JIMMA UNIVERSITY
JIMMA INSTITUTE OF TECHNOLOGY
SCHOOL OF GRADUATE STUDIES
FACULTY OF CIVIL AND ENVIRONMENTAL ENGINEERING
CONSTRUCTION ENGINEERING AND MANAGEMENT CHAIR

ASSESSMENT OF PROFESSIONAL PRACTICE IN CONSTRUCTION COMPANIES IN JIMMA, OROMIA

A Thesis submitted to School of Graduate Studies, Jimma University, Jimma Institute of Technology, Faculty of Civil and Environmental Engineering in Partial Fulfillment of theRequirements for the Degree Master of Sciencein Construction Engineering andManagement

by

Kidus Woldemariam Baye

March 2021
Jimma, Ethiopia

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Advisor: Engr. Bien Maunahan (Assistant Professor)

Co-Advisor: Engr. Lucy Feleke (PhD)

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DECLARATION

I declare that this research entitled "Assessment of professional Practice in Construction Companies in Jimma, Oromia" is my original work and has not been submitted as a requirement for the award of any degree in Jimma University or elsewhere.

Kidus Woldemariam Baye   _____   _____

        NAME   SIGNATURE   DATE

As research Adviser, I hereby certify that I have read and evaluated this thesis paper prepared under my guidance, by Kidus Woldemariam Baye entitled "ASSESSMENT OF PROFESSIONALPRACTICE IN CONSTRUCTION COMPANIES IN JIMMA, OROMIA" and recommend and would be accepted as a fulfilling requirement for the Degree Master of Science in Construction Engineering and Management.

Advisor: Engr. Bien Maunahan (A/Professor)   _____   _____
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Co – AdvisorEngr. Lucy Feleke (PhD)   _____   _____
                            NAME   SIGNATURE   DATE

ABSTRACT

The ethical issues in the construction companies are becoming the major parameters that affect the performance of the projects and even the survival of the company itself. The severity of undesirable effect of ethical matters such as corruption has been found to be heavy on the construction industry of sub Saharan Africa that comprises Ethiopia. This study, is on assessment of professional practice in construction companies in Jimma, Oromia, which aimed to evaluate the ethical practice in the construction companies by evaluating the ethical trends, frameworks and challenges, identifying the major ethical practices with their root triggering factors and outcomes, and investigating the ethical practice with respect to the professional code of ethics of the civil engineers.

The study employed descriptive qualitative research approaches in data collection and analysis. The samples were determined by purposive sampling technique (non-probability sampling) from all construction companies in the city and then the samples were categorized in two groups: managers and professionals for data collection in which in-depth and structured interviews delivered respectively for the two sample groups. The interview questions were systematically designed based on the Consequence-Principle-Virtue/ CPV, Knowledge-Attitude-Practice/ KAP, and Code models, as well as qualitative validity and reliability test was done to meet the objectives of the study. The data were analyzed qualitatively majorly through thematic analysis and coding, including statistical presentation tools (tables, graphs, etc.) to the sake of demonstrating the qualitative results.

The findings of this study indicated that ethical practice trend was in a low level. The frameworks of the companies for ethical practice is poor. There major challenges were less emphasis given to ethics, poor government, contradiction between market and ethics, and colleagues' pressure to commit corruption. The major unethical practices were bribery and theft followed by hiding quality defects, non-receipt procurement, nepotism and favoritism, fraud in recites and documents, discrimination, theft and fraud, and coercion. These unethical practices were triggered majorly by high price of local construction materials, burdened bid process and unfair tax, and poor management support to employees (lack of ethical education & training) in the study area. The major outcomes of these unethical practices were low performance and damaged company reputation. The obedience to code of professional ethics/ CoE found to be low in construction companies in Jimma. The recommendation forwarded for construction companies and concerning governmental sectors by this study were establishing a rewarding system to practitioners for their good ethical practices; encouraging the construction companies to incorporate appropriate frameworks for ethical issues in their strategies; designing policy and system to distribute the EACE CoE book, monitor the implementation, and evaluate/ audit the company's ethical status; setting a mandatory training and certification requirement of construction managers and professionals.

Key words: *ethics, professional, construction, companies.*

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Most of all I want to praiseAlmighty God the creator of thewhole universe for granting me everything I need to live,Hallelujah!

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

BC	Building Construction
CoE	Code of Ethics
COI	Conflict of Interest
CPV	Consequence-Principle-Virtue Model
CSA	Central Statistical Agency
CSR	Corporate Social Responsibility
EACE	Ethiopian Association of Civil Engineers
EBP	Ethiopian Building Proclamation
ECPMI	Ethiopian Construction Project Management Institute
GC	General Construction
GDP	Gross Domestic Product
IDI	In-Depth-Interview
KAP	Knowledge-Attitude-Practice Model
MoUDC	Ministry of Urban Development and Construction
NBE	National Bank of Ethiopia
PMBOK	Project Management Body of Knowledge
RC	Road Construction
SI	Structured-Interview
VR	Validity And Reliability
WWC	Water Work Construction

CHAPTER 1

INTRODUCTION

1.1. Background

The construction industry's global value reached $12 trillion per annum by 2020, just as predicted by Transparency International 8 years ago. It has been estimated that unless adequate measures are taken a sum of $1.2 trillion risks being lost to corruption and unethical practices that results in uncompleted and delayed projects with huge time and cost over-run, poor and substandard quality of work due to non – adherence to contractual design and specifications. This figure could be doubled considering management and execution inefficiencies. This is definitely a highly worrying matter. This also implies that ethics has a significance influence on this very critical economic sector (Transparency International, 2020).

Ethiopia's construction sector is one of the most robust in Africa. According to the National Bank of Ethiopia (NBE), construction accounts for half of all the nation's industry accounting for 18% of the country's GDP for the financial year 2017-2018 and the construction sector is currently the largest employer in the country, with more than two million people employed in full-time and temporary jobs. However, there are many challenges facing the construction industry, such as ethical inefficiencies that need careful managementMoUDC (2018).

Now, the global tendency has shifted from the traditional economic view to ethical view due to many factors such as information technology, individualism, and new managerial models. In this new perspective, the survival, the reputation, and success of small to large organization are highly related with the ethical issues of the organization (Rivera et al., 2016).

To reduce unethical practices in construction companies, the root causes need to be find out first. Several researches worldwide-discovered variety of causes, for instance, Abdul-Rahman et al., (2011) showed in their study that insufficient ethical education, economic downturn, lack of training, fierce competition insufficient legislative enforcement and unhealthy management, and construction industry culture as major causes. Unethical practices majorly caused by personal behaviors and psychological traits such as attitude and knowledge of the practitionersas triggering factors(Kaynak and Sert, 2012).

Thus, this study aimed to assess the ethical practice of the construction companies in Jimma city, by focusing on major unethical practices and the triggering factors for them. Moreover, the study employs integrated models such as CPV, KAP, and Code-Models (based on EACE, 2015CoE). The study involved qualitative research approach to collect and analyze data.

The findings of this study revealed that the major unethical practices that observed in the study area were bribery, favoritism and nepotism, discrimination, theft, fraud in documents, hiding quality defects, and on-receipt procurement. And, the triggering factors to these unethical practices were high price of construction materials, overloaded and unfair tax system in local government offices, unavailability of receipt to buy local construction materials, corrupted market system, and local customs that leads to addiction and related misconducts (theft, absenteeism), management support, prevailing industry culture, communication, short-term profit, taking corrective measures, good ethical awareness, and valuing ethics as resource.

The ethical practice of the construction professionals and managers in the study area was measured by the code of ethics (EACE, 2015) and found to be in a poor status that requires an acute measure to sustain the industry. The findings that gained from different samples and tools agreed each other to assure the validity and reliability of this qualitative study.

The study area is Jimma town where there is apparently growing tendency of construction industry is witnessed. The construction companies in the town are consisted from small sized to large sized companies. According to the classification of the country's construction standard, Jimma town comprises of all variety of construction companies, road, building, water works with their respective ranks. In this regard, currently there are about 40 construction companies in Jimma that are registered and regulated by either the towns or federal construction regulatory bodies.

The town has good history of urban development background than most of Ethiopian towns. Jimma governed by town administration under Oromia Regional State. It is 360 KM far from Addis Ababa, the capital city of Ethiopia. It has a latitude of 7°40 N and longitude of 36°50 E and elevation of 1,780 m. Based on 2007 CSA census, the estimated population of the town Population (2012) is 207,573; assuming constant rate of population the current number could be approximated to 350,000. The demography of the town indicates that almost all dwellers are urban inhabitants.

1.2. Statement of the Problem

The major construction companies' constraints of performance in Africa in general, and in Ethiopia in particular directly or indirectly related to corruption and similar ethical issues (Nuredin, 2018). As construction is playing a major role for the development of country, unethical practices have a negative impact on the industry and could affect the development of country directly or indirectly. Ethical behavior results from the attitudes, knowledge, beliefs, values, personality and other psychosocial backgrounds. Similarly, a tendency a managers or professionals have towards ethics strongly influenced by the value reflected by their employing construction company (Mason, 2009).

There is general perception of construction practitioners in considering ethical aspects as insignificant problem in construction industry than other economic and engineering aspects. Consequently, one of the initiating factors to this study is an availability of a single research that endeavors to assess ethical status of the construction companies in Jimma. Therefore, this study not only aimed to fill the research gap but also to prove these general perceptions of practitioners towards ethics through scientific methods. This study attempted to deliver findings on the current/existing ethical practices in construction companies in Jimma. Besides, the study also intended to identify the major unethical practices, the triggering factors to those practices and the outcomes. It also intended to indicate how professional ethics could affect the construction company as well as to stimulate the concerning bodies to give serious emphasis to ethical matters for the success and survival of the industry in the study area.

1.3. Research Questions

- What it looks like the ethical status (trend, frameworks, and challenges) of the construction companies in Jimma City?
- What unethical practices (major unethical practices, triggering factors and outcomes) are observed in the construction companies in Jimma City?
- To what extent the ethical practice in the construction companies in Jimma City performedin accordance with the Ethiopian civil engineering professional code of ethics (fundamental principles and canons)?

1.4. Objectives

1.4.1. General Objectives

The general objective of this study is to assess theprofessional practice of construction companies in Jimma city.

1.4.2. Specific Objectives of the Study

i. To evaluate the professional ethical status (trend, frameworks, and challenges) of the construction companies in Jimma City.

ii. To identify the unethical professional practices (major unethical practices, triggering factors and outcomes) in the construction companies in Jimma City.

iii. To investigate the professional ethical practice in the construction companies in Jimma City with respect to the Ethiopian civil engineering professional code of ethics (fundamental principles and canons)

1.5. Scope of the Study

The study targeted to investigate the ethical status, unethical practices, and practice of Code of Ethics (CoE) in the construction companies in Jimma city. The scope of the study was restricted to those companies who have the projects in Jimma town, organized based on Ethiopian trade law, companies which has a Grade 1-9 (see appendix, supplementary data 6.1). The type of companies included in this study bounded to provide only service, not included suppliers of construction materials. The study observed the ethical practices in the companies through collecting data from managers and professionals, what they know, perceive, feel, act and behave with respect of general ethical and moral measures and CoE of the country's civil engineers association.

1.6. Limitation of the Study

This study is limited to ethical principles and canons under the acclamation of the code of Ethiopian Civil Engineers Association; in addition, this study limited to only managers and professionals (engineers) in the companies by excluding the daily laborers and other supportive work forces in construction companies due to time and money constraints. Moreover, the focus group discussion that would be very appropriate for such kind of study could not implemented at data collection stage due to the occurrence of COVID-19 pandemic that required strict physical distance and gathering of people as per the public

statement by Ethiopian Government. Therefore, the result of this study might not be generalized and duplicated for similar study areas in the country.

