

Addis Ababa
University
(Since 1950)



**ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
GRADUATE STUDIES**

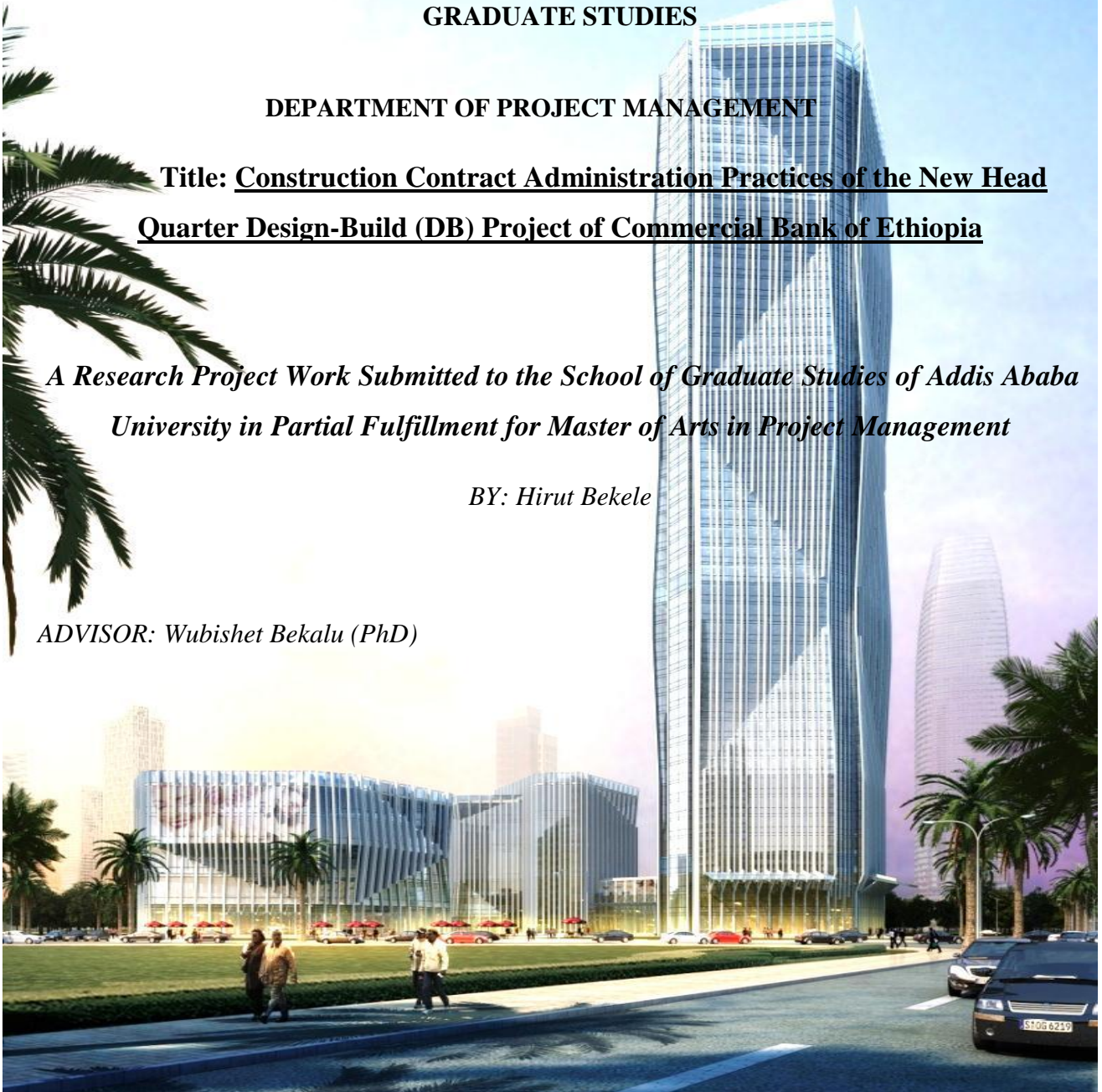
DEPARTMENT OF PROJECT MANAGEMENT

**Title: Construction Contract Administration Practices of the New Head
Quarter Design-Build (DB) Project of Commercial Bank of Ethiopia**

*A Research Project Work Submitted to the School of Graduate Studies of Addis Ababa
University in Partial Fulfillment for Master of Arts in Project Management*

BY: Hirut Bekele

ADVISOR: Wubishet Bekalu (PhD)



June, 2017

Addis Ababa, Ethiopia

Statements of Declaration

I, the undersigned, declare that the study which is being presented in this project work entitled as **“Construction Contract Administration Practices of the New Head Quarter Design-Build (DB) Project of Commercial Bank of Ethiopia”** is my original work, had not been presented for a partial fulfillment for any educational qualification at this university or any other, all the sources used are also duly acknowledged.

Hirut Bekele (GSD/0412/06)
Researcher

Date

I hereby declare that the study which is being presented in this project work entitled as **“Construction Contract Administration Practices of the New Head Quarter Design-Build (DB) Project of Commercial Bank of Ethiopia”** was conducted by Hirut Bekele for partial fulfillment of the requirements for the award of Master of Art Degree in Project Management; is to the best of my knowledge an original work conducted by her, had not been presented for a partial fulfillment for any educational qualification at this university or any other.

Wubishet Bekalu (PhD)
ADVISOR

SIGNATURE AND DATE

Mengistu Bogale (PhD)
EXAMINER

SIGNATURE AND DATE

Mohammed Nur (PhD)
EXAMINER

SIGNATURE AND DATE

Acknowledgements

Above all and for most, I would like to thank the Almighty God for helping me accomplish this study. Next, I am deeply indebted to the professional staff of the Construction Project Office of Commercial Bank of Ethiopia who helped me so much that none of this would have been possible if it were not for their intellectual and emotional support.

I would especially like to acknowledge, my advisor, Wubishet Bekalu (PhD) for his continuous assistance. An acknowledgment of this kind would not be complete without an expression of profound gratitude towards my work colleagues, friends and my whole family for every kind of support they provided me with.

LIST OF ACRONYMS AND ABBREVIATIONS

CBE - Commercial Bank of Ethiopia

HQ – Head Quarter

AAU – Addis Ababa University

AAiT- Addis Ababa Institute of Technology

CA - Contract Administrator

CM - Construction Management

DBB- Design-Bid-Build

DB - Design and Build

ICB -International Competitive Bid

BoQ - Bill of Quantity

NCB - National Competitive Bid

AEA - Association of Ethiopian Architects

CPO - Construction Projects Office

LDCs - Less Developed Countries

FIDIC- Fédération Internationale des Ingénieurs-Conseils

CSCEC Ltd. - China State Construction Engineering Corporation Ltd.

PMBok – Project Management Body of Knowledge

Others terms:

Employer = CBE = Client = Owner

Consultant = Engineer = Supervisor = Employer Representative

Contractor = China State Construction Engineering Corporation Ltd.

List of Figures

Figure 1 - The Structure of the CPO of CBE

Figure 2 - Contractual relationships in design and build project

List of Tables

Table 1: Contractual risk and Contract Administration Problems

Table 2: The Modes of Foreign Technology Transfer

Table 3: Comparison of DB and DBB projects With Respect to Cost, Time, Quality and Aesthetic

Abstract

This project work is about the assessment on the practices of project contract administration of the New Head quarter Design-Build project of Commercial Bank of Ethiopia where the concept of contract administration comes a long way in the practices of project undertaking. Thus, the researcher came up with a major research gap of which the effectiveness of DB contract administration on the project's time, cost, quality management and variation of work . In addition, the researcher has further assessed whether this DB project contract Administration has become effective in terms of meeting its objectives of technology transfer and training through the contract administration.. The methodology was designed as semi-structured interviews, focus group discussion and site observation, then later descriptive analysis were made. Different kinds of secondary data were also greatly used as triangulation mechanism. The qualitative research came up with a finding that following the legal bindings, keeping confidentialities, having well experienced professionals on the project doing, is leading the undergoing project to be successful so far with regard to the well administered contract. Moreover, the advantage and disadvantage of the DB project contract Administration which has been newly introduced for the country is properly accessed.

Key Words: DB Contract Administration, Contractual risk, Design-Build project, Technology Transfer, Construction Project Office (CPO)

Table of Contents	
Acknowledgements.....	i
LIST OF ACRONYMS AND ABBREVIATIONS.....	ii
Others terms:.....	iii
List of Figures.....	iii
List of Tables.....	iii
Table of Contents.....	v
CHAPTER ONE: INTRODUCTION.....	1
1.1. Background of the study.....	1
1.2. Statement of the Problem.....	5
1.3. Research Questions.....	6
1.4. Objectives of the study.....	6
1.4.1. General Objective.....	6
1.4.2. Specific Objectives.....	6
1.5. Significance of the Study.....	7
1.6. Scope of the Study.....	7
1.7. Limitation of the Study.....	7
1.8. Organization of the Study.....	8
CHAPTER TWO: REVIEW OF RELATED LITERATURE.....	9
2.1. Theoretical Review.....	9
2.2. Essential Elements of a Valid Contract.....	9
2.3. Contract Administration Principles.....	12
2.4. Building Contract Administration Issues.....	13
2.5. Practice of the participating Parties selection process of the CBE New Head Quarter Project.....	15
2.6. Problems Relating to Administering a Contract.....	18
2.7. Types of Construction Contracts.....	20
2.8. Procurement and Contract Delivery system.....	20
2.9. Building Contracts Administration Process in case of Design-Build Projects.....	21
2.9.1. Features of Design-Bid-Build (DBB) and Design - Build (DB) contracts.....	22
2.9.2. Employer’s Requirements and Contractor’s Proposals in the case of DB Contracts.....	24
2.10. Advantage and disadvantage of DB project Contract Administration.....	26
2.11. Technology Transfer and Training of DB-contracts.....	27
2.12. Type of Contract Delivery system used by CBE HQ Building Project.....	29
2.13. Building Construction Contracts Follow up and controlling in terms of Time, Cost, Quality and Variation of work.....	29
2.14. Conceptual Framework for Effectiveness of the Contract Administration Practice of CBE New HQ project.....	34
CHAPTER THREE: RESEARCH METHODOLOGY.....	35
3.1. Data Sources and Data Collection Techniques.....	35
3.2. Research Design.....	35

3.3.	Sampling Procedure	36
3.4.	Data Analysis Methods.....	37
3.5.	Ethical considerations	37
CHAPTER FOUR: RESULTS AND DISCUSSION		38
4.1.	Overview of the New Head Quarter project Building of Commercial Bank of Ethiopia	38
4.2	Actual Practices of the DB Contract Administration of the CBE HQ Building project.....	39
4.2.1.	Interview conducted with the Manager of the CBE Construction Project Office (CPO) and the Construction Lawyer of the Project	39
4.2.2.	Analysis on the Focus Group Discussion Results	43
4.2.3.	Site Observation made by the Researcher	47
4.3.	The significance Design-Build (DB) contract Administration in Managing Cost, Time, Quality assurance, Variation of work and meeting its objectives of Technology transfer.....	47
4.3.1.	Significance of the DB Contract Administration of the CBE HQ project in managing Cost	48
4.3.2.	Significance of the DB Contract Administration of CBE HQ project in the Management of the project Time duration	48
4.3.3.	Significance of the DB Contract Administration of CBE HQ project in the Management of project Quality assurance	49
4.3.4.	Significance of the DB contract Administration of CBE HQ project in the Management of project's Variation of work	49
4.3.5.	Significance of DB contract Administration of CBE HQ project in the Management of meeting objectives of Technology Transfer	49
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS		50
5.1.	Summary of Findings.....	50
5.2.	Conclusions.....	51
5.3.	Recommendation.....	51
5.4.	Implication for Further study	52
References.....		53

CHAPTER ONE: INTRODUCTION

1.1. Background of the study

A Contract is a voluntary agreement between two or more parties. The purpose of a contract is to set out the rights, responsibilities, and liabilities of the parties which can be described from a different perspective; it is to allocate risk between the parties (Samuels 1996). Conditions refer to contract documents used to define no technical construction contract terminology and procedures necessary for safe, orderly execution and management of the work. They establish rights, responsibilities, risks, and requirements of owners and contractors in fulfilling contract obligations and must provide fair and equitable levels of protection for both parties. (Charles; 1999).

