reach a mutually acceptable solution. Both parties give up something in order to reach a decision and leave with some degree of satisfaction; give and take style.
- **Smoothing**; is the conflict resolution approach by which conflicting parties emphasize the areas of agreement. A party may sacrifice its own concerns or goals in order to satisfy the concerns or goals of the other party.
- **Avoiding**; is a conflict resolution approach by which conflicting parties tend to postpone an issue for later or withdrawing from the situation altogether.
- **Forcing**; is the conflict resolution approach by which one party goes all out to win its position while ignoring the needs and concerns of the other party; win – lose situation.

Given the conflict areas mentioned above which resolution approaches do you or would you apply. Indicate the approaches by ranking from 1 for the most used and preferred to 5 the least used and preferred one

Issues	Collaboration	Compromising	Smoothing	Avoiding	Forcing
3.1. Design errors					
3.2. Contractual claims					
3.3. Multiple meanings of specifications					
3.4. Delays in payments					
3.5. Poor communication					
3.6. Excessive contract variations					
3.7. Differences in					

evaluation					
3.8. Differing site condition and limitations					
3.9. Errors in project documents					
3.10. Public interruption					
3.11. Cultural differences					

Please indicate any other approach you may be using in the space provided below

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6.0: Kindly in the space below you may give remarks and comments on conflicts situation in building projects in Ghana:

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