1.7. Significance of the Study

The significance of this study is to give a good opportunity to entertain the practices and theories of construction management through systematic and scientific research to solve organizational and professional problems such as ethical issue matters. Hence, this would motivate and capacitate to solve ample of social, economic, ethical and professional problems that faced the construction industry of the country. Furthermore, the findings and recommendation of this study, if effectively used, could provide organized data for the future studies on the related issue, provide useful information for the construction companies in the solving of their ethical matters and performance related circumstances.

CHAPTER 2

LITERATURE REVIEW

2.1. Theories of Ethics

Ethics means moral principles that govern the action of an individual or a group. Ethics isa set of principles, rules, morals and values that inform and guide the conduct of individuals and groups in society or business organization. (Abiodun& Oyeniyi 2014).Philosophers nowadays divide ethical theories into three general subject areas meta-ethics, normative ethics, and applied ethics. These three types of ethics also considered as theories of ethics from which several types of ethical theories are emerged, for instance virtue, consequentialist and duty ethics are the subtypes of normative ethics.

Furthermore, there are other types of ethics such as professional ethics (collective name for subgroups of applied ethics), business ethics (professional ethics and applied ethics) and descriptive/ comparative ethics (separate discipline to study other aspects of ethics. Among the three major classes of ethics theories, meta-ethics is the origin of ethical principle. It deals with origin of ethical principles that govern the specification of right and wrong behavior. A major issue of debate in this category is whether ethical principles are eternal truths that evolved from a spiritual world or simply created by the humans. The other two classes (normative ethics and applied ethics) are the focus of this study and discussed below.

2.1.1. Normative Ethics

Normative ethics/ prescriptive ethics is the study of ethical behavior, and is the branch of philosophical ethics that investigates the questions that arise regarding how one ought to act, in a moral sense. Normative ethics deals with self-moral conduct, and it is concerned with arriving at set of moral conduct rules against which behavior are judged. Normative ethics is distinct from meta-ethics in that the former examines standards for the rightness and wrongness of actions, whereas the latter studies the meaning of moral language and the metaphysics of moral facts. Likewise, normative ethics is distinct from applied ethics in that the former is more concerned with who one be rather than the ethics of a specific issue (e.g. if, or when, abortion is acceptable).

Normative ethics examines standards for the rightness and wrongness of actions, how people ought to act, more concerned with 'who one be'. Normative ethics seeks to provide standards that can govern right and wrong behavior. Three variations in normative ethics are virtue theories, duty theories, and consequentialist theories. In engineering, codes of ethics (CoE), developed to regulate the behavior of the practicing engineer, are examples of normative ethics (Catalano, 2006).

Virtue ethics focuses on the character of those who are acting, while both duty/ deontological ethics and consequentialism focus on the status of the action, rule, or disposition itself. These subtypes of normative ethics are developed in to three basic ethical theories/ approaches and reviewed below.

2.1.1.1 Consequentialism

Consequentialism is an ethical theory that based on normative ethics. It holds that the consequences of one's conduct are the ultimate basis for any judgment about the rightness or wrongness of that conduct. Thus, from a consequentialist standpoint, a morally right act is one that will produce a good outcome. It claims that the moral value of any act consists in its tendency to produce things of intrinsic value. Consequentialists hold in general that an act is right, if and only if the act will produce, will probably produce, or intended to produce, a greater balance of good over evil than any available alternative.

Consequentialist theories require doing a kind of cost-benefits analysis to decide whether an action is ethical or unethical. Consequentialism requires that counting or estimating both the good and bad consequences of an action, and determining whether the total good consequences outweigh the total bad consequences. The action is morally proper if the good consequences outnumber the bad consequences (Catalano, 2006).

The good example for Consequentialism theory is utilitarianism that holds an action is right if it leads to the most happiness for the greatest number of people. The basic idea behind it is to in some sense maximize utility, which is often defined in terms of well-being or related concepts. Utilitarianism considers the interests of all humans equally.

Consequentialism is usually contrasted with principle based / deontological ethics (or deontology), in that deontology, in which rules and moral duty are central, derives the rightness or wrongness of one's conduct from the character of the behavior itself rather than the outcomes of the conduct.

Consequentialism is also contrasted with virtue ethics, which focuses on the character of the agent rather than on the nature or consequences of the act itself, and pragmatic ethics which treats morality like science: advancing socially over the course of many lifetimes, such that any moral criterion is subject to revision.

Some overlaps might happen in some circumstances between these three ethics theories. For instance, in the case of human rights (deontological), it can only be justified with reference to the consequences of having those rights, therefore human right also based on some consequential theory of ethics. This implies that, consequentialist theories (e.g. utilitarianism) and deontological theories (e.g. Kantian ethics) are not necessarily mutually exclusive; and the same works for other ethics theories (Deen, 2011).

2.1.1.2 Kantianism/ Principle based

Theory of Kantianism ethics, also known as, deontological ethics or principle based ethics is the philosophy of ethics that revolving entirely around duty rather than emotions or end goals. According to duty ethics (also known as deontological ethics), an action is morally right if it is in agreement with a moral rule (law, norm, or principle) that is applicable in itself, independent of the consequences of that action. All actions performed in accordance with some underlying principle (Foot, 2009).

There are two important points of difference between the various duty ethics theories. First, some theories rely on one main principle from which all moral norms can be derived (monistic duty ethics). Other theories, the pluralistic theories, based on several principles that apply as norms for moral action. A second important difference concerns the foundation or origin of the moral rules. These rules can be given by God, such as in the Bible or the Koran, or they make an appeal to a social contract that the involved parties have implicitly agreed to (e.g., a company code), or they are based on reasonable arguments (Van de Poel and Royakkers, 2011).

2.1.1.3 Virtue Ethics

Virtue Ethics theory indicates which good or desirable characteristics people should have or develop to be moral. Utilitarianism and Kantian theory both are theories about criteria concerning action. Rather than taking action as point of departure for moral judgment, virtue ethics focuses on the nature of the acting person. This theory indicates which good

or desirable characteristics people should have or develop and how people can achieve this.

Virtue ethics not exclusively aimed at reason, as the previous two theories were, but is more a mixture of ethics and psychology with an emphasis on developing character traits. Virtues as reliability, honesty, responsibility and solidarity, are quite general and most are virtues that morally responsible engineers need to possess too. If we look more specifically at the virtues engineers need, then we must focus on engineering practice. Michael Pritchard lists a number of virtues that are more specific than those mentioned above and that are required for morally responsible engineers, such as expertise/professionalism, clear and informative communication, cooperation, willingness to make compromises, objectivity, being open to criticism, stamina, creativity, striving for quality, having an eye for detail, and being in the habit of reporting on your work carefully (Van de Poel and Royakkers, 2011).

Figure 1: Types of Ethics and theories Originated from them
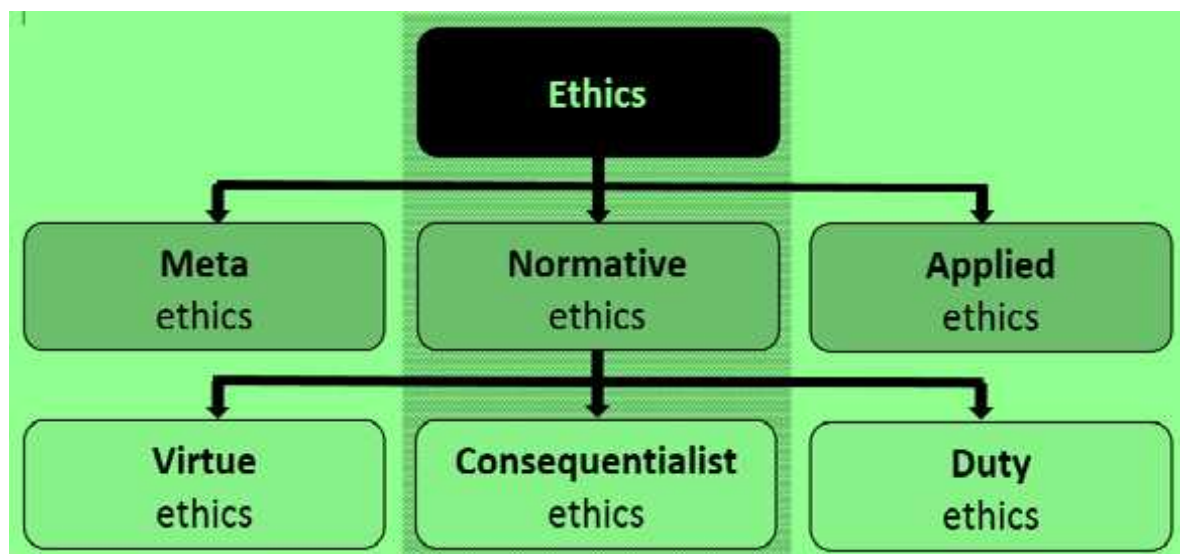
2.1.2. Applied Ethics

Applied ethics is the philosophical examination, from a moral standpoint, of particular issues in private and public life that are matters of moral judgment. It is thus the attempts to use philosophical methods to identify the morally correct course of action in various fields of human life. Applied ethics focus on specific issues (Catalano, 2006).

There are major seven sub groups of applied ethics, these are: decision ethics (ethical theories and ethical decision processes), social ethics (ethics among nations and as one global unit), organizational ethics (ethics among organizations), clinical ethics (ethics to

improve our basic health needs), and sexual ethics (ethics based around sexual acts), business ethics (individual based morals to improve ethics in a business environment).Applied ethics also consists of other subtypes such as ethics of technology, social ethics, public sector ethics and like. It also consists of accounting ethics, marketing ethics, archaeological ethics, media ethics, journalism ethics, research ethics, internet research ethics, medical ethics/ clinical ethics, and nursing ethics.

Applied ethics consists of several subtypes and most of them collectively named as professional ethics (ethics to improve professionalism). Business ethics, on the other hand, is a subtype of applied ethics. In general, this subtype of applied ethics that encompass the personal and corporate standards of behavior expected by professionals known as professional ethics.

When applied ethics deals with the ethical principles in several professional sectors and usually the ethical principles designed or written for implementation in a specific situation (Malpas, 2012). According to that, there are several subtypes of applied ethics, some of the major are:

- **Legal Ethics**: The ethical principles or codes designed for maintaining a legal system
- **Bio Ethics**: These are the ethical principles or codes for maintaining normal livelihood.
- **Medical/ Clinical Ethics**: The ethical principles or codes designed for a medical profession.
- **Engineering Ethics**: The ethical principles or codes designed for an engineering profession.
- **Computer Ethics**: The ethical principles or codes designed for a medical profession.
- **Business Ethics**: The ethical principles or codes designed for a business operation, or ethics in economics and business. Business/ corporate ethics has both normative and descriptive dimensions. As a corporate practice and a career specialization, the field is primarily normative. Academics attempting to understand business behavior employ descriptive methods.

This study focuses on two types of applied ethics namely engineering ethics (which also mentioned as professional ethics in this study) and business ethics. On other word, the

study focused on engineering ethics aspects (focusing on professional ethics of civil engineers and other employees in construction companies) and business ethics (which also the professional ethics of the construction managers and owners). Business ethics is the application of ethics to business practices, or the application of general ethical rules to business behavior (Twomey and Jennings, 2011).

2.2. Approaches and Models to Study Ethics

Ethical models and approaches are instruments that devised to study and implement ethical theories in to individual and organizational levels in the day-to-day human interaction. In order to conduct this qualitative study scientifically, the student researcher reviewed and comprehended selective elements of theories of ethics, such as philosophy of engineering, engineering and environmental ethics, professional and business ethics, organizational ethics (research, value theory).