General conditions of contracts are those written to cover conditions that will apply to all of an owner's construction contracts. Supplemental or special conditions modify existing conditions or add new ones to address subjects not covered. The legal aspects of the contract documents are outlined in the general conditions. There are several types of general conditions available for inclusion in contract documents. A standardized (common) set of general contracts are those prepared by the FIDIC contract which are widely used in large and complex projects. (Hinze, 2001).

According to FIDIC, the general conditions are the legal standards that have been established to promote fair and objective contractual stipulations between all parties involved in construction projects. A primary benefit of using standardized general conditions is that the document has been prepared with the advice of legal counsel and experienced professionals. The articles contained in the general conditions describe the legal rights, responsibilities and contractual requirements of the owner, contractor, and engineer. In order to be valid, all contracts must meet certain criteria. These criteria include an offer and acceptance, a meeting of minds, consideration, lawful subject matter, and competent parties. Most construction agreements are drawn up between two parties for their mutual benefit (Hinze 2001).

Contract administration is concerned with the mechanics of the relationship between the customer and the provider, the implementation of procedures defining the interface between them, and the smooth operation of routine administrative and clerical functions. (Contract Management Guidelines, 2002). Building contract administration is a vital component of building and construction project management. It is important that all of the necessary administrative contractual requirements for a construction project are met, both before building commences and during the construction process.

As we know, the law is a very complex issue and building contract management consultants understand the legal and technical issues that can affect the successful completion of a construction project. Building and construction contracts must therefore stipulate the roles and responsibilities of all involved in the construction process. Ensuring that fair and protective contracts are in place at the pre-construction phase, fosters a team commitment towards a successful building completion, both on time and within budget. Both owners and contractors are called for identification of possible risk factors that could be faced and to allocate them contractually. (Jaser Hmaid, 2005) In most construction project, the owner has to select suppliers, a process called procurement. Construction projects can be broadly divided in four phases: program, design, procurement and production (Osipova, 2008).

There are three dominant delivery methods for a construction product: design-bid-build (DBB), design and build (DB) and construction management (CM) (Joyce and Gould, 2009; Winch, 2010).

Design and build refers to the form of contracting where one supplier is responsible for parts of or the entire design and production (Winch, 2010). Design and build is also known as turnkey contracting or single-point responsibility.

Construction contract administration is specific to each project, but essentially will relate to the buildings to be constructed, the land and the location, the building costs and time frame for the construction, materials to be used, rights, responsibilities and duties of all parties, schedules of payments and deliverables, schedules of site and building inspections, warranties, indemnities and any other specific provisions so required. Building and construction is a team effort that includes contractors, subcontractors, architects, engineers, planners, project management teams, financiers and the owner or developer. All are working towards a common goal, but it is the

building contract administrator who ensures that from a legal point of view, the building proceeds smoothly to its conclusion.

Organizational Profile

The Commercial Bank of Ethiopia (CBE) is the leading bank in Ethiopia, established in 1942. It has now over 1180 branches stretched across the country, and is working towards becoming a world class commercial bank.

The Commercial Bank of Ethiopia has embarked on a unique and monumental undertaking to build an iconic and state-of-the-art Headquarter in Addis Ababa, Ethiopia. The 48 storey is under construction by the project's contractor; China State Construction Engineering Corporation Ltd.(CSCEC Ltd.) which is procured through International Competitive Bid (ICB). In addition, the Design Review, Supervision and Contract Administration service is procured to Addis Ababa University-Addis Ababa Institute of Technology (AAU-AAiT).

This new Headquarter for the Commercial Bank of Ethiopia which is located in the Central Business District of Addis Ababa is referred to in the context of the development of modern Ethiopia, as a leading and self-conscious East African Nation, with rich cultural and social history and growing economy.

The building assembly consists of a high-rise office tower and two low-rise building volumes. The total floor area is estimated to be 147,692m². The office tower of more than 48 floors (4B+G+48) includes the main departments of the Bank. The low-rise buildings (4B+G+6 & 4B+G+8) are mainly conference centers, shopping center and parking garage. A large public spaces like Public Square, has been highly recommended to be included in the site.

After completion, the building is likely to be one of the highest (198 meters high) on the African continent. It will also form an important landmark and icon for the Commercial Bank, the city of Addis Ababa and Ethiopia as a nation. The head quarter building will be an impressive contribution to the dynamic skyline of Addis Ababa.

The design of the building is envisaged to symbolize Ethiopia and the African Nations. In view of this, the diamond design of the tower building is rooted in the local East African Culture and

has its own unique East African identity. The building is an ambitious one in that a premium international sustainability label shall be part of the project.

The Bank has now its head office function which is spread out in several other buildings it owns and rented in Addis Ababa. The objective of the new head office building is to house all head office functions under one roof. It is envisaged such a move will enable CBE to achieve its goal of providing first class service to its customers creating conducive work environment and up to date technical facilities.

The site is located at a very important intersection of Yohannes Street leading from the intersection opposite the National Theatre to the National Palace, on the northern side, Ras Desta Damtew Street forking off Churchill Avenue and ending at Meskel Square, on the eastern side. Both the old and this new Head Office project building of CBE are found within walking distance.

An agreement was made in April, 2015 between CBE and the well-known Chinese government owned construction company; China State Construction Engineering Corporation Ltd. whereas, this company to Design and build (DB) the CBE New Head Quarter project and the bank has accepted an offer by the Contractor through the Letter of Acceptance in March 2015 and in April 2015 for the Design, Build and completion of such works and the remedying of any defects therein with.

Following this contact agreement signed with the contractor , the Commercial Bank of Ethiopia in the year 2016 has awarded the Addis Ababa University; Addis Ababa Institute of Technology (AAU-AAiT) for the Design Review, Supervision and Contract Administration of this CBE New Headquarter Design-Build Project.

Design-Build (DB) is a method of project delivery in which one entity – the DB team – works under a single contract with the project owner to provide design and construction services. One entity, one contract, one unified flow of work from initial concept through completion thereby re-integrating the roles of designer and constructor.(DBIA 2014)

This design-Build (DB) project is a new type of building project in the country. So far, the design-build (DB) was commonly practiced in hydropower and road projects.

1.2.Statement of the Problem

Contract administration is one of the most important jobs related to construction projects and involves numerous tasks occurring before and after contract execution and work order issuance. All work must be administered in accordance with the contract specifications, terms and conditions. It is the process of increasing the probability that the project will be constructed in substantial compliance with the contract documents. Local construction industry and local project performance still face several contractual problems such as, delays, litigation, and additional costs which are the consequences of disputes. Contract types and general conditions clauses have a major influence on the likelihood and degree of project success. (Murtaja; 2007)

From the outset of a project, clients want to ensure that they can achieve the solution they require within their established budget and by an acceptable date in the future. This may be best achieved if the client seeks independent advice on these matters from the outset from an experienced construction professional, such as a consultant project manager. (Love and Mohamed, 1996)

Construction contract types and general conditions clauses have a major influence on the likelihood and degree of project success. Therefore, the existence of a unified, standardized and fair contract such as FIDIC contract will contribute in improvement the construction industry and in creating successful relations between the contract parties. Usually, there is an adversary relationship between the owners and contractors (the contract parties). Consequently, disputes and its consequences arise and cause losses to all parties.(Murtaja; 2007)

Unfortunately, it is found that a common problem in the building and construction industry is that a party believes a provision has been included in the contract; however the contract does not reflect this provision. Other problems concern construction or material delays due to inclement weather, cost escalations and disputes concerning what is and is not included in the contract.

Good contract administration therefore, has to ensure that all contractual obligations are met, any disputes are quickly resolved and that the building process moves swiftly to a successful conclusion. Currently, typical contract administration efforts focus on reacting to unforeseen problems (change order management, dispute resolution) after they occur because, reacting to problems is a waste of valuable human and financial resources. Moreover, there are cases in which improper selection of project delivery method can be cited as one of the main causes of contract disruption and then claims. (Abebe and Girmay; 2003)

1.3. Research Questions

Based on the problems that has been stated, the following research questions are developed:

- How does contract Administration in CBE look like?
- How effective is Contract Administration in the New CBE HQ project management?
- What is the significance of the Design-Build (DB) Contract Administration in managing cost, time, quality and variation of work in CBE HQ project?
- How effective is the CBE HQ project in terms of meeting its objectives of technology transfer and training through contract administration?

1.4. Objectives of the study

The general and specific objectives of this study are as stated below;

1.4.1. General Objective

To study the Contract Administration Practices in the case of the new Head Quarter Design-Build (DB) Project of Commercial Bank of Ethiopia

1.4.2. Specific Objectives

The specific objectives of this research are:

- a. To examine the CBE current practice of contract administration in different phases of the project delivery process
- b. To assess CBE contract management assist to achieve cost, time, quality of work effectiveness during contract execution
- c. To examine variation of work acceptance by the owner

- d. To assess whether the CBE DB contract allow transferring technology and giving training for local contractors and consultants through contract administration.

1.5. Significance of the Study

This study aims to evaluate DB contract administration practice of the new Head Quarter Project of CBE and to be a reference for future action by:

- Giving an insight about the practice of DB contract administration of a construction project
- To indicate gap encounter in the DB contract for other Ethiopian companies if they are interested to use it
- To show the advantage and disadvantage of DB contract in case of Ethiopian context
- To indicate cost, time, quality and variation of work in case of DB contract
- Presenting a relevant suggestion on any gap observed

1.6.Scope of the Study

This study is delimited to Practices of Contract Administration in the new Head Office Quarter project of CBE. Besides, the study is delimited to whether DB project have an advantage in terms of cost, time and quality of work. Again, it is delimited to advantage on variation of work to consider when compared to DBB delivery method and if there is adequate technology transfer and training to Ethiopians professionals with this DB project.

1.7.Limitation of the Study

The main limitations of the study is since this DB building project is new to the country, it became difficult to get other like projects to incorporate its practice as a benchmark. Only the documents availed by the Construction Project Office (CPO) of the CBE are used for desk review of the study. In addition, time constraint is another limitation of the study since a short calendar time has been set to finalize it.

1.8.Organization of the Study

The first chapter of the paper discussed the introduction; followed by the literature review section. Then the third chapter is the research methodology and the fourth chapter being the presentation, analysis and interpretation of data. On the final fifth chapter summary, conclusions, recommendations and suggestions are given for further research doings.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1.Theoretical Review

A Contract is a voluntary, deliberate and legally binding agreement between two or more competent parties. Contracts are usually in written but may be spoken or implied and generally have to do with employment, sale or lease, or tenancy. (WWW.business dictionary.com)

According to this definition, a contractual relationship is evidenced by (1) an offer (2) acceptance of the offer and (3) valid (legal and valuable) consideration. Each part of a contract acquires right and duties relative to the rights and duties of the other parties. However, while all parties may expect a fair benefit from a contract (otherwise, courts may set it aside as inequitable) it doesn't follow that, each party will benefit to an equal extent. Contracts are normally enforceable whether or not in a written form although a written form protects it.

Contracting is when a company (buyer) purchases goods or services from another company (supplier or vendor). In this situation, the buyer "owns" and controls the process. In other words, the buyer tells the supplier exactly what it wants and how it wants the supplier to perform those services. The supplier cannot vary from the buyer's instructions in any way. Scope and technical specifications of service is defined by client (Chan, 2008).