2.2.1. Philosophy of Engineering

Philosophy is the study of general and fundamental problems, such as those connected with reality, existence, knowledge, values, reason, and so on. Ethics is one of the major categories of ethics along with epistemology, logic, metaphysics, and aesthetics. Ethical issues in engineering fields can be evaluated by integrating ethics and the other categories of philosophy, such as philosophy of engineering that is definitely concerned about ethics in engineering. In other words, philosophy of engineering is the amalgamation of ethics, logic, and philosophy of science (Sinclair, 2008).

Philosophy of engineering is the way of investigating ethical problems (unethical practices) in engineering discipline. Philosophy distinguished from other ways of addressing such problems by its critical, generally systematic approach and its reliance on rational argument. This study followed the philosophy engineering principle to analyze the study to infer the triggering factors and outcomes of ethical practices in the construction companies (Sinclair, 2008).

Along with engineering ethics, and other applied ethics types (professional ethics/ business ethics) that has a great importance in civil engineering field, there is also a newly emerging discipline that stems from applied ethics and it known as the philosophy of engineering. Philosophy of engineering is a new discipline that considers what engineering is, what engineers do, and how their work affects society, and thus includes

aspects of ethics and aesthetics, as well as the ontology, epistemology, etc. that might be studied in, for example, the philosophy of science, and philosophy of engineering(Sinclair, 2008).

2.2.2. Engineering and Environmental Ethics

Applied ethics has a significance role in conducting researches of ethics as well as in assessment of organizational ethical issues. For instance, in investigating environmental degradation that caused by the construction engineering projects such as dam or road, environmental ethics is concerned with questions such as the duties or duty of 'whistleblowers' to the general public as opposed to their loyalty to their employers. As such, it is an area of professional philosophy that is relatively well paid and highly valued both within and outside of academia.

This study attempted to assess ethical practice in construction companies including environmental aspects of civil engineering through addressing it the core principles of CoEof the profession, that stated the sustainable development and environmental protection that is expected from either from professional or construction companies.

2.2.3. Engineering Ethics

Engineering ethics aims at knowing moral values related to engineering, finding accurate solutions to the moral problems in engineering and justifying moral judgments of engineering. Engineering ethics is also using some currently accepted codes and standards that are to be followed by group of engineers and engineering societies.

Engineering ethics is a product of individual ethical practice or values and the norms in-group process (such as Construction Company). Stipulations in professional codes of conduct often refer to some of virtue for morally responsible engineers' such as reliability, honesty, responsibility and solidarity, expertise/professionalism; clear and informative communication; cooperation; willingness to make compromises; objectivity; being open to criticism; stamina; creativity; striving for quality; having an eye for detail; and being in the habit of reporting on your work carefully. (Van de Poel, and Royakkers, 2011).

The norms in-group process (such as construction company) norms of engagement for the participation of engineers in-group processes, involving both engineers and non-engineers. These norms are competency; cognizance, requiring interdisciplinary skills and

breadth built into the group; democratic information flows; democratic teams; service-orientation; diversity; cooperativeness; creativity; and project management skills (Van de Poel, and Royakkers, 2011).

Engineering ethics is a wide scope that consists of individual to global issues, such as moral reasoning & ethical theories; engineering as social experimentation; the engineer's responsibility for safety; engineers and managers, consultants and headers; global issues; rights of engineers; and responsibility to employees.

2.2.4. Organizational Ethics Research

Organizational ethics is the set of values or moral principles regulating an individual's or a profession's conduct. Employees of an organization with insufficient commitment to work, poor organizational discipline and interpersonal skills would influencethe organization's productivity (Umar and Sha'awa, 2020).

Shahrul et al. (2016) viewed organizational ethics as a cultural norm that advocates people to be held accountable and responsible for the work they do based on the belief that work has intrinsic value to the individual in an organization(Shahrul et.al., 2016).

Similarly, Agboola et al. (2015) describes organizational ethics to be part of the responsibilities of the organization and thus, expected employee commitments enclosed in the core values and principles of the organization. This suggests that, organizational ethics can be widely seen as the guideline an organization and its executives can use to generate sound decisions. This is so because the organizational ethics comprises of the set standards articulated in law and regulations, internal policy, and procedures.

Different organizations set different tools of organizational ethics in achieving their desired vision, the most critical of these measures reflected in the perspective of organizational discipline, teamwork, organizational commitment and work attitude (Umar and Sha'awa, 2020).

Organizational ethics is the application of professional/ business ethics with other organizational and psychosocial factors (organizational culture, organizational behavior, industrial and organizational psychology). When organizations (e.g. construction companies) response to internal or external stimulus (ethical issues) positively or negatively, that is termed as organizational ethics. In this case, it can be classified as

standalone type of applied ethics sometimes. Nevertheless, in this particular study the term organizational ethics refers as the above sense (McDaniel, 2004).

Ethics starts as the principles and values used by an individual to govern his or her actions and decisions. An organization forms when individuals with varied interests and different backgrounds unite on a common platform and work together towards predefined goals and objectives. In this case, the shared environment creates the organizational ethics. An actual ethical practice of the company can be assessed at the organizational ethics phase and it integrates the professionals and managers in the organization. A COE within an organization is also a set of principles that is used to guide the organization in its decisions, programs, and policies, and it is the crucial part of practice of ethics in the organization (McDaniel, 2004).

Consequently, this study devised to assess the ethical practice of the construction companies through evaluating the tangible aspect of business and professional ethics, which is organizational ethics, by reasoning that the data collected from the professionals and the managers could be inferred to indicate the ethical practice of the companies.

2.2.5. Business Ethics Approach

The business ethics model consists of three principal components (i.e. expectations, perceptions and evaluations) that are interconnected by five sub-components (i.e. society/clients/users expects; organizational values, norms and beliefs; outcomes; society evaluates; and reconnection). The model aspires to be highly dynamic. In the case of construction companies, the clients or users are considering as society.

The expectation and evaluation of clients on the general ethical/professional standing of the company is the foundation for ethical practice of the company. The expectations develop in to values and norms and then in to perception. Perceptions developed in to outcomes. Outcomes leads to evaluation of the ethical practices (Goran & Wood, 2008).

Figure 2: Processes in Business Ethics Approach
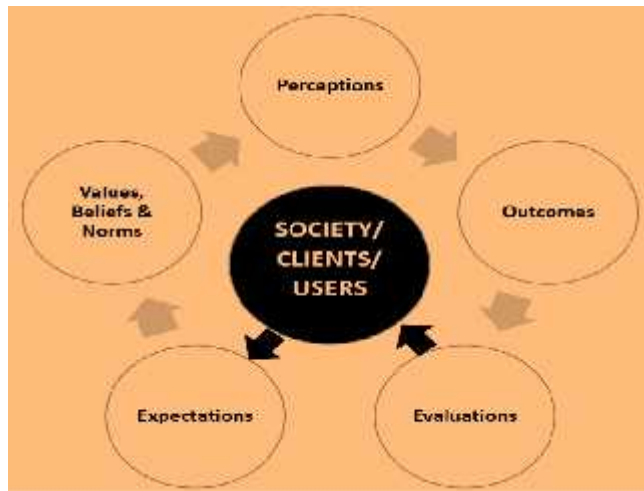
2.2.6. Consequence-Principle-Virtue based / CPV Model

A comparative ethics research approach states that ethical issue in an organizational issue that should be assessed by integrating elements from all theories of ethics: virtue theory, principle/ duty theory, and consequence theory. The ethical practice in an organization could be studied better when the actual practice is the intersection of all three types of ethics.

The ethical triangle considers these three different approaches to ethical reasoning. One perspective comes from the view that desirable virtues such as courage, justice, and benevolence define ethical outcomes. A second perspective comes from the set of agreed-upon values or rules. A third perspective bases the consequences of the decision on whatever produces the greatest good for the greatest number as most favorable. The ethical triangle considers these three different perspectives.

Table 1: Components of CPV Model

CPV Model			
Portion	**Consequence**	**Principle**	**Virtue**
Theory	Utilitarianism	Kantianism/Deontological	Virtue theory
Essence	Outcomes	Rules, Codes, Standards	Character/ ideal
Expression	Do to produce greatest good for the greatest number	Act as if the maxim of your action was to become a universal law of nature	Do to others what you would have them do to you
Example: Construction Company	*Building good quality houses/ roads for large community is more ethical than doing the same for few.*	*Acting according to the professional CoE of civil engineers strictly and be the exemplary for others.*	*Doing one is best to client/colleague just by considering them as oneself, family, & friend.*

2.2.6.1 Consequence Based Ethical Model

This model is derived from consequentialism ethics theory. Consequentialism ethics theory consists of utilitarianism (holds that an action is right if it leads to the most happiness for the greatest number of people), State/ Mohist consequentialism (holds that an action is right if it leads to state welfare, through order, material wealth, and population growth), Welfarism (which argues that the best action is the one that most increases economic well-being or welfare), and so on. Utilitarianism ethics theory is a major type of consequentialism ethics, the theory incorporated in this study in the light of contemporary and secular views than the antiquity philosophical and religious points of views.

2.2.6.2 Principle Based Ethical Model

Principle based ethical model is a derivative of duty ethics or deontological ethics (aka, Kantianism). All actions performed in accordance with some underlying maxim or principle, which are vastly different from each other; it is according to this that the moral worth of any action judged.

2.2.6.3 Virtue Based Ethical Model

Virtue ethics emphasizes the role of one's character and the virtues that one's character embodies for determining or evaluating ethical behavior. Virtue ethics is one of the three major approaches to normative ethics, often contrasted to deontology, which emphasizes duty to rules, and consequentialism, which derives rightness or wrongness from the outcome of the act itself.

2.2.6.4 Theory of Ethics

Ideal practice of ethics is the intersection of three components (consequence, principle and virtue) where all three components overlap in the CPV model. The portions outside of the intersecting area indicates the difference between the components. Professional ethics is satisfied where three basic ethical models/ approaches are overlapped. These three model of professional ethics and their schematic relationship shown below in the diagram:

Figure 3: Ideal ethical practice in CPV model
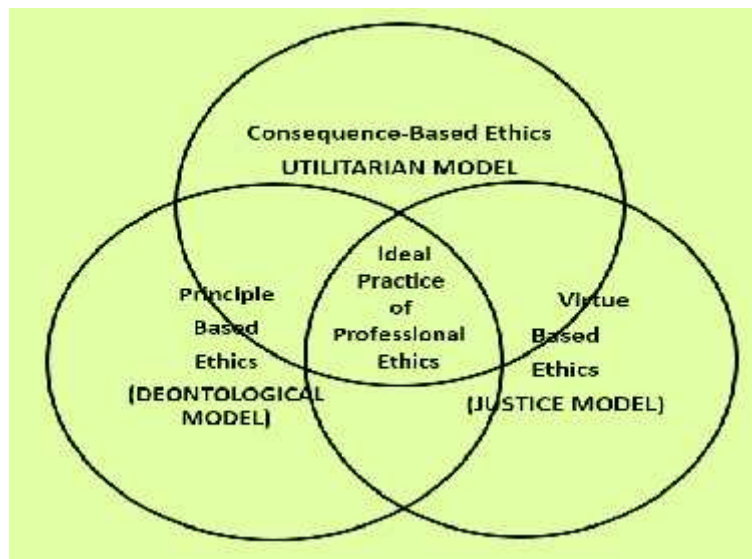
Consequence based ethical model (consequentialism/utilitarianism) is usually contrasted with principle based ethical model (Kantianism/ deontological ethics), in that principle based model, in which rules and moral duty are central, derives the rightness or wrongness of one's conduct from the character of the behavior itself rather than the outcomes of the conduct. Consequence based model is also contrasted with virtue ethics, which focuses on the character of the agent rather than on the nature or consequences of the act (or omission) itself. The comparison of these ethical theories developed from comparative ethics.