2.2.Essential Elements of a Valid Contract

There are a number of essential elements required for a valid contract to be formed. (A.V., 1992)

- a) Agreement between the parties
- b) Offer and acceptance
- c) Considerations to be provided by the parties
- d) Intentions to create a legal relationship
- e) Genuine consent of the parties
- f) Legal capacity of the parties to enter a contract, and
- g) Legality of the contract

a. Agreement between the parties

Agreement is considered to have been reached when an offer made by one party is accepted by a second party (Williams C, 1992). Agreement between the parties regarding the purpose, rights, obligations, and remedial measures which the contract will create is essential. A written agreement is not a necessary requirement, but in practice it is desirable to put the agreement in writing since it will provide substantial evidence for the terms of the contract. Although the parties to a contract are free to decide the terms of the contract, within the law, care should be taken that contracts are worded precisely as the courts will interpret and implement contracts in accordance with those agreed terms. Courts are generally concerned with what is written, not what is meant. This is because; the courts have no power to change the terms of the contract although they may be willing to imply a term to repair.

b. Offer and Acceptance

In forming a contract, there must be an offer consisting of a definite promise from one party to the other of his willingness to be legally bounded on specific terms and an unconditional acceptance of those terms by the second party. An offer may be withdrawn before it has been accepted and will be valid for a “reasonable” time if no time limit is imposed (Atkinson A.V., 1992)

A contractor’s tender, which is his offer, does not have to be accepted by the employer and that, strictly speaking, it may not be necessary for contractors to be informed that the employer is not bound to accept the lowest tender, as often happens when invitations to tender are sent out. In practice, the employer does not always accept the lowest offer and, on occasions, rejects them all. The offer and acceptance must be communicated to have an effect and can be in writing, oral or inferred. However, if the offer stipulates a manner of acceptance, then the method stipulated or an equally expeditious method must be used. It should be noted that, the offer comes from the contractor not from the employer, who offers an opportunity for the contractor to participate and compete for the work (Negarit Gazette, 1960).

c. Considerations

Consideration is what each party contributes to the contract, or in other words, it is what the parties put into and get out of the contract. Consideration must have some economic value, but the law is not concerned with the value being inadequate. A contractor's low rate, for example, may not be sufficient for him to make a profit, but if it is his offer which is freely given, it will be deemed good consideration (Williams C, 1992).

d. Intention to Create Legal Relationship or to be legally bounded

Although a legal contract necessitates agreement between the parties as to the rights and obligations it will create, a mere agreement by itself will not be enforceable at law unless the parties there to fully intend to be legally bounded by its terms and conditions. Hence, the parties are required to form a contract enforceable at law if it is intended that the contract is to be legally binding (Williams C, 1992). In the majority of commercial contracts, there is a clear and obvious intention by the parties to create a legal relationship. Indeed, the courts will generally presume this to be so unless the agreement contains a clear statement to the contrary, for example, including a statement that "this agreement is not intended to be legally binding" where in such a case, the agreement will not be enforced by law. Similarly, the agreement will not be enforced if the parties demonstrate by their continued negotiation that they do not regard themselves as legally bounded (Williams C, 1992).

e. Genuine Consent of Parties

Agreements must be free from misrepresentation, mistake, duress, and undue influence. Misrepresentation is a false statement of an existing or past fact which was made that misled the party to whom it was addressed and so induced that party to enter into a contract. Mistakes of fact may arise in contracts as to the identity of the other party, the existence of the subject matter at the date of the contract, or the quality of the subject matter. Duress constitutes forcing a party to enter a contract as a result of actual or threatened violence to his person but not to his goods i.e. physical pressure. Undue influence is similar to duress but the threats or influences here comprise any kind of improper pressure applied on a person to enter a contract. The word 'undue' stresses that the contract was not made voluntarily. (Atkinson A.V., 1992)

f. Legal Capacity and Legality

Certain parties are either not allowed to enter into a contract or are restricted in some way which includes minors, drunks, lunatics, and convicts under sentence. Corporate bodies, such as limited companies and public authorities, can only make contracts within powers contained in their memorandums of associations and persons signing contracts on behalf of their organization should not do so unless they are specifically authorized to commit the organization (A.V., 1992)

2.3. Contract Administration Principles

Contracting out facilities management functions pose risks and uncertainties to an organization. But, a well-managed contract will perform equally reliable as an in-house managed function provided that appropriate contractor selection, specification setting and performance monitoring are achieved.

The traditional adage “good fences make good neighbors” certainly applies in the outsource contract agreements. Indeed, any contract may have to be modified at some stage. However, by crafting a specific and detailed agreement, the agreement should avoid communication problems, failure of service, and, hopefully, litigation.

According to the contract management process, it normally awards the contract to the successful tenderer. Contract management involves actively managing the relationship between the organization and the contractor over the term of the contract. It focuses on addressing the risks and issues that arise, accommodating appropriate change where necessary and actively engaging the contractor to achieve the agreed outcome. Good contract management helps to avoid additional costs, delays and difficulties for contractors thus ensuring that both parties meet or exceed their obligations and that value for money is obtained for the organization.

2.4. Building Contract Administration Issues

Contract administration is concerned with the mechanics of the relationship between the customer and the provider, the implementation of procedures defining the interface between them, and the smooth operation of routine administrative and clerical functions. (Contract Management Guidelines; OGC, 2002)

Others define contract administration as; the management of contracts made with customers, vendors, partners, or employees. The personnel involved in contract administration required to negotiate, support and manage effective contracts are often expensive to train and retain. (https://en.wikipedia.org/wiki/Contract_management)

Contract administration will require appropriate resourcing. The responsibility falls on a nominated individual; if not, the responsibility is shared across a contract management team, it is important that all members of the team deal promptly with contract administration tasks, particularly during the early stages of implementation.

Contract administration is one of the most important jobs related to construction projects and involves numerous tasks occurring before and after contract execution and work order issuance. All work must be administered in accordance with the contract specifications, terms and conditions. According to the contract management guideline, contract administration has the following eight elements; i.e., the procedures that combine to make up contract administration are contract maintenance and change control, charges and cost monitoring, ordering procedures, payment procedures, budget procedures, resource management and planning, management reporting and asset management.

The key to effective contract administration is to have a clearly defined set of contract outputs or deliverables as well as defined obligations and rights and timing of the same. A well-designed contract should encompass clear procedures for effecting these rights and obligations as well as remedies in case of non-performance of either party. Contract administration is based on the concept that the contract is a partnership with rights and obligations that must be met by both parties to achieve the intended goal.

The specific nature and extent of contract administration varies from contract to contract. It can range from the minimum acceptance of a delivery and payment to the contractor to extensive involvement by program, audit and procurement officials throughout the contract term. Factors influencing the degree of contract administration include the nature of the work, the type of contract, and the experience and commitment of the personnel involved. Contract administration starts with developing clear, concise performance based statements of work to the extent possible, and preparing a contract administration plan that cost effectively measures the contractor's performance and provides documentation to pay accordingly.

The contract for a major project most commonly consists of two primary members, the Employer (sometimes called the promoter) who initiates, pays for and is the ultimate owner of the project and the contractor who carries out the actual construction.

Under the provisions of the FIDIC forms for a construction contract, the employer delegates authority to a party known as the Engineer or Consultant. The Engineer (consultant) may also appoint a representative to carry out certain duties on his behalf. Subsequently, the Engineer (Consultant) or his representative may appoint any number of people to act as Assistants.

Roles and Responsibilities of parties of a Construction Contract

The Employer

The employer's role is as the initiator of the project and the end-user of the completed works. His main responsibilities are to appoint the Engineer (consultant) to select the contractor, to ensure that the site is available for the contractor, to pay the contractor and to agree any changes to the contract that becomes necessary.

Under the FIDIC IV forms of construction contract, the employer may limit the power of the Engineer (Consultant), and he must seek the approval of the employer prior to him making decisions on time and costs. If the engineer (Consultant) is not performing his duties properly, the employer has the power under the contract to replace the engineer (Consultant).

The contractor

The role of the contractor is to execute and complete the works and remedy any defects therein in accordance with the construction contract requires the contractor to undertake any of the requirements of the contract to the satisfaction of the engineer(Consultant), he is obliged to provide all superintendence, labor, materials, etc., necessary to carryout and complete the project. The contractor is fully responsible for site operations and methods of construction. If the construction contract requires the contractor to undertake any of the design, he is responsible for that design even if the engineer (Consultant) approves it.

The Engineer (Consultant)

In the FIDIC IV forms of construction contract, the Engineer (Consultant) is appointed and paid by the employer. When a consulting firm is selected, the Engineer will act as a supervisor for the construction phase; possibly the firm may also have been the designer of the project. On some projects that are funded by international funding agencies, the two roles are separated, and a separate consultant is retained for the supervision.

2.5.Practice of the participating Parties selection process of the CBE New Head Quarter Project

Following the land acquisition on lease basis of the CBE new HQ project, a consultant was commissioned to prepare design program for the Architectural design competition. “Architectural Design Competition” was selected aiming to get “state-of-the-art” design for the CBE Head Quarter Building. After consulting the Association of Ethiopian Architects (AEA), National Competitive Bid (NCB) open to “association of local and expatriate consultants” was selected.

The Bid for Architectural Design Competition is advertised in May 2009. The evaluation and selection of prizewinners was concluded and prize award ceremony was held on 29th of December 2009. The 1st prize winner was a company from Germany with a local Consultant of Ethiopia. While designs made by another Netherlands company in collaboration with another Consultant from U.A.E and an Ethiopian Consult in collaboration with the U.A.E consultant secured second and third places respectively.

Following the award ceremony, negotiation was held with the first prize winner. However, the negotiation failed due to disagreement between the local and foreign consultants and the relatively

high offer compared to the international fee rate. In spite of all these challenges, CBE through its Technical Advisory Group (TAG) has tried its best for the last to engage the partnership, though not successful. In conclusion, the negotiation was terminated after 17 months due to the reason that the two consultants are not good partners. The result made CBE to cost so much time.

The Design-Build Tender and First Round Negotiation- 2011-12

After the failure of the Architectural Design Competition in 2009, CBE studied Alternative Project Delivery Methods and chose Design-Build as alternative project delivery system. Design-Build (DB) is an innovative method a Single Contractor (one agreement) undertakes Design and Construction of the project.

The Selection of Project Delivery Method was made after recommendation by Technical Advisory Group (TAG) established for this project and endorsement by the Top Management of the Bank. Accordingly, the “Design-Build” Bid was floated from 15th September 2011 to 13th January 2012. After technical evaluation, three firms were technically qualified and passed for the next financial evaluation. Then, a negotiation was undertaken with the least evaluated bidders, until June 2012, which was discontinued before conclusion of Contract due to various internal and extraneous reasons.

Second Round Negotiation in 2014-15

The second round negotiation was undertaken from October 2014 to April 2015 for a period of 7 months. During this period, CBE proposed additional Employer’s Requirement to make the building modern and more useful to the Bank for the next 50 years. Accordingly, the capacity of main hall is raised from 1500 seats to 2,000 seats. The total number of mini conference halls was raised to 7 (five halls of 200 and two halls of 300 seats). The total parking area is also increased from 1011 to 1500 stalls.

At the Conclusion of the 7 months strenuous negotiation on technical and financial matters, agreement was reached and it is approved by the Board of Directors of the Bank. Then the Contract for Design–Build of CBE New Head Quarter is signed with the China State Construction Engineering Corporation Ltd. on April 28, 2015.

The conditions of the contract signed between CBE and the contractor was based on FIDIC manual; Silver book- conditions of contract for Turnkey Projects (First Edition 1999). This edition was selected because it is suitable for use on process where, the contractor will take on full responsibility for the design and execution of a project. Risks for completion of time, cost and quality are transferred to the contractor and so the Silver book was the only suitable for use with this highly experienced contractor with the ability to manage risk. Similarly, the contractors also assume responsibility subject to some exceptions, for the accuracy of the employer’s requirements which is a major difference to usual design and build contracts.

The CBE has its own Construction Projects Office (CPO) which administers all the bank’s construction projects. Contract administration is one of the most important jobs of the CPO related to construction projects and involves numerous tasks occurring before and after contract execution and work order issuance. All work are administered by the CPO in accordance with the contract specifications, terms and conditions, Ethiopian laws and regulations, and the Bank’s policy.

The current structure of CPO of CBE is as follows:

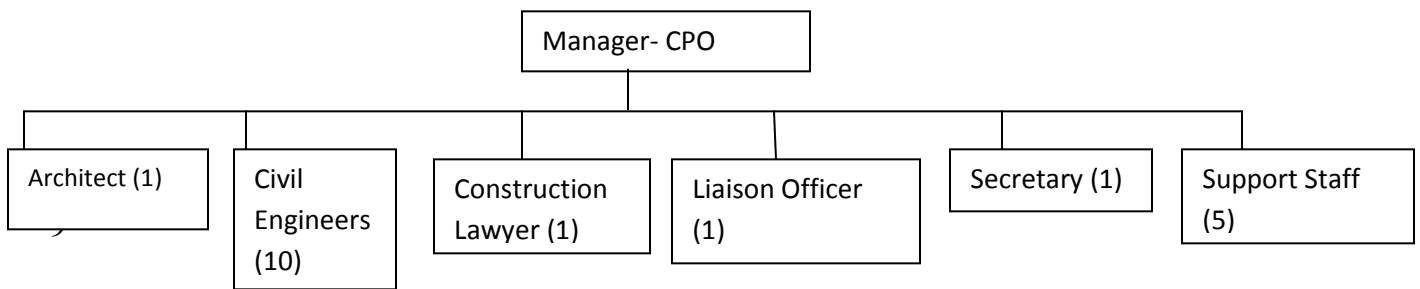


Figure 1: **The Structure of the CPO of CBE (Source: CBE, CPO)**

Proper contract administration by the CPO of CBE includes developing proper and accurate bid and contract documents, complying with contract documents and specifications, enforcing government (Federal & Regional) laws, Proclamations, regulations and directives in execution of contracts, ensuring quality control by overseeing, inspecting and reviewing sampling and testing of all materials and work, keeping and maintaining accurate project records, recording, verifying and preparing monthly payment certificates, negotiating and processing of change orders, supplemental agreements and other contract modifications in a timely manner, promoting good public relations and setting and maintaining a high professional standard.