2.2.6.5 Relative Ethics

Ethical issues in an organizational has multiple facades, such as professional code of ethics (principle-based/ deontological ethics), integrity and honesty in the profession (virtue), and rewards and punishments for ethical/ unethical behaviors (consequence-based/utilitarian ethics), this implies that ethical issues in an organizational should be assessed by integrating elements from all theories of ethics. Moreover, as the three basic theories of ethics (principle, virtue, and consequence-based) are dealing theoretical and philosophical aspects of ethics (unlike applied ethics), there have to be an integrated approach that enables to address the practical aspects of ethics (Porter & Kramer, 2006).

Comparative ethics usually considers as the fourth type of ethics, it is actually a standalone study of ethics that is a form of empirical research into the attitudes of individuals or groups of people. The difference and similarities between types of ethics

can be well explained through comparative ethics that is the experimental and practical field of ethics. In other words, this is the division of general ethics (philosophy) that involves the observation of the moral decision-making process with the goal of describing the phenomenon. Comparative ethics, focuses on what do people think is right. It is the study of people's beliefs about morality. Those working on comparative ethics aim to uncover people's beliefs about such things as values, which actions are right and wrong, and which characteristics of moral agents are virtuous. Generally, comparative ethics is moral beliefs. It refers to the study of moral beliefs of the people. It is a field of empirical research into what people or societies consider right or wrong (Porter & Kramer, 2006).

2.2.7. Knowledge-Attitude-Practice Model/ KAP Model

The perception of the professionals on ethical issues has direct impact on their ethical behaviors/ practices. Additionally, moral values have direct relationship with the ethical practice of the professionals in the business companies. According to Oyewobi et.al. (2011), employee's unethical practices have increased persistently overtime because moral values have significantly declined.

This study employs some aspects of descriptive approaches ethics (by integrating it with knowledge-attitude-practice model) to assess professionals and managers' ethical perception because descriptive analysis is a method of evaluating attitudes of individuals or groups of people towards ethical issues.

The perception of responsibility varies, from general responsibility (a duty to act with a due-diligence), accountability (a process of the assessment of one's behavior) and liability (legal consequences of one's conduct) (Giesen and Kristen, 2014). Gurzawska et.al. (2015) also confirmed some differences between the understanding of the role of a company and fall within the two opposing approaches.

The KAP model argued that knowledge positively influences an individual's attitude and attitude in turn influence practices or behavior/ practice. Therefore, an individual's or an organizational perspective, attitudes, tendencies, knowledge, awareness and so on predicts the practice and it is recommended to evaluate ethical, legal, risk related issues with this way(Goutille, 2009).

In the majority of KAP studies, data are gathered orally by an interviewer who uses a structured, standardized questionnaire or interview schedules. These data can then be quantitatively or qualitatively analyzed according to the objectives and the ins and outs of

the survey. A KAP survey can be specially designed to collect information on the issue of, but it is also possible to include general questions on practices and beliefs (Goutille, 2009).

Figure 4: *KAP Model: Process*
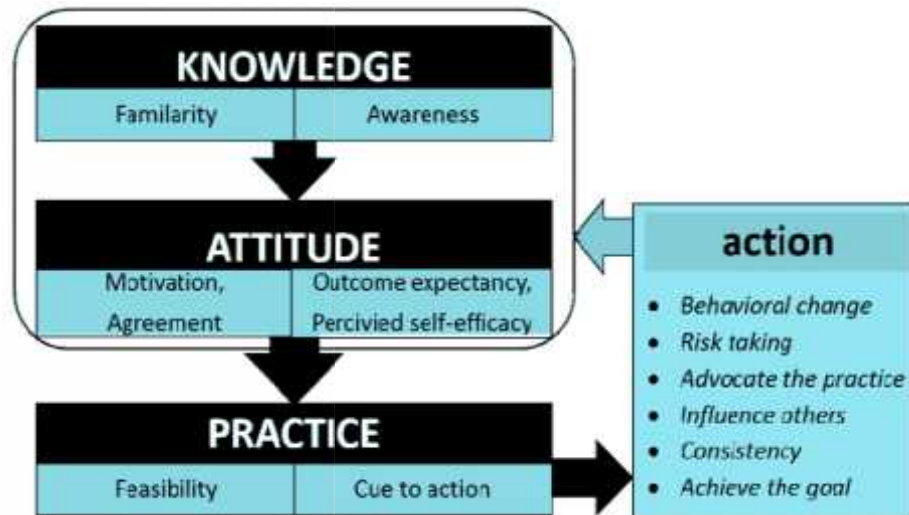
The action development process in KAP model occurs by cyclic process from knowledge phase to action phase in individual level(Bamberg, 2019).In the knowledge stage an individual acquired important information on the subject matter (ethical issues in construction company), and he/ she answers the awareness question, for example, how common is unethical behavior in the company? The familiarity question, how much do I know about professional ethics to deal with it in practice, and so on.

The second phase is attitude/ perception stage, in which an individual digests the knowledge acquired in to more strong ideas of after critically comprehended about it. The questions that would be answered in this stage could be an agreement (is ethical practice important?) or motivation (do I have energy to start practicing ethics in the company?), outcome expectancy (is it my responsibility to conduct ethically in the company, and what I get from that?), perceived self-efficacy (am I sufficiently learned/ trained to practice ethics appropriately?).

The third phase in KAP model is practice stage. It is not to mean that an individual who arrived at this staged could not necessarily do an ethical action in the field. It means that, at the stage a person accumulated the essential behavioral factors that leads to action, and he/ she has a strong potential towards action. In this stage the individual answers feasibility and que to action questions (do I have a good organizational framework to

practice ethics, are my colleagues and managers cooperate if I act ethics strictly, does the company allow me to disclose or whistle blowing when I detect the unethical practices, what feedback/ consequences I have got for my ethical acts I did last time?) and so on.

The final phase in KAP model is action. An individual demonstrates clear and concrete behavioral change at this stage. He/ she is willing to cost whatever required in the condition where the dangers perceived in the opposite side. Risk taking is willing to take risky action in the hope of a desired result. On the other hand, taking actions, which might have unpleasant or undesirable results. Once an individual arrives the strength he/ she advocates (e.g. publicly recommend or support ethics) for his/her moral and ethical principles in the form of persuading other to follow or stand for the right of victims. Influence others is inspiring them to realize a better future than they thought possible. The influencer challenges them to demand more of themselves, and he/ she encourage and motivate them to discover their sense of purpose. Researches shoed that people like to follow legitimate experts.

This results in growth of his/ her followers, in some cases greater than the vigor of the influencer. The consistency is a critical behavior in this stage, and it results with satisfaction due to the achievement of goal. Consistency is the quality of always behaving or performing in a similar way, or of always happening in a similar way: the state or quality of being dedicated to a cause, activity, etc. At this stage, the person reaches to its height of strength, accepted in the group as a model, and get recognition from many others, these causes the development of new attitude and knowledge on the subject matter (ethics) and the cycle continues as such.

People act and react to external stimulus in a cyclic manner and this way is that behavior/ action develops. In other words, this is where behavioral change occurs. Behavioral change also affects how a person function as a whole or as an individual part of the group. Generally, knowledge/ information systems that form, alter, or reinforce attitudes, behaviors, or acts of complying without using deception or coercion, then it inoculates seeds for action, then action occurs and the process donerepeatedly. In general, achieving the goal implies for a thing done successfully with effort, skill, or courage. something that a person did or got after planning and working to make it happen, and that therefore gives him/ her a feeling of satisfaction, or the act of working to make this happen again and again. (Oinas-Kukkonen, 2013).

Attitude/ perception and knowledge/ awareness on ethical issues and COE have a direct relationship on the behavior/ practice to do right or wrong with respect to the desired personal, societal and organizational principle. What people practiced is the result of what they feel/ perceive and know. If there is correct knowledge there, then the favorable attitude would follow it, and in turn, good practice entails as a result.

In other words, desirable ethical practice is the sum of the perception and awareness of the practitioners (professionals, managers, and owners) in the construction companies. Therefore, assessing ethical practices is the sum of assessing its component parts i.e. perception and knowledge too. To get holistic (since ethics is a complex human qualitative characteristic) and more reliable and valid result, the data of the study should incorporate perception and knowledge aspects of ethical issues along with practice focused items in the analysis of the study.

The KAP model argued that knowledge positively influences an individual's attitude and attitude in turn influence practices or behavior/ practice. Therefore, an individual's or an organizational perspective, attitudes, tendencies, knowledge, awareness and so on predicts the practice and it recommended to evaluate ethical, legal, risk related issues with this way. In the majority of KAP studies, data are gathered orally by an interviewer who uses a structured, standardized questionnaire or interview schedules. These data can then be quantitatively or qualitatively analyzed according to the objectives and the ins and outs of the survey. A KAP survey can be specially designed to collect information on the issue of, but it is also possible to include general questions on practices and beliefs.

2.3. Codes of Ethics (CoE)

Codes of conduct (CoE) are codes in which organizations lay down guidelines for responsible behavior of their members. CoE are often intended as an addition to the requirements of the law. Codes are made to delegate obligation to both the key (owner, employee, and customer) and contending tenderers to have a harmony between what is right and what is judgment skills for each task (Shah and Alotaibi, 2017).

As indicated by Masson (2011) ethical and moral conduct in the professional codes is in consistence with the moral qualities such as honesty and confidence, fairness and clarity, reasonable reward, reliability, integrity, objectivity, and responsibility.

2.3.1. Types of Codes of Conducts

There are two types of CoE are especially important for engineers (Van de Poel, and Royakkers, 2011). These professional codes are formulated by professional associations of engineers and, corporate CoE that are formulated by companies in which engineers are employed.

i. Professional Codes

Professional codes for engineers are mostly advisory. The objective of advisory CoEis to help individual professionals or employees to exercise moral judgments in concrete situations. Generally, professional codes have more specific objective to increasing awareness of and sensitivity for moral issues in the daily exercising of the profession (Van de Poel, and Royakkers, 2011).

Professional codes for engineers provide content to the responsibility of engineers. They express the moral norms and values of the profession. Most modern professional codes relate to three domains:

- Integrity, honesty and competency
- Obligations towards employers and clients
- Responsibility towards the public and society

Integrity and honesty implies that the profession must be conducted in an honest, faithful, and truthful manner. Integrity is living by one's own (moral) values, norms and commitments whereas honesty is telling what one has good reasons to believe to be true and disclosing all relevant information. This entails, for instance, that facts may not be manipulated and agreements must be honored. Sometimes it is also stipulated that the profession must be practiced in an independent and impartial way. Usually this is meant to imply that engineers should avoid conflicts of interests. Conflict of interest is the situation in which one has an interest (personal or professional) that, when pursued, can conflict with meeting one's professional obligations to an employer or to (other) (Van de Poel, and Royakkers, 2011).

Competency means that the practitioner must be having enough skill or ability to do his/ her duty and responsibility well and the professional practice must be conducted skillfully. This implies that the practitioner must be well enough educated, must keep up to date in his field and must take only work in his field of competence (Van de Poel, and

Royakkers, 2011). This study employed professional CoE as one of study tool to measure the ethical practice of the professionals in the construction company.

Ethiopian association of civil engineers' professional code of ethics (EACE, 2015) was used as study tool/ model to evaluate the ethical practice of the managers and professionals in construction companies in Jimma city. The detailed procedure and discussion that states how the CoE is used in the study has discussed in conceptual model section and in the research methodology chapter of this study. The full document of the Ethiopian civil engineers professional CoE is attached at the appendices of this study.

ii. Corporate Codes of Conduct

Corporate codes of conduct are more often disciplinary. The objective of disciplinary code is to achieve that the behavior of all professionals or employees meets certain values and norms. In such cases, corporate codes strive to achieve that all employees act according to certain guidelines (Van de Poel, and Royakkers, 2011).

2.3.2. Roles and Functions of Code of Ethics

The codes be responsible for inspiration and guidance that give a convinced motivation for ethical conduct and provide a helpful guidance for achieving the obligations of engineers in their work. They also support an engineer who follows the ethical principles. Codes give engineers a positive, a possible good support for standing on moral issues. Codes also serve as a legal support for engineers (Techno Script, 2020).

On the other hand, CoE has deterrence/ preventive function and disciplinary role. Education and mutual understanding roles also empowers codes to be circulated and approved officially by the professionals, the public and government organizations that concern with the moral responsibilities of engineers and organizations. Codes help to create a good image to the public of an ethically committed profession. It helps the engineers in an effective manner to serve the public, and this is another role of CoE in contributing to the profession's public image. The remaining roles and functions of CoE are Protecting the Status Quo (Codes determine ethical conventions which help to create an agreed upon minimum level of ethical conduct) and Promoting Business Interests (to moralize the business dealings to benefit those within the profession) (Techno Script, 2020).

2.4. Ethical Issues in Business Organization

2.4.1. Internal/ External Elements of Ethics in Business Organization

According to Abiodun and Oyeniyi (2014), ethics is based on broad principles of integrity, transparency, accountability, responsibility and fairness, and focuses on internal stakeholder issues such as product quality, customer satisfaction, employee wages and benefits, and external aspects such as local community and environmental responsibilities. Therefore, this study set three group of ethical factors in the conducting and assessing of this study, these are: perception on ethics,core ethical practices (internal stakeholder issues such as product quality, customer satisfaction, employee wages and benefits, etc.) and peripheral ethical practices (external factors such as local community and environmental responsibilities)

Ethical practices are the conscious compliance with the standard of morality that guides an individual and business to follow certain norms of conduct when dealing with people within and outside the organization. Therefore, ethical practice of business organizations has to be evaluated by consisting both external and internal ethical elements (Ononogbo et al. 2016).

2.4.2. Corporate Social Responsibility

Most corporations nowadays have policies, and officers, or divisions, for Corporate Social Responsibility (CSR). CSR policy is intended to function as a self-regulating mechanism for business to ensure its compliance not just with laws, but also with the spirit of the law, with international norms and with ethical standards. An important element of CSR is social accounting, which is the communication of social and environmental effects of a company's actions to stakeholders and to society. CSR may also include ethics training within the company (Gurzawska et al. 2015).

In general, CSR refers to responsibility, hence duties and obligations or motivation and opportunities of the companies towards society. Currently, there is a visible shift in industry of omitting the notion 'social' and using the term 'corporate responsibility'. This change of the language expresses the intention to broader the understanding of CSR and include not only responsibilities regarding society, but also the environment, human rights, etc. Other alternative terms that are nowadays in use include 'sustainability' or

'sustainable development,' 'business ethics,' 'corporate social performance' and 'corporate citizenship'. Due to the complexity and multi-faceted issues related to CSR, a unique and generally accepted definition of CSR is lacking. However, there is a growing awareness and interest in CSR, and some common principles are now acknowledged (Gurzawska et al., 2015).

Figure 5: Carroll's Pyramid of Corporate Social Responsibility/ CSR
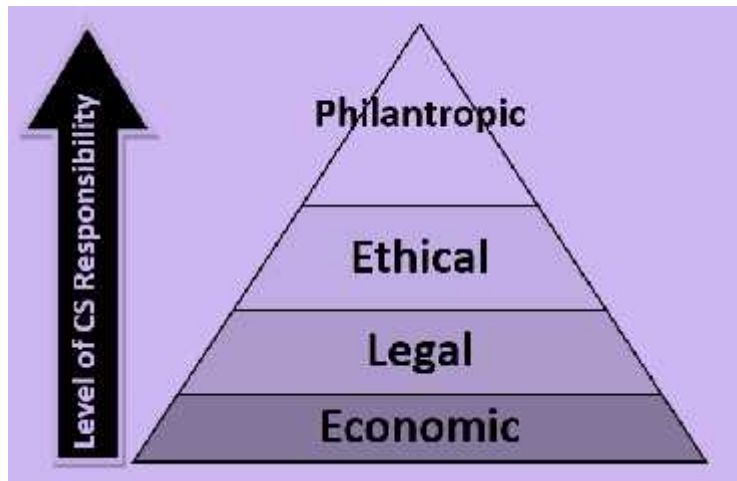
(Source: Martinuzzi et al., 2011)

CSR exhibit strong ethical characteristics than legal or organizational discipline and it is clearly demonstrated in Carroll's Pyramid of CSR that is a well stated model to correlate ethics with social responsibility. Moreover, the model also showed that ethics is the second highest level of responsibility (Martinuzzi et al., 2011).

According to Carroll's CSR model, the first and simplest level social responsibility of business is economic responsibility, so responsibility to produce goods and services that the society wants to buy and to sell them at a profit. The second responsibility of business is the legal responsibility, which is based on the expectations of the society towards business to fulfill its mission within the framework of legal requirements.

The third part of the CSR model is ethical responsibility. As Carroll explains although the first two categories embody ethical norms, there are additional behaviors and activities that are not necessarily codified into law but are expected of business by society's members. Suffice it to say that society has expectations of business over and above legal requirements." The last element is discretionary (or volitional) responsibility understood as voluntary activities of business that engages in social roles.

Corporate social responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and society. Corporate social responsibility is also one of the newest management strategies where companies try to create a positive impact on society while doing business. Every company has different corporate social responsibility objectives though the main motive is the same. All companies have a two-point agenda- to improve qualitatively (the management of people and processes) and quantitatively (the impact on society). The second is as important as the first and stakeholders of every company are increasingly taking an interest in the outer circle i.e. the activities of the company and how these are affecting the environment and society (CSR, 2014).

Social responsibility has an indirect impact on the ethical behavior of any organization, because it is an ethical scheme that has an obligation to act to benefit society. Social responsibility is a duty every individual or organization has to perform to maintain a balance between the economy and the ecosystems (Pacinst, 2014). Hence, to be ethical organization have to sacrifice they economic success for the societal duty, unless and other wise that deed could not be related with ethics.

Thus, every single activity of an organization that executed in the name to social responsibility could be characterized as ethically significant unless and otherwise it fulfills the actual definition of social responsibility, which is directly related to ethics, public duty, and sacrificing economic profit for the sake of keeping the balance between business gain and ethics.

2.5. Ethical Issues in Construction Companies

There are several crucial factors that influence construction companies either positively or negatively, such as economic factors, professional factors, technological, global, social, ethical, legal, political and ecological factors and so on. This study focused only on the ethical aspects of construction companies in Jimma, Ethiopia. According to Transparency International (2011), the construction industry has one of the highest levels of unethical practices due to corruption among to their industries. The reason why the industry is the most corrupt may be, attributed to many factors such as the uniqueness, and the many processes, which occur specifically to this industry and leads to unethical practices (Ahiaga-Dagbui and Smith, 2014).

According to Frynas (2010), the inducements for unethical practices are highly lucrative and this is a major reason that might be extremely tempting to some employees, and thereby making it more difficult to deal with the problem.

2.5.1. Ethics Among Practitioners of Construction Companies

The conflict of interest amongst the professionals like client and contractor project managers, site engineers, quantity surveyors and designers/architects play crucial roles for the unethical practices and consequently these practices have adverse impact on the product quality, faith of clients and investors' confidence in the construction industry. Therefore, it is sensible to study ethics in the construction company by sorting them (managers and professionals) and investigating their respective traits in the issue.

2.5.2. Unethical Practices in Construction Industry

Conflicts of interest is any situation in which an individual or corporation (either private or governmental) is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit. A conflict of interest can, however, become a legal matter when an individual try (and/or succeeds in) influencing the outcome of a decision, for personal benefit. This is related to duty of loyalty of the administrators of the organization, moreover it is also a legal or ethical relationship of trust between two or more parties (Lemke and Lins, 2013).

A conflict of interest (COI) is a situation occurring when an individual or organization is involved in multiple interests, one of which could possibly corrupt the motivation. A conflict of interest is a set of circumstances that creates a risk that professional judgement or actions regarding a primary interest will be unduly influenced by a secondary interest. Primary interest refers to the principal goals of the profession or activity, such as the protection of clients. Secondary interest includes not only financial gain but also such motives as the desire for professional advancement and the wish to do favors for family and friends, but conflict of interest rules usually focus on financial relationships because they are relatively more objective, fungible, and quantifiable (Sachs, 2011).

The secondary interests are not treated as wrong in themselves, but become objectionable when they are believed to have greater weight than the primary interest. The conflict in a conflict of interest exists whether or not a particular individual is actually influenced by the secondary interest. It exists if the circumstances are reasonably believed (based

onexperience and objective evidence) to create a risk that decisions may be unduly influenced by secondary interests (Reinhart and Rogoff, 2009).

The most common forms of conflicts of interests are self-dealing, outside employment, family interests, gifts from friends, pump and dump, accepting bribes use of government or corporate property or assets for personal use, unauthorized distribution of confidential information and so on.

- **Self-dealing:** an official who controls an organization causes it to enter into a transaction with the official, or with another organization that benefits the official. The official is on both sides of the deal.
- **Outside employment:** the interests of one job contradict another.
- **Family interests/ Nepotism:** a husband/ wife, child, or other close relative is employed (or applies for employment) or where goods or services are purchased from such a relative or a firm controlled by a relative. For this reason, many employment applications ask if one is related to a current employee. If this is the case, the relative could then recuse from any hiring decisions.
- **Gifts from friends**: friends who also do business with the person receiving the gifts. Such gifts may include non-tangible things of value such as transportation and lodging.
- **Pump and dump:** a stockbroker who owns a security artificially inflates the price by upgrading it or spreading rumors, sells the security and adds short position, then downgrades the security or spreads negative rumors to push the price down.
- **Accepting bribes**: can be also classified as corruption. Almost everyone in a position of authority, particularly public authority, has the potential for such wrongdoing.
- **Use of government or corporate property or assets for personal use:** it is also classified as fraud,
- **Unauthorized distribution of confidential information:** occurring when being a (fallible) human being rather than (say) a robot in a position of power or authority.

Social safety and sustainable development is one of the major ethical practice in construction industry. However, there is a significant observation of violation of this conduct such as pollution, environmental hazard, and accident causing practices in sites. Most of the construction materials can be recycled, in which the environmental damage

would prevented. Lucy et al. (2019) states that recycling issue directly related to sustainability.

2.5.3. Causes of Unethical Practice in Construction Industry

To reduce unethical practices in construction companies, the root causes need to be find out first. To ascertain these practices companies will have to depend on the most current research and development for answers on unethical practices. The problem though is that many researchers have not completely agreed on the causes of unethical behavior and practices.

For example, Ogundele et al. (2013), considered unethical behavior as an integral part of human culture. Kaynak and Sert (2012) believed that unethical practices are, caused by certain moral values. However, Hoyk and Hersey (2008) argued that psychological traps triggered unethical practices. Therefore, this study attempted to review more recent literature on the issue to get better summary of causes to the design of this study.

Hassim et al (2010) categorized the critical factors in six types that contribute to unethical conduct in construction companies are economic downturn, national goal, leadership, non-transparent selection procedure, unsuccessful assessment of the procedure, and unsuccessfulness of professional ethics and procurement policy.

The first three causes are very common in the industry. Economic downturn gives an excuse to companies to conduct unethically which organizations are ready to do anything for to survive during the depression particularly to obtain projects or tenders from the public sectors. National goal also opens doors to unethical practices when several national policies and goals that requires to be attained for it to be a developed nation, many projects ought to be finished at the particular time. They have led to strain the players of construction and result to unethical matters in procurement of project. The other cause of unethical practice is leadership because management is required as role model to enhance performance and demonstrate good leadership.