2.6 Problems Relating to Administering a Contract

Administering a contract is a big task for the contract administrator. There are a number of contract problems and the major causes of behavior (that is, contract administration problems) can stem from personal (internal) factors or those that are located within the people involved in contract administration and from environmental (situational or external) factors or those located outside of the individuals involved in contract administration and from the two factors acting together.

Based on observation and communication with peers, Davison and Wright (2004) proposed that each of the contractual risks is comprised of a set of contract problems that may occur each time the good or service is procured (Table 1). Each contract problem that occurs can threaten the success of the project by impacting in an adverse manner, such as, delivery of incorrect product, incorrect quantity, an increase in project costs, a delay in delivery, poor quality or the ultimate unsuccessful result and contract termination.

The potential contractual risk and contract administration problems are listed in Table 1:

Types of Contract Administration Problems	Example
Proposal risk: Unclear scope of work	Ambiguous specifications lead to disputes over required performance, acceptance
Surety and Liability risk: Increased cost	Inadequate bonds and insurance to cover vendor failure
Product risk: Wrong product	Contract clearly identifies correct product, but vendor delivers the incorrect.
Schedule risk: Delay	Completion date delayed (any length of time) due to agency or vendor (with or without cause)
Contractual risk: Change order	Change in the scope of work (additional work, money, time), after contract award. Can be requested by either party for any reason
Contractual risk: Dispute resolution and personality conflict	Personality conflicts between agency project manager or staff and vendor project manager or employees. Disagreement between the parties that cannot be easily resolved. May involve scope of work, materials supplied, payment schedules, or any other aspects of the contract
Performance risk: Definition of acceptance	Completion of project is delayed due to non-acceptance of final product. Example: difference in either party's definition of what was supposed to be delivered or provided
Performance risk: Poor performance	Contract clearly states a level of expected performance (this is not in dispute) and quality problems with vendor's performance of work occur.
Performance risk: Sub Contractors	The vendor uses subcontractors not on his payroll to perform any or all of the work. Prior approval, for use of subcontractors, was received
Performance risk: Other sources	There are very few vendors that can perform the work.
Performance risk: Risk of failure	The project has a high risk of failure. i.e. new technology, new equipment, new vendor, Project never been done before. Tight timeline or budget
Price Risk: Cost	Project has a high cost.

Table 1: Contractual risk and Contract Administration Problems (Source: Davison and Wright (2004))

2.7 Types of Construction Contracts

Construction contract types have direct impact on the cost estimation of construction projects. There are many types of construction contracts, which are applicable based on the prevailing specific project conditions and largely the interest of the owner are Lump sum fixed price contract, Lump sum fixed price and escalation contract, Lump sum fixed price and schedule rate contract, Lump sum fixed price with escalation and schedule rate contract, Unit rate contract, Unit rate and escalation contract, Schedule rate contract, Schedule rate and escalation contract, Cost plus percentage of cost contract, Cost plus fixed fee contract, Cost plus percentage of cost with guaranteed maximum cost contract, Cost plus fixed fee with guaranteed maximum cost contract and Target cost incentive contract [Tadesse Yemane 2006]:

2.8 Procurement and Contract Delivery system

Procurement and Contract Delivery system is the way Project owners together with Project Regulators and Financiers determine the assignment of responsibilities to Project Stakeholders along the construction Process. Procurement and Contract Delivery system is often determined during the Basic Planning phase of Construction Project.

Generally, there are six types of Procurement and Contract Delivery systems. These are; Force Account, Design Bid Build (DBB), Design Build (DB) or Turnkey, Finance / Build Operate System (BOT), Construction/Facility Management Consultancy and Alliances and Outsourcing.

Such Procurement and Contract delivery systems are developed overtime and the development was based on problem solving for the previous type and the Development of the Construction Industry technologically and management wise. They are; Force Account - Since development started, Design Bid Build (DBB) – 1950s / 1987s, Design Build (DB) /Turnkey - 1970s Onwards / Mid 1990s, Finance / Design Build Operate - 1980s, CM / Facility Management - Mid 1990s / 2000s and Alliances & Outsourcing – 2000s.

2.9 Building Contracts Administration Process in case of Design-Build Projects

Contract Agreement when signed; forms the contract document which will be the bases for Contract Administration. A Construction Contract Document includes; Signed and Sealed Form of Contract Agreement and Tender with Appendix if necessary, General and Particular Conditions of Contract, Technical Specification and Methods of Measurement, Priced Bill of Quantities, Drawings and General Notes to drawings if necessary, and Forms, Formats and Schedules.

In the construction contract administration phase, the owner and the consultant respectively, shall provide those services designated in the schedule of designated services necessary for the administration of the construction contract as set forth in the General Conditions of the Contract for Construction. Unless otherwise provided in the schedule of designated services, the consultant's duties and responsibilities during construction shall be as set forth in the agreement between owner and consultant for designated services.

Project consultants and project managers, who have a larger range of responsibility and authority, are encouraged to consider the outcomes involved with on-the-spot decisions. The Standard Condition of Contract represents general office policy; they are, in fact, compliant to the owner/contractor agreement and general, supplementary, and special conditions of each individual project. The project contract administrator (CA) should attempt to include the standards and procedures established in the contract documents for a specific project. The administrator shall thoroughly review the complete set of documents, collectively referred to as the Contract Documents, and modify the construction administration procedures for each project accordingly.

The Administrator is also responsible for the comprehensive and timely administration of all project related documentation and information. The primary role of the Administrator is to represent the Owner and/or Consultant in all project meetings and other field matters relating to the construction of the project. The Administrator will make periodic site visits to the project, record observations and report all observations related to status of completion, quality of workmanship and compliance with the Contract Documents.

The Administrator's responsibilities include the transmission of large quantities of paper work and project documentation, particularly standardized documents. The Administrator is encouraged to take advantage of the time savings involved in producing computerized master forms for each individual document for the project. Proposal requests, variation orders, transmittal letters should be prepared in advance with all consistent project information (i.e. project name, project address, project number etc.) included and ready for specific information to be inserted.

The traditional construction triangle often places the Owner, the Consultant and the Contractor in adversarial relationships. The Administrator must defend the rights of the Contractor as well as those of the Owner. The Administrator is charged with the impartial administration of the contract documents. Since a good deal of the Administrator's time is spent reviewing, and then evaluating the contractor's work, it is wise to remember to complement the Contractor on work well done as quickly as one points out his errors.

The Administrator should take every opportunity to cultivate a "partnering" style relationship between the Consultant and the Contractor. The Contractor, Owner and Consultant must remember that they share a common goal which is the successful completion of the project.

Design-Build (DB) requires the design-builder to commit to a firm fixed price for a project whose scope is defined by a set of performance criteria within a specified period of time (Molenaar and Gransberg, 2001). Therefore, the variable side of DB triangle is the details of design (the quality of final constructed product). "This puts the design builder in a position where the details of design, and hence the resultant level of quality, are constrained by both the budget and the schedule". In other words, the design-builder must design cost and schedule (Gransberg and Molenaar 2004).

2.9.1 Features of Design-Bid-Build (DBB) and Design - Build (DB) contracts

2.9.1.1 Design-Bid-Build (DBB)

Design-Bid-Build (DBB), also known as 'hard bid' or "traditional method," on the other hand, is a type of project delivery system where the owner holds two separate contracts, one with the

designer and another with the contractor. The designer assists the owner in developing the program and is responsible for design and the development of drawings and specifications. (Nicholas Michael Patrick, 2010)

DBB is the most practiced type of delivery system in the Construction Industry of Ethiopia since the year 1987. After project owners did prepare the Basic Planning that identifies construction project programs, they call upon the participation of Design and / or Supervision Consultants either by tender or by negotiated contracts. This consultant will carry out the design together with the necessary tender documents which will be the bases for tendering to select contractors. These process is called Design - Bid - Build and hence, the name for such delivery system. In this type of delivery system, projects are divided into different packages interfacing to each other. Though the design and supervision consultant will be the prime professional on behalf of the owner and largely the administrator of the construction contract; the employer takes the responsibility of coordinating the various project packages and their respecting interfaces.

2.9.1.2 Design-Build (DB)

There are some essential features unique to design and build contracts. These can best be dealt within terms of how the employer describes the requirements for the job; how the contractor proposes to achieve them; the pricing mechanism; and the roles and responsibilities within the process.(John Murdoch and Will Hughes, 2000)

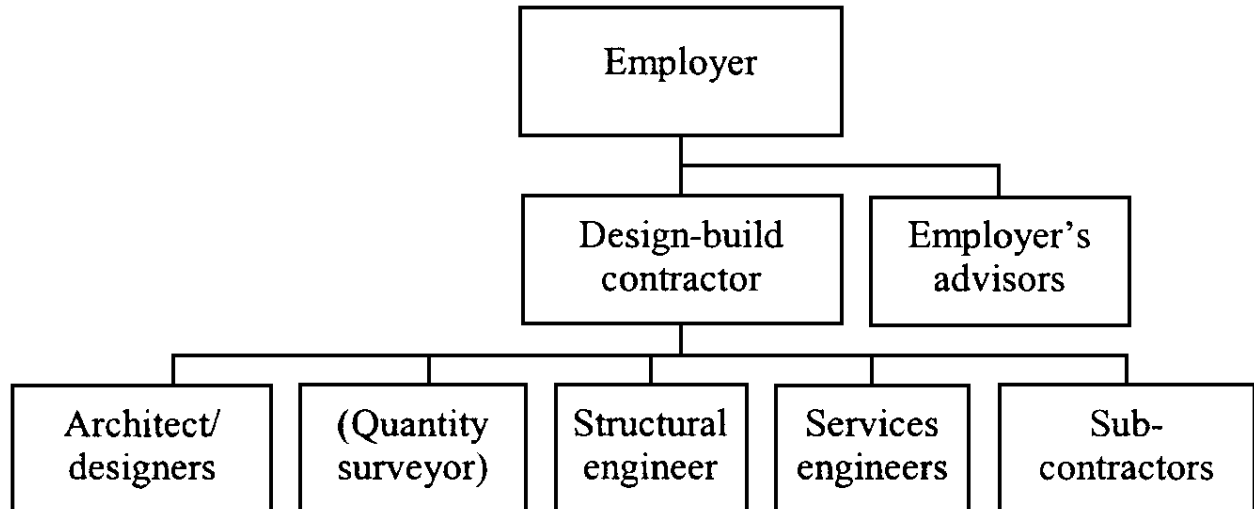


Figure 2: Contractual relationships in design and build project (source: John Murdoch and Will Hughes, 2000)

Figure 3 shows the contractual relationships encountered in design and build contracts. The role of the quantity surveyor is shown in parentheses because, although cost information and economic advice are essential, there is not the need for traditional quantity surveying in this form of procurement. There is no standard method of measurement, no bill of quantities, and no *contractual* role for the quantity surveyor. However, a contractor may choose to employ the skills of the quantity surveyor.

2.9.2 Employer's Requirements and Contractor's Proposals in the case of DB Contracts

The first of the essential features of a design and build contract is that the employer approaches a contractor with a set of requirements defining what the employer wants. The contractor responds with proposals, which will include production as well as design work. The scale of design work included depends on the extent to which the employer has already commissioned such work from others. The contractor's design input varies from one contract to another, ranging from the mere detailing of a fairly comprehensive design to a full design process including proposals, sketch schemes and production information. There will usually be some negotiation between the employer and the contractor, with the aim being to settle on an agreed set of contractor's

proposals. These proposals will include the contract price, as well as the manner in which it has been calculated.