The other three causes have significant influence to the occurrence of unethical conducts in the construction companies. For instance, non-transparent selection procedure is one of the key reasons that ethical issues happen in preparation procurement is because of the selection procedure that is not transparent. On the other hand, unsuccessful assessment of the procedure is also the cause of ethical problems. The open tender procedure is one of

the methods to alleviate the potential interest conflicts and to encourage project procurement's cost efficiency. Unsuccessfulness of professional ethics and procurement policy is another cause of unethical behavior in construction in which failure on behalf of expert staff to apply the level of consideration needed under the circumstance can bring about moral issues to happen in venture acquisition.

Several researches worldwide discovered variety of causes, for instance, Abdul-Rahman et al., (2011) showed in their study that insufficient ethical education, economic downturn, lack of training, fierce competition insufficient legislative enforcement and unhealthy management, and construction industry culture as major causes.Oke, (2016) also discovered culture, greed and poverty, political influence, lack of high executive control, weak levels of supervision, lack of transparency, pressures and social influences as cause of ethical problems in construction companies.

Generally, as cited in Maseko, (2017), review of literatures on unethical practices in construction companies, the other causes of unethical behaviors in construction companies found to be empathy and indirect responsibility, weakening of self-control, self-justification, and egocentrism (Belle and Cantarelli 2017), (Maseko, 2017), mandatory quieted and unfairness (Kang, 2010), gaps or loopholes (Ermongkonchai, 2010; Tsegba et al., 2015), unrealistic targets and fixed deadlines (Nkundabanyanga et al.,2011), poor communication (Yeslamet al., 2015), over close relationships (Ling and Tran 2012), and absence of deterrence(Bowen et al. 2012).

Generally, causes of unethical practices in construction companies can be summarized in the following figure. These causes might be categorized as personal, socio-demographic, organizational factors, and causes related to clients/ users.

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Other Elements that influence ethical behaviors are the demographic traits and various factors of the staff of the business organization such as the type of staff and their cultural background, and will vary from business to business and obviously influenced the ethical practice in the organization (Wiid et.al., 2013).

2.5.4. Effects and Significance of Ethics on the Construction Companies

The performance of any organization is the integrated achievement of different elements of the organization. These elements are composed of individual, team, unit (department or division), and overall performance, Because of the variability and complex interaction between these elements, it is difficult to determine what factors are precisely affect the performance of the organization. But, generally the factors that affect performance of an organization can be grouped in three major categories, those are: interference, attitude, skills (Joanneand Laura J. 2010)

According to the study by Matthew (2014) the economies of most of developing countries such as sub Saharan African countries; construction industry has a very important role to play. About one-third of gross capital formation is made though the construction industry, for instance, 2 to 10 % of the total work-force is employed in the construction industry. In the construction industry is the second largest industry next to agriculture and account for eleven percent of ''s GDP.

As cited in Global construction study (2020), Transparency International (2011) stated that out of all the prominent sectors in the world, public works contracts and construction scored the lowest. The Construction Industry's global value reached $12 trillion per annum by 2020 (just as predicted by Transparency international 8 years ago). It has been estimated that unless adequate measures are taken a sum of $1.2 trillion risks being lost to corruption and unethical practices (uncompleted and delayed projects with huge time and cost over-run, poor and substandard quality of work due to non – adherence to contractual

design and specifications) on an annual basis – a figure that could double when considering management and execution inefficiencies. This is definitely a highly worrying matter. This also implies that ethics has a significance influence on this very critical economic sector.

Unethical practices have a number of harmful effects on the individual, company and the industry, and these include blackmail, criminal prosecutions, fines, blacklisting and reputational risk, and low organizational performance (Adnan et al., 2012).

Mishra and Mittal (2011) stated desirable ethical practices and good reputation of the construction company plays a great role in its economic success, work quality and performance. The study also showed that importance of morals in task execution by considering it as the fourth most crucial measurement in the venture, and this is also demonstrated in the new TQM diamond (as shown in the diagram below).

Figure 6: TQM triangle and diamond. Source: (Mishra and Mittal, 2011)
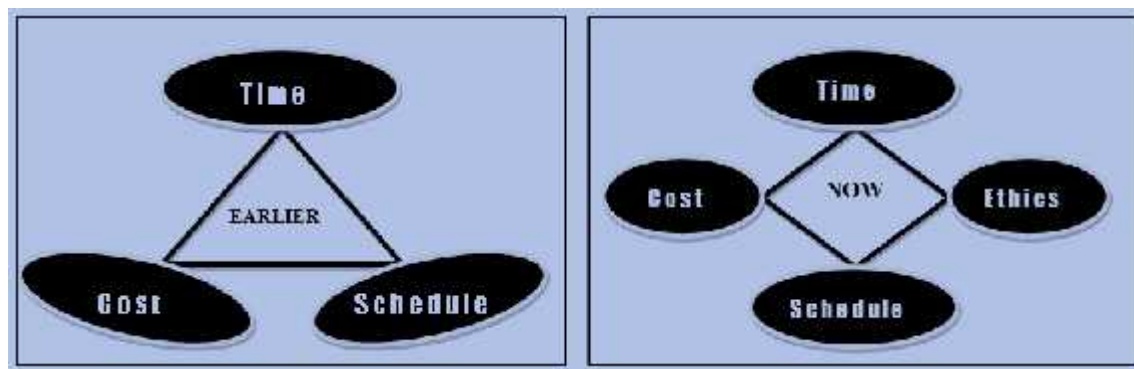
Human variables such as ethics and moral values add to the vast majority of value related issues. The expert morals issues assume a basic part in quality-related issues in a construction venture. Unscrupulous conduct by the industry of construction gatherings affects the venture's quality. Untrustworthy behavior by the industry of construction gatherings, there is a major impact on the task quality (Hamzah et al, 2010).

Unethical practices in construction companies have taken a high toll such as the loss of lives, financial and redirection of resources (Azhar et al., 2011).Adnan et al. (2012) went further to include factors such as economic damage, intimidation, criminal prosecutions, penalties and blacklisting, and in the long term, the effect of unethical practices on construction companies' include reputational damage and the company's capability to entice new businesses.

Other adverse effects of unethical practices on construction project performance include but are not limited to the following; desertion and breakdown of buildings, clashes, lawsuits, poor workmanship, underutilization of resources and susceptibility to regular maintenance (Adebanjo, 2012; Oyewobi et al., 2011; Ayodele, Ogunbode et al., 2011; Inuwa, 2015).

Performance in construction companies measured by quality, time, and cost of the projects. Since quality is one of the major factors for project success as well as a competitive strategy (Mallawaarachchi and Senaratine, 2015) therefore the impact on quality affects other factors such as cost and time. A company's success and sustainability negatively affected when unethical strategies and policies put in place fail to curb unethical practices (Ukessays, 2017).

Organizational Ethical behavior and the prevailing system of employment relations in the workplace is very important for employee performance, general development, the production of goods and services, both for domestic consumption and international trade and the inclusive benefits of sustainable human developments. In other words, how well organizations adhere to ethical standards, obviously, determines the wellbeing of all the stakeholders, the organization's productivity and the subsequent profitability, as well as the macroeconomic growth and development of the nation (Umar and Sha'awa, 2020).

The study revealed that Organizational discipline, Commitment, and Work attitude positively affect employee's performance in the Airline industry. However, the results suggest that Organizational Teamwork has a negative impact on the performance of Employees, signifying that a unit increase in Teamwork on the average lead to a corresponding unit decrease on employee performance by -0.067 units. Though, this impact is negative it is also statistically insignificant at conventional level. This study concludes that ethics serves as organizations guide and encourage employees to practice good behavior for the sake of improving their performance (Umar and Sha'awa, 2020).

Businesses with high ethical codes of conduct and commitment to enhancing integrity are not only profitable but also more likely to succeed in a commercially competitive world (Hasnah et al., 2015).Business activities require the maintenance of basic ethical standards, such as honesty, reliability and cooperation. Businesses cannot survive if their directors never tell the truth, if buyers and sellers never trust each other or if the

employees refuse to provide support to each other and to customers (Branko, Drago & Zoran 2015).

Business organizations such as construction companies should be ethical, in addition trouncing their operations in the most economical, efficient and effective manner possible to increase performance (Khomba & Vermaak 2012).

2.5.5. Overview of Construction Industry in Ethiopia

The ethical problems are causing a severely critical effect on construction companies particularly in developing countries like Africa. The major construction companies' constraints of performance in Africa in general, and in Ethiopia in particular directly or indirectly related to corruption and similar ethical issues (Nuredin, 2018).

Construction is booming in Ethiopia, accounting for 18% of the country's GDP for the financial year 2017-2018. The government has pumped millions of dollars into social housing, which has been a windfall for both foreign and local building contractors, and the construction sector is currently the largest employer in the country, with more than two million people employed in full-time and temporary jobs. However, there are many challenges facing the construction industry, from mounting debt to difficulty in sourcing the right materials. Ethiopia's growing number of construction projects have inefficiencies that need careful management. These inefficiencies are: Construction inputs are costly due to import fees. High rates of foreign exchange require further funding in Ethiopia's private and public sectors. Ethiopia's project managers are not as adept as other European or Chinese managers; thus, making project management a hassle (Semonegna Newspaper, 2020).

Ethiopia's construction sector is one of the most robust in Africa. According to the National Bank of Ethiopia (NBE), construction accounts for half of all the nation's industry. What's more, the industry is expanding rapidly. Data from the NBE also suggests that during 2013/14 the building sector grew 37%. Industrial activity accounted for 15% of Ethiopia's total output (bloomberg.com).

Using these stats, it can be seen that construction accounted for 7.5% of Ethiopia's total GDP during this period. According to African Economic Outlook, this equates to 9.4% of total output at current prices. This would give the construction industry a market value of around $6 billion (africaneconomicoutlook.org).According to BMI Research, Ethiopia is

set for further building-related growth in 2016. BMI estimates that the nation will maintain its status as a "regional growth outperformer" by posting real growth of 18.6%. The research firm also suggests that Ethiopia will enjoy 12.7% growth until 2021 with final ten-year growth averaging 10.7% in 2025 (bmiresearch.com).70% of all construction materials needed in Ethiopia are imported. This includes cables, steel, ceramics, locks, furniture and electrical fittings. All are critical for the completion of the nation's lofty building and infrastructure goals. As such, foreign firms can find promising opportunities in the export trade regarding Ethiopia (bloomberg.com).Averagegrowthrateof29.9%from2010to2014SharetoGDPincreasedfrom 4.0%in2009,7.6%in2013,8.5%in2015 (MoUDC, 2018).

Public construction projects take up an average annual rate of around 60% of the government's capital budget (MoWUD, 2006). Furthermore, the construction industry in Ethiopia accounts for 9.4 % of the Gross Domestic Product (GDP) (Wondifraw, 2015). This indicates how the success of the construction industry is directly related with the country's economy and professional ethics is believed tobe a determining factor to achieve that (Abhay Tawalare and Sudhir Reddy, 2018).

2.6.   Experiential Review

There are several studies that revealed ethics has a direct and strong impact on the performance of construction companies, for instance, in the Al-sweity (2013) study, the construction project achievement chiefly relies on the conduct of the people taking part in the project from the early start to completion stages.

The construction industry experiences several ethical and moral challenges connected to attitudes, perceptions, behaviors and practices of the professionals that are comprised of bid shopping, unreliable contractors, lying, claim games, conflicts of interest, payment games, threats, fraud, collusion and professional negligence (Ho, 2011).

In the study (Hamzah et al., 2010), about 93.9 percent of the respondents agreed that professional unethical conducts would contribute to quality related problems in the construction industry. 72.7 percent of the respondents agreed that unethical conducts could be the main cause for poor quality of construction projects.

2.6.1. Studies on Perception of Professionals on Ethics

The perception of professionals and their company on ethical matters affects their ethical climate. Ethical climate is the employees 'perception of what constitutes ethically right or wrong behavior; thus, ethical climate becomes psychological mechanism through which ethical issues are managed in an organization (Umar and Sha'awa, 2020).

Unethical business practices usually reflect the values, attitudes, beliefs and behavior patterns of the organizational culture (Turyakira, 2018).

Ethical climate in the workplace, due to its influencing employees' perception, and how their organization emphasizes the ethical aspect of business and encourages employees' ethical work behaviors (Farouk and Jabeen, 2018).

Due to the conflicting interests of employees there is a tendency for behavioral attitudes to deviate from the established rules and regulations of the organizations (Idris, 2015).

Business companies, in this modern age, employ people with diverse backgrounds in terms of nationality, culture, religion, age, education and socioeconomic status. Each of these persons comes into the workplace with different values, goals and perceptions of acceptable behavior. This diverse background creates ethical challenges for individuals as well as managers. Therefore, companies should give strong emphasis to ethical issues and the perception on ethics for their success. (Abiodun& Oyeniyi, 2014). Another study in South Africa showed that there is sound evidence that unethical decisions often undermine the performance of organizations (Lings, 2014).

Organizational ethics is found to be one of the most critical factors affecting not only organizational performance and effectiveness but also its corporate existence and survival (Byoung et. al, 2013).Employee perception of an organization is a determining factor of organizational misconduct (Dumisan, 2012). When employees believe that their organization is fair, it is unlikely that they will be involved in misconducts (De Schrijver, 2010).

2.6.2. Studies on Core Ethical Practices of the Organization

The recent study by Umar and Sha'awa (2020) in Nigeria revealed that Organizational discipline, Commitment, and Work attitude positively affect employee's performance in the Airline industry. However, the results suggest that Organizational Teamwork has a

negative impact on the performance of Employees, signifying that a unit increase in Teamwork on the average lead to a corresponding unit decrease on employee performance. Though, this impact is negative it is also statistically insignificant at conventional level. This study concludes that ethics serves as organizations guide and encourage employees to practice good behavior for the sake of improving their performance (Umar and Sha'awa, 2020).

2.6.3. Studies on Unethical Practices in Construction Companies

Maseko identified twenty most common unethical practices in the construction projects. The most dominant unethical practices were corruption, bribery and collusive tendering. The least unethical practices revealed by that study were the lack of safety, overstatement of capacity and falsification of documents (Maseko, 2017).

Shah and Alotaibi (2017) in their study on ethical issues in construction companies in the Middle east countries revealed that taking bribes and inducements, are the most common practices involved in unethical conduct, while the second common form is taking any kind of gifts and finally the third common from is having a benefit from conflicts of interest. These bribes and gifts are often presented in the bidding process of construction activities to gain the project, but even personal or professional conflicts of interest can be deemed as common unethical practices.

Shah and Alotaibi (2017) also showed that the bidding phase is the most susceptible stage to unethical practices in construction projects. They categorize the project phase in to two as before and after awarding the project. According to them, bidding process involves lots of irregularities and the owners take several steps of bribing and collusion to get the project. At this stage, they manipulate the people responsible for the awarding process prior to awarding the project. However, the after awarding phase also involves unethical conduct such as: lack of consideration for people and the environment as well as error in monitoring processes.

Nawaz and Ikram (2013)'s study revealed that the lack of education in ethics, dishonesty, bribery, and unreasonable behavior to be the key unethical issues, and recommended high quality training to address the problems.

In Australia, Stramarcos and Cattell (2013) established that the unethical practices of item pricing was a wide spread phenomenon in the construction industry

Among some studies conducted in Africa, Olusegun et.al (2011) suggested that the worsen and unethical practices in the construction industry can take different forms but the following were the most widely recognized unethical practices in construction companies: bribery, fraud, extortion, bid Rigging, overbilling, change Order Games, claim Games, money Laundering, and cover pricing (see the glossary in the appendix section for the meanings of these unethical practices).

Maseko (2017) compiled major unethical practices in construction companies after reviewing several literatures, and these are: negligence, conflict of interest, financial accounting integrity, fraud, corruption, bribery, unfair conduct, embezzlement, harm of environment, cover pricing, bid cutting, poor documentation, late and short payments, lack of safety, bureaucratic administration, collusive tendering, overstatement of capacity, falsification of documents, and falsification of qualifications to secure work.

2.6.4. Studies on Causes of Unethical Practice

According to Hawkins (2013), weak governance, regulatory systems and institutional capacity are the reasons that attribute to the failure of employees to act accordingly.Le et al. (2014) discovered that companies that had insufficient penalties, lack of meticulous supervision, close relationships with contracting parties and project complexity increased the chances for unethical practices to take place.

Usman et al. (2013) revealed that not reprimanding corruption and the availability of loopholes in project monitoring were some of the factors that influenced the persistence of unethical professional practices in construction projects.

2.6.5. Studies on Outcomes of Unethical Practices

Lucy et al. (2019) stated that the waste generated from the construction industry in Ethiopiais enormous due to poor management practices, this wastes could hamper the sustainability environment. The study revealed that the demolition hollow concrete block wastes could replace the natural river sand up to 50%, and this could reduce environmental impacts due to waste disposal and rivers and mining. Since one of the ethical canon of Ethiopian professional CoE of civil engineers' states social safety and sustainable development is ethical practice, violating this code has undesirable outcomes such as environmental, economical, health, and social problems arise from environmental degradation.

Nigerian study by Inuwa et al. (2015) observed that, the exposure to frequent job maintenance in the construction industry was the major consequence of not adhering to professional ethics and therefore resulted in corruption. The study advocated for more openness and responsibility in contract management as highly effective remedies for curbing unethical professional practices.

Performance in construction industry affected by ethical issues both in developed and developing countries in almost equal manner. For instance, the study conducted in Ghana (developing sub Saharan country) showed that unethical practices, such as corruption, and that politician occasionally prejudice nepotism and partial conduct (Asamoah and Dercardi-Nelson, 2014). Unethical conduct in construction companies found in developed countries like Seweden, reported to cause significant impact on the quality of constructed projects (Matthew, 2014).

Mathenge (2012) uncovered high corruption activities in the construction of buildings and of roads in Kenya. Cottle et al. (2013) revealed corruption to be the most prominent of all unethical practices in the construction companies in South Africa, this was as a result, of many court cases of construction corruption, bribery and collusion that was uncovered from the construction of the 2010 world cup stadiums. A Malaysian study by Abdul-Rahman et al. (2010) revealed that about 74% of the construction participants in the industry were, engrossed in many unethical practices.

2.7.   Conceptual Model

Figure 7: *Conceptual Model of the study with respect to CoE of EACE*
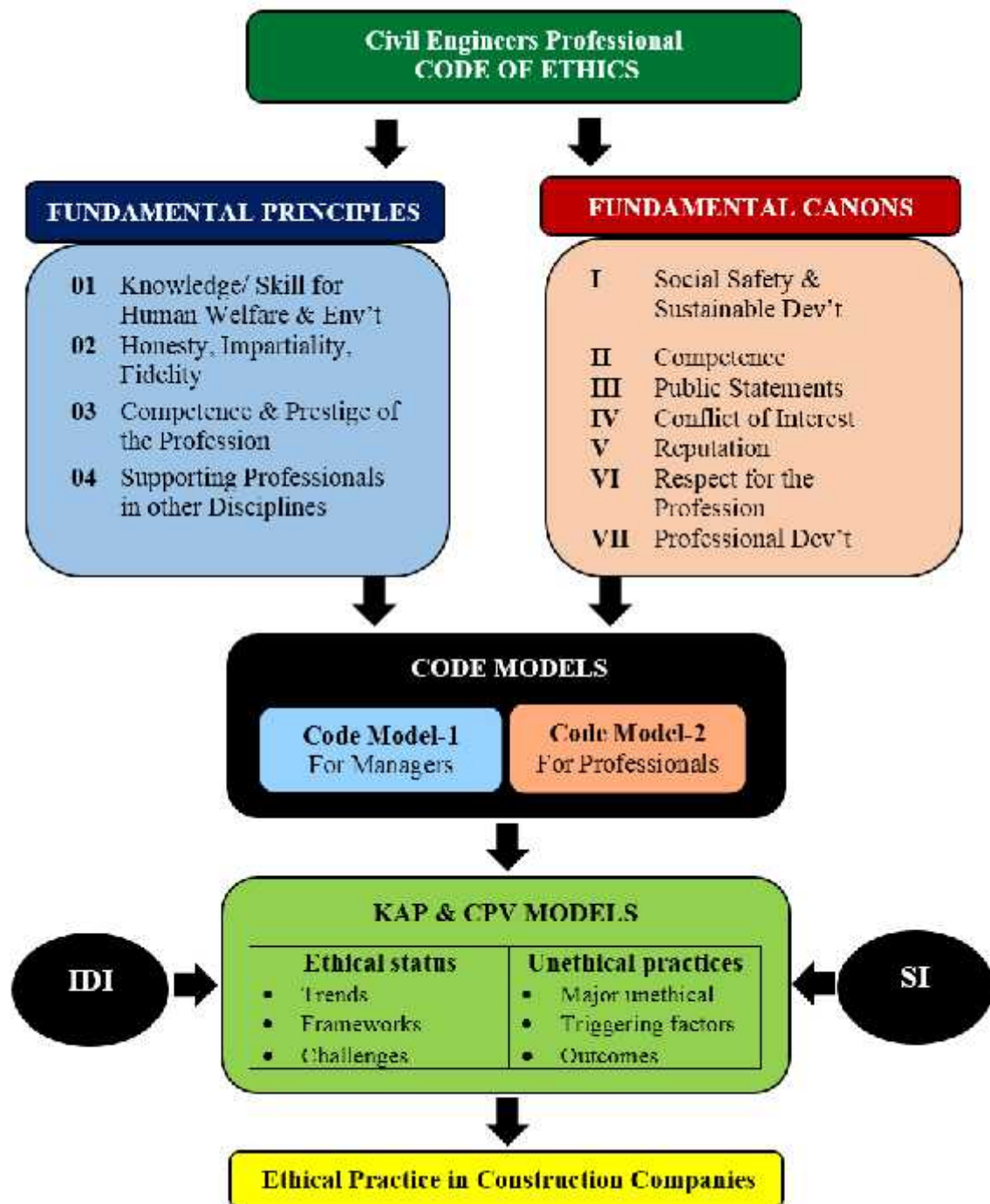
Key: *IDI stands for data that collected through in-depth-interview, and SI stands for data that collected through structured interview. CoE/ code of ethics is referring to Ethiopian civil engineers' professional code of ethics (EACE, 2015)*

In addition to the two theoretical models (CPV and KAP models) designed for this study the researcher of the study has formulated the third model to increase the reliability and validity of the data and to triangulate the data that collected from general interview

questions (IDI and SI). The third study model is called code model, because it was derived from the EACE (2015) code of professional ethics of Ethiopian civil engineers.

The code model has two parts: code model-1 for managers and code model-2 for professionals. Code model-1 is based on the four fundamental principles of CoE of EACE, and code model-2 based on fundamental canons of CoE of EACE. All questions items were designed as practical construction project problems and the respondents were required to judge and evaluate, to solve the problems. This way the practical tendencies of the respondents would be analyzed.

To collect the shared data from both group of respondents the researcher also designed additional starter questions before two code model, that asked before the code model questions. The appraisal questions of the two models were delivered under the general interview questions, IDI and SI, for managers and professionals. The schematic representation of the conceptual model of the study illustrated above in figure7.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. Study Area

The study area is limited to Jimma city in Jimma zone, Oromia, Ethiopia. Jimma is governed by town administration directly under Oromia Region, 360 KM far from Addis Ababa. It has a latitude and longitude of 7°40 N 36°50 E and elevation of 1,780 m. Based on 2007 CSA census, the estimated population of the town Population (2012) 207,573; assuming constant rate of population the current number could be approximated to above 350,000. This study is selected because it is the vicinity to researcher's settlement and also there is growing construction activity in the town.