Once the employer's requirements and the contractor's proposals match, the contract can be executed and the contractor can implement the work. The contractor will be totally responsible for undertaking the design work outlined in the contractor's proposals, for fabricating the building, and for co-coordinating and integrating the entire process. This includes the appointment of consultants if the contractor does not have the necessary skills in-house. The employer may also choose to appoint consultants in order to monitor the various aspects of the work, but this is not always the case.

In the case of CBE, the main basis of effective contract administration of CBE-CPO is having a clear description of rights and obligations. For the contract administration to be effective, the Counterpart Engineers shall base on the following main principles and commitments:

- A) Has to address the needs of the Bank outlined, in the terms of reference, specifications for works, or services,
- B) Ensure that the objectives of the project are achieved by taking the appropriate and timely action,
- C) Ensure that contracts are based on clear and accurate description of deliverables, clear rights and obligations of all parties involved in the contract execution.
- D) Monitor performance, collect information and identify steps that should be taken to measure actual contract achievement
- E) Proactive administration of contracts which should be based on close follow-up of implementation of the contracts and anticipating problems and responses before they impact on the contract performance
- F) Successful contract administration based on open and effective communication between all parties using appropriate channels, means and providing feedback to enhance contract performance. These could be in the form of progress meetings, follow-up emails, calls, etc.
- G) Identifying potential contractual risks such as not meeting the deadlines, receipt of less than acceptable quality deliverables and alerting relevant officers

H) Implementing a system of monitoring and evaluating the performance of contractors, consultants, suppliers and other service providers

2.10 Advantage and disadvantage of DB project Contract Administration

As explained earlier in this literature, Design-Build (DB) is one type of project delivery system used in the construction industry. It is a method in which the design and construction services are contracted by a single entity known as the Design-Builder or Design-Build contractor. (Nicholas Michael Patrick, 2010)

Design Build or Turnkey by principle reduces numbers of procurement processes engaged in the fragmented process and employ only one procurement process and a single contractor to provide the entire Construction Implementation Process (Design and Construction Implementations). In the 1970s, large firms began to offer both design and construction services in order to provide project owners with a single source for project delivery. At the beginning, this delivery system was limited to complex projects such as industrial, big plants and big infrastructural constructions.

DB delivery system is common worldwide specifically for Private projects. This led lead contracting firms to form a team or consortium of designers and specialty contractors who work together to meet the entire demand. Such services are initiated after the Project Owner built the project concept during the basic planning phase and brought to the DB Contracting Firms. The project concept should clearly define the performance criteria such as output, input, waste and any other performances the employer may desire. This makes an additional responsibility to the contractor which is "fitness to purpose" according to the Orange Book of FIDIC. Fitness to purpose is beyond the professional duty of care and places liability on the contractor for any failure of the design to perform the standards required.

Typical advantages of this DB system include; reducing fragmentation and adversarial relations between designers and constructors, minimizing Project owners' "risk transferable due to Designers" faults, accountability and entire responsibility for both design and construction which

entitle the employer to receive completed project is onto a single contractor, employers' responsibility to co-ordinate interfaces between different project elements is avoided, single point responsibility minimizes the opportunity to claims by the contractor due to design related issues, coordination between design and construction processes will also be enhanced (both in communication for constructability as well as in fast tracking) and the client budget or financial requirement is defined early enough in the development process.

For this type of delivery systems, either joint ventures or firms with large design and construction capabilities were able to participate.

The Disadvantage of the DB delivery system is: loss of control cost of tender and cost of risks. Since limited supervisory role by the employer representative is practiced; which is relatively flexible and makes the employer distanced from the whole process, the employer has little chance to understand what is developed and entertain variations in requirements implying loss of control. On the contractors' side, in order to provide reasonable offer, their tender cost is higher than in the case for DBB delivery system. This is because they need to carryout acceptable design for project cost offers. Though it was not practiced often, employers who shared costs related to tendering are informed to get seriously considered offers. World Bank suggested a Two staged procurement method based first on technical merit and followed by financial competition and not for more than six bidders. The increase in risk transferred onto the contractor will be counterbalanced by the increase in contract prices which can be taken to include these costs of risks.

Projects carried out using DB delivery system are often called Turnkey Projects because a single contractor is responsible to hand over the completed facility and let the Project owner to turn the key and gets in.

2.11 Technology Transfer and Training of DB-contracts

It is widely acknowledged that, transfer of technology has played a key role in the economic and industrial development of any nation. It seems that Less Developed Countries (LDCs) can increase their productivity and efficiency levels through the acquisition of technical knowledge

and skills from the developed countries. The effective transfer of technology enables these countries to utilize their natural and human resources efficiently through transformation of inputs into outputs. It also enables them to build up their technological capabilities by importing and adopting foreign technology. Technology transfer is also seen as an important strategic variable which must be integrated into the national development planning of LDCs. (Hamid Jafarieh, 2001)

(Kim, L., 1991) analyses the international technology transfer mechanisms by classifying them into market and non-market mediated. In market mediated, he refers to those mechanisms, which may be determined by the market. The transferor and transferee may negotiate the cost of technology transfer, either embodied in or embodied from the physical equipment.

In the non-market mediated mechanisms, technology transfer usually takes place without formal agreements and payments. He demonstrates the mediated and non-mediated mechanisms of technology transfer in a useful four-cell matrix to identify and evaluate different mechanisms of international technology transfer.

Market mediated	direct foreign investment, foreign licensing, turnkey plant, technological consultancy, made-to-order machinery (cell 1)	standard (serial) machinery purchase (cell 2)
Non-market mediated	technical assistance by foreign buyers, technical assistance by foreign vendors (cell 4, active role of supplier)	Imitation (reverse engineering) observation, trade journals, technical information service (cell 3), passive role of supplier

Table 2: The Modes of Foreign Technology Transfer (Hamid Jafarieh, 2001)

As is shown in Table 2, those mechanisms in cell 1 are among the most important technology transfer modes, where the supplier of technology has exercised an active role in directing the technology transfer process. They include control over the quality and quantity of know-how being transferred, and the possible restriction imposed on the use of know-how.

The channel of technology transfer, which is shown in cell 2, indicates those market mediated modes where the supplier of technology plays a relatively passive role with less control over the way in which technology and know-how being transferred.

Cells 3 and 4 refer to the non-market-mediated modes, where the supplier of technology plays either a relatively passive or active role in transferring technological know-how respectively.

2.12 Type of Contract Delivery system used by CBE HQ Building Project

CBE has a practice of DBB contract delivery system all the times before this new HQ building project; like for the new Lideta building, Megenagna Building, Sebeta and others. But now, it has entered a new DB contract with the well-known Chinese Government owned Construction Company; China State Construction and Engineering Corporation Ltd. for the new HQ building project of the bank where, this contractor is responsible for all parts of or the entire design and construction of the building. This design-Build (DB) project building is a newly introduced delivery method of project in the country. So far, the design-build (DB) was commonly practiced in hydropower and road projects.

2.13 Building Construction Contracts Follow up and controlling in terms of Time, Cost, Quality and Variation of work

The concept of managing construction projects is deeply embedded in the building procurement system. Ireland, (1983) argues that; time, cost and quality are the principal feasible objectives of the client in any construction project. Although it is claimed that time, cost and quality are incorporated in the management of construction projects; research has shown that in fact a time-cost bias exists.

Time

Timely completion of a construction project is frequently seen as a major criterion of project success by clients, contractors and consultants alike. Newcombe et al. (1990) has noted that there has been universal criticism of the failure of the construction industry to deliver projects in a timely way. NEDO (1983) states that a disciplined management effort is needed to complete a construction project on time, and that this concerted management effort will help to control both

costs and quality. This is tantamount to saying that the client's objectives can be achieved through a management effort that recognizes the interdependence of time, cost and quality.

Cost

Clients have been increasingly concerned with the overall profitability of projects and the accountability of projects generally. Cost overruns, in association with project delays, are frequently identified as one of the principal factors leading to the high cost of construction (Charles and Andrew, 1990).

Research to date has tended to focus on the technical aspects of managing costs on construction projects in the attainment of client objectives. There is little evidence in the published literature of a concern for the organizational, social and political problems that are inherent in the management of construction costs and the ability of the project team to meet the client's needs in terms of cost.

Quality

To the client, quality may be defined as one of the components that contributes to "value for money" (Flanagan and Tate, 1997). Vincent and Joel (1995) define total quality management as: "...the integration of all functions and processes within an organization in order to achieve continuous improvement of the quality of goods and services. The goal is customer satisfaction."

Furthermore, in order to achieve successful project quality management three separate drivers to quality management must be managed, namely:

- i.) Integration of the project team so as to have a single objective and a common culture.
- ii.) A customer focuses for the team thereby facilitating the provision of products and services that will meet the client's needs.
- iii.) A process of continuous improvement in the management of the construction project.

When these three components are successfully integrated, the project will begin to realize significant, measurable and observable improvements in the attainment of the clients' objectives.

On average, managers of design-build projects surveyed in their study estimated that design build project delivery reduced the overall duration of their projects by 14 percent, reduced the

total cost of the projects by 3 percent, and maintained the same level of quality as compared to design-bid-build project delivery.

On the other hand, other project survey results revealed that design-build project delivery, in comparison to design bid-build, had a mixed impact on project cost depending on the project type, complexity, and size. The surveyed design-build project managers further indicated that project delivery approach (i.e., design-build versus design-bid-build) can be a contributing factor in controlling and potentially reducing project costs. However, project delivery approach was perceived to be less of a factor in affecting project cost than other characteristics of the project or its participants.

CBE has made the following comparison from its past experiences of administering its DBB projects before deciding to approve this DB project as tabulated below:

Criteria	DB	DBB	Remark
Cost	√	x	Cost saving due to early start Lump sum contract avoids variation
Time	√	x	Design along with Construction
Quality (Aesthetic)	x	√	Only with Regard to Aesthetic other work qualities may not be affected
Administrative Burden	√	x	Single Agreement/contract not segmented

Table 3: Comparison of CBE’s DB and DBB construction projects with Respect to Cost, Time, Quality and Aesthetic

Management of Variations

The power to change the specification, known as a variation, is a feature of general contracts. This gives the contract administrator the power to change the work required of the contractor. The recitals to the contract give a brief description of the whole project and any material alteration to these would go to the root of the contract, and therefore could be challenged by the contractor. This is despite the common practice in standard-form contracts of stating that no variation can vitiate or invalidate a contract. If a change makes fundamental alterations to the contractor’s obligations, and it could not have been foreseen at the time the contract was entered into, it is beyond the scope of a variation clause. Such clauses give the contract administrator the

power to issue variations on the nature of the work and to the contractor's methods in terms of access to site and so on. There are usually detailed provisions for valuing the financial effect of variations, and these are based, as far as possible, upon the contractor's original price. The principle here is that the contractor should be paid according to what would have been included in the bills, had the contractor known about the varied work at the time of tendering. Only in exceptional circumstances should the basis of the payment to the contractor be total cost reimbursement.

Variations clauses enable the client's design team to refine the design as the contract progresses, but the provisions are often abused by careless clients who see the opportunity to make arbitrary changes to the works as they proceed. This practice leaves the client dangerously exposed to claims from wily contractors who can demonstrate all sorts of consequent effects, which would attract extra payment under the contract. (Murdoch and Hughes, 2000)

FIDIC and most of the other forms of contract define the contract price as "The sum stated in the Letter of Acceptance as payable to the contractor for the execution and completion of the works and remedying of any defects therein in accordance with the provisions of the contract"

The contract price is based on the invitation to tender's Bill of Quantity (BoQ) which was priced by the tenderer under competitive bidding conditions. Although every attempt should be made to ensure that the BoQ is as accurate as possible there are a number of factors which can result in the final price being different to the contract price.

These variations in the contract price are generally not provided for in the project budget and when they occur it becomes necessary to allocate additional funds to these projects. This allocation of additional funds normally takes quite some time and sufficient time must, therefore, be allowed for acquisition of the additional funds.

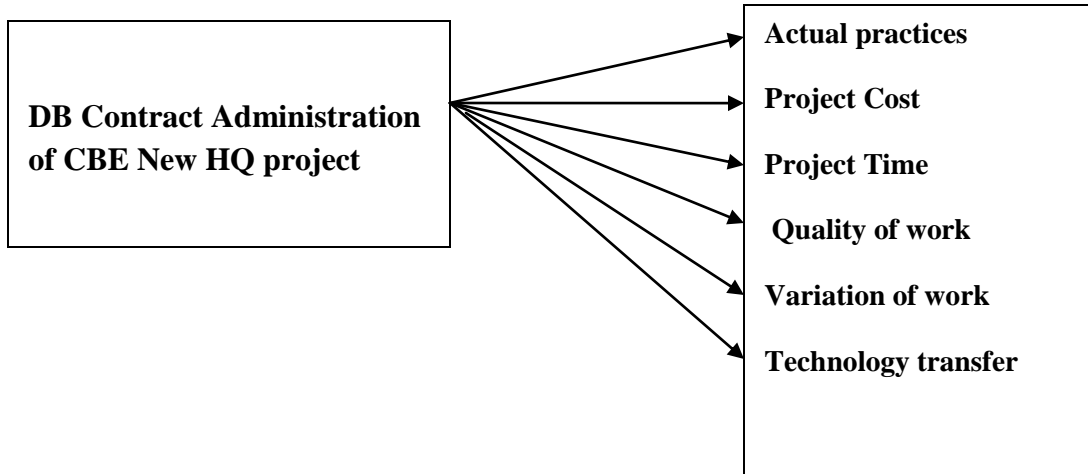
Most contract documents acknowledge the existence and uncertainty of such variations of the contract price and make provision for these in the conditions of contract. where any variation order to increase or decrease the quantity of work, omit work, change the character or quality of work, change lines and levels, add work or change any specified sequence is issued and it is based on tendered unit prices.

Variations may be initiated by the Employer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. A Variation shall not comprise the omission of any work which is to be carried out by others. (FIDIC, 1999)

According to this FIDIC book, the Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Employer stating (with Supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, (ii) it will reduce the safety or suitability of the Works, or (iii) it will have an adverse impact on the achievement of the Performance Guarantees. Upon receiving this notice, the Employer shall cancel, confirm or vary the instruction.

In line with the stipulations of the design-build contract between the contractor and CBE, the consultant (AAiT) is responsible for managing any variation or change order requests made by respective contractual parties. AAiT will review such requests and analyze their effect on the overall design and direct and indirect effect on the construction activities. AAiT prepare an assessment and recommendation report for CBE's and the contractor's team. Upon approval of such requests, AAiT will follow up on the proper and effective implementation of such changes.

2.14 Conceptual Framework for Effectiveness of the Contract Administration Practice of CBE New HQ project



CHAPTER THREE: RESEARCH METHODOLOGY

3.1.Data Sources and Data Collection Techniques

The researcher used both primary and secondary sources of data collection mechanism for this study. Thus, the Construction Project Office (CPO) of CBE staff are the major source of primary data collection where semi- structured interview and focus group discussion are conducted with this specific project selection of the CBE Head Quarter project. The reason for being selecting the interview method is; the numbers of CBE CPO professional staff engaged in the project are very few and hence, it makes sense to collect the data by using the interview method. The researcher also made site observation in order to raise questions in verbal form which may be omitted in the interview questions.

Meanwhile, the stakeholders namely from the Employer side; CBE CPO Project Manager, the Construction Lawyer and the remaining few engineers who are engaged in the project took parts in the interview based on research tools which are designed for each, i.e., face-to-face discussion is made with the Project Manager and the Construction Lawyer based on the interview questions. In addition, focus group discussion is held among six of the project engineers and architects who are undertaking the project follow up. This is basically conducted for further discussion and triangulation of data collected.

Moreover, as secondary data; different brochures, reports, project review documents, articles, academic journals and other related publications on the practices of Design-Build (DB) contract administration and also the main contracts signed between the Employer and the Contractor and also the employer and the consultant of this specific project under study are properly reviewed for the successfulness of the study.

3.2.Research Design

To successfully achieve the research objectives and answer the stated research questions, this study employed qualitative research approach. This is basically because the research instrument is designed as open ended questions with semi-structured interviews; both during interview and focus group discussions

3.3.Sampling Procedure

The major stakeholders who are actively participating in the project implementation are the very population of the study. The total numbers of professionals engaged in the project are twelve including the Manager of the CPO of CBE and as far as sampling technique is concerned, the researcher used convenience sampling by deploying the knowledge, skills and judgments to determine the sample size of key executive officers among these major stakeholders; from the client. The respondents were any from the stakeholders as the representativeness of each respondent is granted by the non-random sampling method.

The study uses purposive sampling techniques. This is basically because the respondents of the project stakeholders are exclusively relevant to the specific study, in which higher professionals and project experts were specifically selected both for the interview and group discussions.

The researcher narrowed down the scope to the specific case of the New Head Quarter DB project of CBE which is now under construction. The data availability factor and the time constraint to complete the research work have limited the researcher to focus only on the case study of this single project; on the New HQ of CBE project contract administration assessment.

3.4.Data Analysis Methods

In the analysis part, the data gathered from different sources are analyzed and interpreted using descriptive method of data analysis. Generalizations are made based on the results of the study.

The qualitative research aimed to gain background information, define terms, clarify problems with assumptions made and then established research priorities. Thus, three principal ways of conducting research are used for the analysis; namely; through the methods of literature review, site observation and interviewing ‘experts’ in the subject; where, narrations of the case study is the major analysis method used together with the phenomenological content analysis.

3.5.Ethical considerations

The researcher has ensured the quality and integrity of this project work. The respondents pursued consent for participation with full awareness of what it is. The confidentiality and anonymity of the voluntary respondents will also be guaranteed. This independent and impartial project work considered not to cause harm to respondents in what so ever way. Accordingly, the researcher optimally considered all the ethical perspectives.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1.Overview of the New Head Quarter project Building of Commercial Bank of Ethiopia

The Commercial bank of Ethiopia (CBE) has embarked on this unique and monumental undertaking to build an iconic and state-of -the-art Headquarters in Addis Ababa, Ethiopia. It has also selected the well-known design build contractor; China State Construction Engineering Corporation Ltd. (CSCEC), and given the green light to start the construction of the New HQ building about two years ago. The total project cost of this design build project is USD.298.5 million and the project's total time duration is 1824 days plus 365 days given for defects liability period. The expected completion date as per the contractual agreement is July 27, 2019 and till April 30, 2017, 643 days have been already elapsed from the total time duration of the project; i.e., the time elapsed Vs. project period is 35.25%. The financial plan vs. actual expenditure also shows that 33.9% of the total contract payment has been paid to the contractor by CBE. The mode of the contract payment is 35% in local currency and the rest 65% in foreign currency (in USD).

The main tower is a 4B+G+48, the Commercial Center is a 4B+G+8 and the conference hall is a 4B+G+6. The 4B basement area is commonly built for all these three buildings. From the total of the four parking basement floors, one floor is totally going to be a mechanical parking. The building's total height upon completion will make it one of the highest tower buildings in Africa. The building, in addition to its height, will also have many building support systems such as Heat Ventilation and Air conditioner (HVAC), Pressurized firefighting, Security Camera Television (CCTV), etc. that make the construction process quite complex. The project building is warranted by the contractor for ten years time after the completion date.

So far, the building has been completed 22% from the total construction work as per the to-date progress report of CPO of CBE in April, 2017. The structure work of the 4B plus additional 4 floors of all the three buildings have been completed as of April 30, 2017.

All aspects of the construction so far have been influenced by the results of an on-going design review activities (structural and Geotechnical) conducted following the agreement between the CBE and AAiT. The consultant of this mega project is facilitating the participation of the CBE's respective professional staffs who are assigned in the project in all activities as a client representative.

After completion, the building is likely to be one of the highest (198 meters high) on the African continent. It will also form an important landmark and icon for the Commercial Bank, the city of Addis Ababa and Ethiopia as a nation. The head quarter building will be an impressive contribution to the dynamic skyline of Addis Ababa.

The design of the building is envisaged to symbolize Ethiopia and the African Nations. In view of this, the diamond design of the tower building is rooted in the local East African Culture and has its own unique East African identity. The building is an ambitious one in that a premium international sustainability label shall be part of the project.

The Bank has now its Head Office function which is spread out in several other buildings it owns and rented in Addis Ababa. The objective of the construction of this new head office building is to house all head office functions under one roof. It is envisaged such a move will enable CBE to achieve its goal of providing first class service to its customers creating conducive work environment and up to date technical facilities.

4.2 Actual Practices of the DB Contract Administration of the CBE HQ Building project

4.2.1. Interview conducted with the Manager of the CBE Construction Project Office (CPO) and the Construction Lawyer of the Project

The researcher has made a semi-structured interview with the CPO Manager of CBE and the well experienced Construction Lawyer of the project at their work premises. The time taken for this interview was three hours. The total number of interview questions raised were about twenty one which are focused on contract administration issues on the under construction project of the New CBE HQ DB project and the interviewees have tried to respond all as follows:

The major roles the employer play in the project undertaking are; as there are three major parties in the construction project's setting; the Contractor, Employer and the Consultant; the Employer is the Client or Owner of the project & is the one who pays for the work. The role of the Employer is to express its project requirement (Employer's Requirement), launch the project, to conclude contracts with the Contractor and Consultant, supervise the performance, make major decisions (like variations, extension of time, etc.), make payment and to accept the to be completed project.

The Current practice of the CPO of CBE contract administration in different phases of the project's delivery process consists of; record Keeping, document Control, payment Management, schedule and cost control, progress reporting, management of variations and change orders, management of claims and disputes; if any.

For CBE, outsourcing of the contract administration of the project to the consultant is done for several reasons as; in the Traditional approach to contract administration, there are three parties; Contractor, Employer and Consultant Engineer. The FIDIC Conditions of Contract cannot apply without an Engineer being appointed by the Employer to administer the Contract. The Engineer is not a party to the Contract, but it plays an important role in the development process of the Works. The duties that the Engineer has to perform are defined under the Contract and it must have the necessary delegated authority from the Employer if it is to be able to perform them. The delegation of this authority is usually to be found in the agreement between the Employer and the Consulting Engineer. In addition, the Contract Administration work is outsourced to the project's Consultant as per duties under the FIDIC Conditions which are allocated to the Engineer which include; the issue of information and instructions to the Contractor as the work proceeds, commenting on the Contractor's proposals for carrying out the work, ensuring that materials and workmanship are as specified, agreeing measurements of work done and checking and issuing to the Employer interim and final payment certificates. In administration of the Contract, all communications with the Contractor pass through the Engineer/Employer's Representative, thus to avoid possible confusion and misunderstanding; meetings among the Employer, the Contractor and the Engineer is held regularly. The Engineer's duties normally include instructions relating to management of the Contract and changes in the nature and extent of the work, the cost thereof and the time for completion. For example, the issue of instructions to proceed with or to suspend the progress of the works is a matter

of the CPO management. The degree to which the Employer leaves the consultant to determine matters affecting the extent and cost of the works and the time for their completion will depend to a large extent on the in-house capability of the Employer.

From the five major project delivery methods in public and private construction projects, the contract type used for the CBE HQ project is the Design-Build (DB) delivery method. The reasons for selecting this delivery method were; the Design Build or sometimes-called package deal or turnkey contract is an innovative method where the contractor takes full responsibility for the design and construction. The DB is suitable for large and complex projects like the CBE HQ building project; where early completion is a requirement.

Actually, it is a shift of procurement strategy from the previously intended and partly implemented Design-Bid-Build (DBB) for this specific project by way of international architectural design competition. Even though Design-Build is a new trial in building projects in Ethiopia, it is not a novel procurement strategy in domestic hydropower and road projects. Most probably, this is a big innovation in the procurement of building projects.

When compared to DBB procurement route used for previous building projects of CBE, the DB contract delivery system of the CBE HQ project has an advantages for the employer on that; single point responsibility- the contractor takes all responsibility for design and construct, reduced completion time - overlap of design and construction significantly reduces completion time, reduced overall cost - less number of variations and claims, few change orders, less claims and disputes, better security through bonds and warranty

On the other hand, the employer has also found as a disadvantage of this DB project delivery that, need for having a detailed, complete, and up to date Employer's requirement (performance specification) at the beginning of the project; Difficulty to assess and manage the quality of works as the specification of the project is not complete; Difficulty to include changes.

The CPO further refers that, according to a study made by the Pennsylvania State University in collaboration with the Construction Industry Institute (CII), compared to the DBB method, the

DB procurement route reduces total project cost by 6%, cost overrun by 5.2% and reduces time of completion by 33%. It further mentioned that, similarly, as per a study made for the US Federal Highway Administration in 2006 has revealed DB projects are 20.5% cheap and completed in 24.4% reduced time.

The total number of staff of CPO of CBE reported is 16 including the non-professionals whereas, on the contractor's side, 88 Chinese employees both from the professional and skilled; and there are also about 50 key professionals from the consultant side engaged in this specific project. In addition, the contractor hired 370 local unskilled daily laborers. This means that, almost all the professionals and skilled manpower of the contractor company are foreigners from its own citizens.

Regarding the relationship between the client and the contractor is a contractual relationship based on FIDIC manual; Silver book, 1999 and it is a strong binding agreement made; whereas the relationship between the contractor and the consultant is only a working relationship; i.e., no contract is signed between them. Since the consultant is only a representative of the employer, any formal communication made between the contractor and the consultant is also made copied to the employer. Hence, there is a triangular relationship among the employer, the consultant and the contractor. The relationship between the consultant and the contractor is based on professional basis as stipulated in the contracts. Complains (e.g. delay in response, assignment of inspectors, etc.) occur at different times and stages of the work. However, such complains do not happen frequently and are easily managed by their respective representatives.

Practically, complaints are handled by negotiation between the Contractor and Employer/Consultant and nothing has gone to the Dispute Review Board or Arbitration so far. There were minor claims which were solved by discussion and negotiation before turning to disputes like; who owns facilities for Employer's Representative staff, Payment for Temporary Water, Electricity; detail finishing level and Partitions of inter.

However, the Contract has Amicable Settlement, Dispute Adjudication Board and Arbitration as dispute settlement mechanism.

The interests of the main stakeholders (Employer, Contractor, and Consultant) are generally in line and the teams work together to achieve the project objectives. In some cases, the Contractor focuses in the schedule performance of the project, while AAiT's team focus on quality of works in addition to the schedule and cost requirements.

4.2.2. Analysis on the Focus Group Discussion Results

This focus group discussion took place among the researcher and six out of the total ten CBE CPO engineer staff who are actively engaged in the HQ building project. The discussion was made at their office and took one afternoon. Among these professionals, one is an Architect, another one a Construction Management Engineer and the remaining are Civil Engineers who are participated in the group discussion. They are working on the project starting from the beginning and all of them have sufficient knowledge and experience in their respective field of study.

The group discussion was aimed to share their experiences of the case study project with regards to the administration of the contract. Thus, the following key discussion points were raised and discussed by the focus group participants:

It was agreed up on by all participants that, both parties (i.e. the client and the contractor) treat the details of the contract as private and confidential, except to the extent necessary to carry out obligations under it or to comply with applicable laws. The contractor couldn't publish, permit to be published, or disclose any particulars of the works in any trade or technical paper or elsewhere without the previous agreement with the client. This confidentiality and legality aspect was noted as a very crucial factor for successful project contracting.

The contractor has been given all the notices, pay all taxes, duties and fees, and obtained all permits, licenses and approvals, as required by the laws in relation to the design, execution and completion of the works and the remedying of any defects.

The contractor kept on the site, a copy of the contract, publications named in the client's requirements, the contractor's documents, and variations and other communications given under

the contract. The client's Personnel have also the right of access to all these documents at all reasonable times. All the participants are eligible by the client to go through the contract document. Thus, this is believed by all participants as greatly facilitating the contract administration, especially since it makes them read from the same page. As per the discussion, having this exclusive right to these documents made the participants more accountable to the contract administration follow ups.

Even though the design review, Supervision and contract administration is outsourced to the consultant (AAiT), all the participants regularly follow up and administer each and every phases of the project as per the terms and conditions set in the contract in collaboration with the AAiT.

The architect of the CPO works in each design review process with the consultant before it is approved. The civil engineers supervise the quality of the construction materials by making it a sample test at technology faculty department. Generally they make in depth supervision on the materials. This mega project is being intensively constructed 24 hrs a day and the participants also work on the project site even during night hours in a shift basis.

The Contractor's work quality and technical ability is inspected by the Employer and Employer's Representative (Consultant) through Design Review, Material testing at site laboratory & third party Laboratory (AAiT Lab., at Ethiopian Conformity Assessment Agency (ECAA) and inspection by teams.

If any of the parties become aware of an error or defect of a technical nature in a document which was prepared for use in executing the works, the party promptly will notice to the other party of such error or defect. Then accordingly things are settled in harmony.

The client issues to the contractor instructions which are necessary to perform the obligations under the contract. Each instruction is given in written form with respect to the contracting terms, in which the obligations are specified. In the cases of variation, adjustments are made. The participants here again agree that the written form of communication facilitates the administration of the contract which also leads to its success eventually.

The contractor is doing the design, execution and completing of the works in accordance with the contract, and made remedies on any defects in the works. When completed, the works are to be fitted for the purposes for which the works are intended as defined in the DB contract. The contractor is responsible for the adequacy, stability and safety of all site operations.

It was mentioned up on the discussion that, what other thing seems to be missing in Ethiopian project undertakings is namely the care and concern towards safety. This could be from human, natural or material aspect. But in this project, the contractor has taken responsibilities to comply with all applicable safety regulations, take care for the safety of all persons entitled to be on the site, where nothing severe has happened so far, use reasonable efforts to keep the site and works clear of unnecessary obstruction so as to avoid danger to these persons, provide fencing, lighting, guarding and watching of the works until completion and taking over and provide temporary works (including roadways, footways, guards and fences) which were necessary, because of the execution of the works, for the use and protection of the public.

All the participants mentioned how they tried to institute a quality assurance system to demonstrate compliance with the requirements of the contract. The system is in accordance with the details stated in the contract. The client is entitled to audit any aspect of the system through the supervisors and project managers. Details of all procedures and compliance documents are submitted to the client for information before each design and execution stage is commenced.

Besides, in addition to the progress review meetings used to be held every month; the consultant reports the daily and weekly status of the project to the client. The participants in the monthly progress review meeting could be from any concerned offices other than the usual client, contractor, supervisor and project manager's presence. Visual aids (such as, picture figures) and other elaborative materials are used while presenting the progress, strategically perspectives, total payment and financial monthly figures used to be presented in the meeting. These meetings grant the follow up of not just the quality but also the time and cost variables of the project. Thus, challenges could be fixed at grass root level. The participants have mentioned as a challenge that, attending each and every one of these meetings is not becoming manageable by all participants.

Reporting also continues until the contractor completes all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the works. Each report includes charts and detailed descriptions of progress, including each stage of design, contractor's documents, construction, testing; Photographs showing the status of progress on site, percentage progress and the actual or expected dates of the rest of the project tasks, records of contractor's personnel and equipment and comparisons of actual and planned progress, with details of any events or circumstances which may jeopardize the execution of the project in accordance with the contract, and the measures being adopted to overcome delays.

When errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the contractor's documents, the works are corrected at the contractor's cost, notwithstanding any consent or approval. Though this costs were very minimal that it doesn't raise complications or serious disputes.

All the participants then concluded that, till now, the project undertaking is successful as neither of the parties is liable to the other party for loss of use of any works, loss of any contract or for any indirect or consequential loss or damage which may have been suffered by the other party in regards with the contract.

The participants are working in harmony with other stakeholders like the Municipality office, Ethio-Telecom, Water and sewerage Authority and others. Each and every professional engaged in the project is responsible and accountable for his/her respective work. They follow the directives of the bank. Even if the contract signed is based on the FIDIC manual, they also go in line with the construction law of the country.

The other point discussed by the participants was; the contractor imports almost all the construction materials from abroad, mainly from China except few, like cement, sand and gravel because, it doesn't believe that other local construction materials have high quality even though these local materials can be further attested by Quality Standards Authority; then local material suppliers could get additional market by supplying to this project.

The contractor has also employed professionals for the project from China up to the skilled laborers. Only the unskilled laborers are hired from local people. i.e., key professional works are owned by the Chinese.

In addition, the contract payment is 65% in the form of foreign currency and the remaining 35% in local currency so that there will be foreign currency drainage for the country. On the other hand, the participants have raised one positive point on this issue that, the contractor came to this project with its own money; i.e., it doesn't need local bank finance to undertake the project and this is an advantage for the country; whereas; if local contractors own this project, they must need huge amount of bank finance.

4.2.3. Site Observation made by the Researcher

The researcher has also made site observation to raise questions in verbal form which may be omitted in the interview questions. The contractor has built a suitable G+1 temporary office in the one corner of the site for office work of the project which will be demolished after the project is completed. On the contractor side, there are project managers, design engineers who make the on-going design of the project which is to be presented for the employer for approval and a contract manager who regularly follow-up the terms and conditions of contract signed and request claims if any; upon the implementation of the project. The contractor employees are intensively working 24 hours a day in the project in a shift basis.

4.3. The significance Design-Build (DB) contract Administration in Managing Cost, Time, Quality assurance, Variation of work and meeting its objectives of Technology transfer

Due to applying the DB contract delivery method, the contract administration of the CBE HQ project is quite different from those of the DBB projects delivery system. Accordingly, the significance of the DB contract administration of the project in terms of managing cost, time, quality, variation of work and meeting its objectives of technology transfer; when it is compared to DBB project's contract administration have been described by the Interview respondents as follows:

4.3.1. Significance of the DB Contract Administration of the CBE HQ project in managing Cost

Regarding the case whether the employer can entertain any cost overrun request of the contractor more than the total contract price agreed in the contract, the respondents mentioned that, since the contractor's offer under the DB route is a lump sum offer, this offer is little affected by price fluctuation. Contract Price Breakdown annexed with contractor's offer may give glimpse of the contractors' pricing and could be used for pricing variation. However, the lump sum offer has precedence over this contract price analysis. Hence, the relative certainty of the contract price makes it a preferred method of procurement for the employer. This leads to extended processes in payment certification process, as the amount executed in a given period cannot be easily converted to value. Additionally, as the cost per item is not known, the valuation of change orders and variations are difficult. However, since most of the risk is transferred to the Contractor, it may inflate the tender price initially. This increase in risk transferred onto the contractor will be counterbalanced by the increase in contract prices which can be taken to include these costs of risks. However, no cost overrun requests are entertained by the employer more than the lump-sum contract price.

4.3.2. Significance of the DB Contract Administration of CBE HQ project in the Management of the project Time duration

In terms of time management, the Contractor takes the design risks and as such Request for Information (RFI's) and associated changes are minimal. However, the time management will consider the effect of excusable events on the schedule of the project.

The Contractor makes its utmost effort to finalize the project in the intended time duration in order to get its contract payment early. In addition, the overlap of design and construction significantly reduces the completion time and hence, this project is going based on its master time schedule; i.e., no time delay is reported so far.

4.3.3. Significance of the DB Contract Administration of CBE HQ project in the Management of project Quality assurance

The administration of quality in this DB project is probably found to be more difficult when compared with that of the CBE DBB projects before; as in this project, the complete specification and construction methods are not fully presented; i.e., all the interior work of the building is designed phase by phase (on-going design) during the project's implementation time and no Bill of Quantity (BoQ) is prepared at the beginning so as to know the exact specification and type of the materials to be utilized in the building project. This leads the consultant to assign additional inspectors to ensure the quality of works.

However, the designer may not be under the direct control of the Employer because; usually the designer is employed by the contractor directly. Hence, the final architectural design and quality of the building may not be to the utmost satisfaction of the Employer.

4.3.4. Significance of the DB contract Administration of CBE HQ project in the Management of project's Variation of work

Design changes after the approval are difficult to administer and changes will be expensive to implement in DB projects. Lack of agreement in Employer's requirement provisions also creates additional contract management works so as to address the differences in an amicable way. In this DB project, since the contractor by itself makes on-going designs of the works, there is no that much variation of work occurred so far.

4.3.5. Significance of DB contract Administration of CBE HQ project in the Management of meeting objectives of Technology Transfer

This project could have provided a significant opportunity for transferring technology and know-how from the CSCEC Ltd; which is one of the most experienced contractors in the world. However, this DB project does not have a provision that requires the DB contractor to outsource the work to local contractors. Due to this, the local contractors are not able to participate in this project in a meaningful way. In fact, some college undergraduate students have started to visit the project site as apprenticeship and after they report what they have observed to their respective colleges.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary of Findings

The project work discussed about is the project contract administration practices of the CBE New HQ DB project which is now being undertaken. Starting from the beginning up to the end, it has discussed about many related issues. Though to be selective for the summary writing; the advantage and disadvantage of DB contract administration, the essence of outsourcing of the contract administration, theories and principles with definitions of contract administration, the main problems of project undertaking, and influencing factors in contracting were all theoretically discussed thoroughly.

The paper then clearly deliberated and presented the results obtained from the interview sessions and focus group discussions. The findings can be summarized as the practices of DB contract administration of the project and whether this DB project delivery system have implications on time, cost, quality, variation of work and in meeting the objectives of transferring technology for local contractors. The experts raised the key contract terms and influencing factors that facilitated the way to their successful project undertaking and flourishing administration in the case study project of CBE HQ DB project which is now under construction.

The researcher came to claim the following as key findings of the project work. Having skillful experts, documenting every project instructions in written form, providing discrete authority to the contractor with full responsibility (empowerment), harmonization of stakeholders, back to back evaluation with continuous progress review meetings were identified as how effective contract administration can be used to bring the project finally to be completed based on the experience of the case study.

So long as the experts in the contracting, supervision, project management and even in the client side are highly professional, the administration of the contract will be easier. Besides using the contemporary contracting types that ease the administration and facilitates a way for successful project undertaking is to be more applicable.

Finally, from what have been said by the interview respondents, the effectiveness of the DB contract delivery system of the CBE HQ project on time, cost, quality, variation of work and meeting the objective of technology transfer is summarized in the way that; this DB project is becoming effective in meeting its project time duration, cost effectiveness and having no variation of work so far but the quality assurance is not certainly known and also it is not becoming effective in technology transfer to local contractors.

5.2.Conclusions

The project work has come a long way in discussing project contract administration issues with an ultimate objective clearly stated in section 1.4 of the introduction part, as to assess the practices of DB contract administration. In light of this, the study is meant for to assess the level of implementation of contract administration based on the policies & procedures, the challenges regarding DB contract administration & project stakeholders using project contract binding agreements and project prerequisite. To achieve these objectives, the study used literature review, interview, focus group discussion and site observation as a research instrument where descriptive analysis was made. In this chapter, the major findings of the research which have been discussed before are summarized in accordance with the objectives of the research.

5.3.Recommendation

Based on the findings obtained and results of the discussions made with the stakeholders of the project under study, the following recommendations are made by the researcher:

- “Good Fences make good neighbors”. Thus, having a well-established contract is as good as having a good fence which leads to a smooth relationship with the stakeholders. It is hence recommended to have a clear contract first which later on leads to success with a proper follow up & monitoring of a project.
- Given the complexity and peculiar nature of the CBE HQ project, the consultant (AAU-AAiT) has to act as a key national institution for technology transfer. All new technologies implemented in the project have to be disseminated to the local construction industry through various outreach mechanisms; including publication, construction

magazines, and seminars. A series of magazines on construction technology, new design approaches, instrumentation, electro mechanical systems and project management approaches has to be published and disseminated to local contractors, other consultants and even for college students of this field of study.

- The CBE HQ building project is also expected to generate significant visitors from academic institutes, government offices, and the industry, due to its complexity, use technological advanced construction methods, and overall significance to the Ethiopian construction.
- Trading off the three pillars of project management needs time to come up to a point of excellence. This means having well exposed and experienced contractors is beneficial for the most part. Though instead of bringing contractors from abroad, the local contractors can be brought to project management knowledge so that permanent solutions can be brought without incurring foreign currency outflows. This can be taken as a research gap where further local proficiency gaps can be analyzed. Thus the scenario is recommended for future studies.

5.4.Implication for Further study

Basically, many things can be referred to as being obstacles from doing the research in a right manner or very accurately. The knowledge, skills, experience and the level of familiarity of the researcher to the case study project can be listed.

What made the challenges more worse is that, with the very short period of time for this research undertaking, the researcher couldn't accomplish as much as expected. Moreover, for the triangulation purpose, the researcher wanted to incorporate quantitative figures though it was out of touch/impossible to do within the specified time frame. On the other hand, the specific topic that the researcher chooses is a bit unique that it needs much more effort than any other ordinary research. Hence, the researcher proposes that, more can be done on the project under study by focusing on its various types of PMBoK areas for future research.

References

- Abdullah Murtaja; (2007) Investigation of FIDIC Clauses Dealing with Construction Project Performance
- Abebe, D., and Girmay, K. 2003. Claims in International Construction Projects in Ethiopia, ZEDE, Journal of EEA, Vol. 20
- ATKINSON A.V. (1992) Civil Engineering Contract Administration 2nd ed. England: Berhanenna Selam Printing Press
- Chan Kit Bong [2008], A study of contract management process and performance for outsourcing contracts, Hong Kong, China
- Charles, T.J. and Andrew, M.A. (1990) Predictors of cost-overrun rates. Journal of Construction Engineering and Management, ASCE, 116, 548–552
- Charles S. Philips, (1999). "Construction contract administration". Society for Mining, Metallurgy, and Exploration, Inc (SME), 8307 Shaffer Parkway, Littleton, Co, USA.
- Contract Management guidelines, OGC (2002)
- Davison, B., & Wright, E. (2004) *Contract Administration*. Washington D.C.: National Institute of Government Purchasing.
- Design-Build Institute of America (DBIA). (2014) “Design-Build Done Right: Best Design Build Practices” *Design-Build Manual of Practice*.
- Jaser Hmaid Abu Mousa -Risk Management in Construction Projects from Contractors and Owners" perspectives- March, 2005
- Flanagan, R. and Tate, B. (1997) Cost Control in Building Design. Blackwell Science, Oxford.
- FIDIC Silver Book Conditions of Contract for EPC/Turnkey Projects 1999
- Gould, F. & Joyce, N., 2009. *Construction project management*, third edition. Upper Saddle River, New Jersey: Pearson Prentice Hall
- Gransberg, D.D. and Molenaar, K.R. (2004). “Analysis of Owner’s Design and Construction Quality Management Approaches in Design-Build Projects” Journal of Management in Engineering, ASCE, Vol. 20 (4), October, 2004, pp. 162-169.
- Hamid Jafarieh; TECHNOLOGY TRANSFER TO DEVELOPING COUNTRIES, 2001

- Hinze, J. (2001). "Construction Contracts". - 2nd edition, (McGraw-Hill Series in Construction Engineering and Project Management), New-York, NY 10020 USA
- https://en.wikipedia.org/wiki/Contract_management
- Ireland, V. (1983) The Role of Managerial Actions in the Cost Time and Quality Performance of High Rise Commercial Building Projects. Unpublished PhD Thesis, University of Sydney, Sydney
- John Murdoch and Will Hughes; Construction Contracts Law and Management
- Kim, L., 1991, "Pros and Cons of International Technology Transfer: A Developing Country View", in Agmon, T., & Glinow, M. A. V., (Eds), "Technology Transfer in International Business", Oxford University Press, Oxford, pp. 223-239
- Love, P.E.D., and Mohamed, S. (1996). Project management: the key to procuring fast buildings. Asia Pacific Building and Construction Management Journal, 2(1), pp.1-6.
- Molenaar, K.R., and Gransberg, D.D. (2001). "Design-builder Selection for Small Highway Projects," Journal of Management in Engineering, ASCE, Vol. 17 (4), October, 2001, pp.214-223
- National Economic Development Office (N.E.D.O.) (1983) Faster Building for Industry. Her Majesty's Stationery Office, London
- NEGARIT GAZETA (1960) Civil Code of the Empire of Ethiopia Addis Ababa:
- Newcombe, R., Langford, D. and Fellows, R. (1990) Construction Management 2. Mitchell, London
- Nicholas Micheal Patrick: Preservation construction: Design-Build versus Design-Bid-Build, 2010)
- Osipova, E., 2008. "Risk management in construction projects: a comparative study of the different procurement options in Sweden". Licentiate thesis, Department of Civil, Mining and Environmental Engineering, Luleå University of Technology Stanley Thornes (Publishers) Ltd
- Samuels, B.M. (1996). "Construction Law" Prentice-Hall, Inc. A Simon & Schuster company, Englewood Cliffs, New Jersey 07632.
- Tadesse Yemane; M.Sc thesis, Construction Cost Estimation Guideline for Local Contractors in Ethiopia; AAU Civil Engineering Department, November 2006

- Vincent, K.O. and Joel, E.R. (1995) Principles of Total Quality. Kogan Page, London
- Williams C. (1992) Civil Engineering Contract Administration 2nd ed. England: Stanley Thornes (Publishers) Ltd
- Winch, G. M., 2010. Managing construction projects: an information processing approach, second edition. Chichester: Wiley-Blackwell.
- WWW.businessdictionary.com

Appendix

Interview Questions

For the CBE Construction Project Office (CPO)

Good morning/ afternoon/ evening Sir/ Madam:

My name is Hirut Bekele. I am a post graduate student of Addis Ababa University, School of Commerce; department of Project Management. Currently, I am conducting a research entitled **“Construction Contract Administration Practices in the case of the New Head Quarter Design-Build (DB) Project of Commercial Bank of Ethiopia”** as a partial fulfillment of senior essay required for MA degree.

Therefore, I would like to express my deepest gratitude for your cooperation in answering for the following interview questions. The very purpose of this research is to assess the practices of DB contract administration and its successfulness on the project undertaking; level of implementation and importance of project contract administration. This being said, it should be noted that, the research mainly depends on the accuracy of your answer. Lastly, I would like to assure you that, the data being collected from you will be presented anonymously and kept under strict confidentiality.

1. What roles do you play as an employer in the project undertaking?
2. What were the reasons for outsourcing the Contract Administration of the project to the Consultant?
3. To what extent did the Contract Administration work is outsourced to the project’s Consultant?
4. What is the source of funding (financial allocation) for this project?
5. How was the specific project contract processed or procured?
6. What type of contracting or contract type was used for the CBE HQ project? Which form is used for preparing the contract?
7. What is the CBE current practice of contract administration in different phases of the project delivery process?

8. How is CBE contract management assist to achieve cost, time and quality of work effectiveness during contract execution?
9. What is the ratio of professionals from the Contractor/consultant staff and from the Construction Project Management staff?
10. How does the relationship between the Client, the Consultant and the Contractor look like?
11. How often complaints or claims occurred since the start of the project and How are these complaints being handled?
12. What are the rights and obligation of the Employer (CBE) based on the conditions of the signed contracts with the contractor and also with the consultant?
13. How is a contractor's work quality and technical ability as per the contract being checked?
14. How is quality assurance reviews being conducted? How often?
15. What is the current level of applicability and effectiveness of the contract administration?
16. How can contract administration be used as a tool for a successful project undertaking?
17. What is the significance of the DB contract administration of the project in terms of managing cost, time, quality and variation of work; when compared with that of the DBB projects?
18. Is the project going within its time frame, cost estimate and quality till now? Also are there any variations of work reported so far? How is these variations handled?
19. How is the New HQ DB project of CBE become effective in terms of meeting its objectives of technology transfer through contract administration? Did this issue have been incorporated in the signed contract between the contractor and the employer?
20. Which deliverable of the project is completed so far as per your last progress report?
21. Since the building is a DB project, can the employer entertain any cost overrun request of the contractor more than the total project cost signed in the contract?

Thank You

For Focus Group Discussion with CBE CPO Professional staffs

Good morning/ afternoon/ evening Sir/ Madam:

My name is Hirut Bekele. I am a post graduate student of Addis Ababa University, School of Commerce; department of Project Management. Currently, I am conducting a research entitled **“Construction Contract Administration Practices in the case of the New Head Quarter Design-Build (DB) Project of Commercial Bank of Ethiopia”** as a partial fulfillment of senior essay required for MA degree.

Therefore, I would like to express my deepest gratitude for your cooperation in answering for the following discussion points. The very purpose of this research is to assess the practices of DB contract administration and its successfulness on the project undertaking; level of implementation and importance of project contract administration. This being said, it should be noted that, the research mainly depends on the accuracy of your answer. Lastly, I would like to assure you that, the data being collected from you will be presented anonymously and kept under strict confidentiality.

The check List for the focus group discussion is as follows though it is more of an open discussion so that there could be a free flow of ideas and brain storming.

- Contracting terms of the case study project
- How the contract is managed
- The role of each participants in the project
- The actual practices of the project regarding the specifications of the contract
- Human relation issues
- Working in harmony with other stakeholders
- Project review mechanisms
- Accountability and responsibilities
- Practices of laws, procedures and directives

Thank You