3.2. Study Design

The purpose of qualitative study is to answer why, to identify perception and motivation, to assess human behavior. The report that emerged from qualitative analysis has exploratory, explanatory and discovery features. The results also provide insights and intuition on the subject area. These abstract human behavior elements could not be quantified for practical purposes. Although, it is difficult and futile attempting to analyses these factors through quantitative way. However, the study founded on qualitative study approach, it does not mean that it is presented with statements only. The researcher can present the final results with aid of diagrammatic, tabular, pictorial, or even statistical presentation such as charts, pictograms, frequency tables and so on

The study designs quantitative research approach in descriptive method. The general populations of the study are assumed to be the professional and managers in construction companies. The sample respondents selected in purposive non-probability technique and the data collected from them by IDI and SI interview methods in addition to secondary data consultation techniques.

Ethics is an abstract human phenomena and it is well addressed in qualitative study approach. The forms, measures, rights, obligation, duties, responsibility, right, wrongs, are ethical elements that manifested in human behavior and should be studied in qualitative research (Belay and Abdinasir, 2015).

Qualitative research is research undertaken to gain insights concerning attitudes, beliefs, motivations and behaviors of individuals to explore a social or human problem and include methods such as focus groups, in-depth interviews, observation research and case studies. It does not rely on a lot of numerical calculations, does not manipulate independent variables, and does not administer a test or treatment (Esayas, Not Dated).

Qualitative research methods are valuable in providing rich descriptions of complex phenomena; tracking unique or unexpected events; illuminating the experience and interpretation of events by actors with widely differing stakes and roles; and moving toward explanations. The best qualitative research is systematic and rigorous, and it seeks to reduce bias and error which is very common in quantitative research approaches.

Enhancing the quality and credibility of qualitative analysis by dealing with three distinct but related inquiry concerns: rigorous techniques and methods for gathering and analyzing qualitative data, including attention to validity, reliability, and triangulation.

The qualitative research approach is more subjective in nature than quantitative approach and it involves investigating vague aspect of the research subject like perception, attitudes, knowledge, values, opinions and behavior (Kothari C, 2004).The most commonly used qualitative data collection techniques can be in depth interview, observation methods, and document review. In this study in-depth interview (IDI) and structured interview (SI) data collection techniques were used.

Semi-structured interview allows the researcher and participant to engage in a dialogue whereby initial questions are modified according to the participants' responses. The researcher explored interesting and important questions which are raised in the middle of the dialogue. It facilitates rapport, allows a greater flexibility of coverage, allows the interview to go into details which might not be included in the questioner, and it tends to produce richer data.

In qualitative methodology the researcher follows induction, and thematic analysis to reach in to meaningful result. Qualitative approach defines the occurrences in verbal form instead of numbers or numerical computations. The disadvantages of qualitative researches is that the data cannot be quickly, easily, or efficiently summarized nor is it often impossible to generalize from given qualitative observation to another situation (Kothari C, 2004). In order to mitigate this problems this study employs systematic and careful designing of data collection tools based on CPV and KAP models. Moreover,

code models also employed to increase the validity and reliability of the qualitative data and the triangulation of the study.

The overall study design process based on the objectives, data Collection and analysis of the study summarized below in the figure.

3.3. Study Variables/ Factors

The variables or factors of this study wererooted from the three specific objectives of the study. The categorization of these study variables are illustrated in the table-2, for the analysis of qualitative study, with underlying models of the study.

Table 2: Study Variables/ Factors

Specific Objectives	Study Factors	Study Models		
		Theoretical (CPV & KAP)	Code Models	
			1	2
Ethical Status (objective-1)	Trends	✓		
	Frameworks	✓		
	Challenges	✓		
Unethical Practices (objective-2)	Major Unethical Practices	✓		
	Triggering Factors	✓		
	Outcomes	✓		
ECEA Code of Ethics aspect (objective-3)	Fundamental Principles		✓	
	Fundamental Canons			✓

In this regard the study assessed eight variables/ factors, these are trends of ethical matters, frameworks prepared for ethics, challenged observed, major ethical practices, triggering factors to unethical practices, outcomes of the unethical practices, implementation of fundamental principles and fundamental canons in the construction companies in Jimma city.

3.4. Population and Sampling Method

The population of the study was managers and professionals from all construction companies in Jimma city which are actively running. The managers include project managers, owners, general managers and representative managers, most of them are graduated either from construction management or civil or highway engineering. The professionals mainly covered by civil engineers and generally they are composed of site engineers, office engineers, architects, construction building and surveying professionals

and few electrical engineers. Sampling technique used in this study were by purposive non-probability sampling because population is small and heterogeneous.

The sample respondents of this study (for both IDI and SI interviewees) was selected from the target solution by purposive sampling technique. The recommended sample size for in-depth interview is 5-10, and for SI 10 - 50 (Mason, 2010). Therefore, the proposed sample size was determined 60, by taking the maximum boundaries of the recommended ranges. The 10 sample respondents for IDI selected among professionals in the companies, and 55 sample respondents for SI selected among managers in the companies; by adding the 25% high contingency to improve validity the proposed sample size becomes 75 (60+60*25%).

During the data collection the actual number of total respondents found to be 62 (11 and 51 in IDI and SI sessions respectively). According to this the sample size determination for in-depth interview of this study was optimum. The samples were selected from the managers for IDI, and from professionals for SI, based on the objectives and literature review of the study to increase the representativeness of the results. Since, managers are faced with frequent ethical issues in the company in their managerial activities the IDI was exclusively arranged for them to get more depth information on the company's general condition of ethical status, underlying frameworks and preparation of the company for ethics, and challenges. On the other hand, to collect better data on major unethical practices they encountered in their work environment, the triggering factors that cause ethical problems and their outcomes from the respondents' experience, perception and attitude through structured questions professionals were selected.

The sample size selected for IDI from large-sized construction companies was 3 construction managers (all project managers), from medium-sized construction companies was 4 construction managers (2 project managers, 1 owner, and 1 delegate), and from small-sized construction companies was 4 construction managers (2 owners & 2 delegate). Totally, 4 project managers, 4 owners/ general managers, and 3 delegated managers were participated in the data collection stage among the total 11 samples. All (11) of them (100%) were construction managers.

The sample size selected for SI from large-sized construction companies was 11 professionals (7 civil engineers, 3 construction building, and 1 electrical engineer), from medium-sized construction companies was 16 professionals (all civil engineers), and from small-sized construction companies was 24 professionals (all civil engineers).

Totally, 47 (92 %) civil engineers, 3 (6 %) construction related (surveying, construction technology and building, and architecture) professionals, and 1 (2 %) electrical engineer participated in the study. Since construction related professionals are similar to civil engineers and then taken as the convenient sample for this study. Therefore, the total number of convenient samples becomes 50 (98%) and it is suitable for the study.

Table 3: Population and Sampling

Company Grade	Level of Company *(from Study Analysis)*	Sample size									
		For IDI				For SI				Total	
		M	O	R		CE	CR	EE		f	%
1, 2, 3	Large- sized	3			**3**	7	3	1	**11**	**14**	23
4, 5, 6	Medium-sized	1	2	1	**4**	16			**16**	**20**	32
7, 8, 9	Small-sized		2	2	**4**	24			**24**	**28**	45
	Total	4	4	3	**11**	47	3	1	**51**	**62**	100

Key: IDI=in-depth-interview, SI=structured interview; M=Manger, O=Owner, R=Representative; CE=civil engineers, CR=construction related, EE=electrical engineer); = total; f=frequency

The size and type of sample respondents determine the validity of the study result. The validity test for this study feature is analyzed under the subtitle of transferability validity test.

3.5. Sources of Data

Primary source of data are the data that were collected from sample respondents through questionnaire and interview. Most of the primary data is focusing on ethical issues. Alongside these two techniques document, consultation technique was conducted to collect data on performance of the company.

Secondary data (books, manuals, office documents, reports, researches, websites, and magazine) more focusing on ethical matters and organizational performances related to Construction Company.

3.6. Data Collection

Three techniques were used to collected data for this research. To collect primary data, In-depth interview used to collect broad spectrum of data from managers and structure interview were used to collect specific data on ethical matters from professional. The document review/consultation method also used for two purposes. One, to collect secondary data on the trends of the companies in relation to the ethical matters as well as the performance of the company from office documents and previous studies conducted

in the study area on the construction companies. Two, to triangulate the data collected through primary data collection techniques.

The purpose of using two different kinds of interview techniques is majorly to triangulate the data in order to increase the reliability of the result. Additionally, in depth interview technique purposefully provided to collect depth data from the managers who have more exposure to the internal issues of the company (statuses, frameworks, and challenges); and the structured interview is presented to the professionals to get specific and concise information on the specific factors on ethical issues (major unethical practice, triggering factors, and outcomes).

3.6.1. In-Depth-Interview/ IDI

An in-depth interview is an open-ended, discovery-oriented method to obtain detailed information about a topic from a stakeholder. In-depth interviews isa qualitative research method; their goal is to explore in depth a respondent's point of view, experiences, feelings, and perspectives (Belay and Abdinasir, 2015).

The designing of the IDI tool with study models is shown in Table-4.

Table 4: In-depth-interview questions designing (managers)

Features of the Interview Questions (for Managers)							
IQ	KAP Model	Study Objectives		Validity	Code Model-1		CPV Model
		Elements			Element of Fundamental Principle	Article	
1	Practice	Framework	*iii*		Adopting the Code	03	Pl
2	Attitude/Perception	Outcomes	*ii*		Success via ethics	02	Cs
3	Knowledge	Framework	*i*		Practical Knowledge	01	Pl
4	Practice	Trend	*i*	1	Ethical progress	03	Pl
5	Practice	Challenges	*ii*		Ethical solution	02	Cs
6	Practice	Trend	*i*		Support/ participate	04	Vr
7	Knowledge	Outcomes	*ii*		CSR	01	Vr
8	Practice	Challenges	*i*		Safety	01	Cs
9	Attitude/Perception	Triggering	*ii*		Quality	03	Cs
10	Attitude/Perception	Triggering	*ii*	9	Whistleblowing	01	Vr
11	Practice	Framework	*i*	1	Env't policy	01	Vr
12	Knowledge	Challenges	*ii*		Ethical solution	03	Cs
13	Attitude/Perception	Triggering	*ii*	12	Ethical solution	03	Cs
14	Practice	Trend	*i*		Manage Fairly	02	Pl
15	Practice	Unethical	*ii*		Fidelity	02	Vr
16	Practice	Trend	*i*		Professional Prestige	03	Pl

Key:
   *Numbers in validity column indicate the conjugate number of interview question that designed for validity and reliability test; **CSR**=Corporate Social Responsibility*
   IQ   *= interview question number;*

*Roman numbers **i, ii,** and **iii** stand for serial number of specific objectives of the study*
***01, 02, 03,** and **04** are serial numbers for fundamental principles in EACE CoE (2015);*
***Cs, Pl,** and **Vr** stands for consequence based, principle based, and virtue based ethical actions.*
***Code Model-1** (Fundamental Principles):**01**=Knowledge/ Skill for Human Welfare &Environment; **02**=Honesty, Impartiality, Fidelity; **03**=Competence & Prestige of the Profession; **04**=Supporting Professionals in Other Disciplines.*

3.6.2. Structured-Interview

Structured interviews are interviews that strictly adhere to the use of an interview protocol to guide the researcher. It is a more rigid interview style, in that only the questions on the interview protocol are asked. As a result, there are not a lot of opportunities to probe and further explore topics that participants bring up when answering the interview questions. This method can be advantageous when researchers have a comprehensive list of interview questions, since it helps target the specific phenomenon or experience that the researcher is investigating. It makes for expedient interviewing and gather the correct information that you need, so there should not be much need for you to do follow-up interviews for missed or forgotten questions (Belay and Abdinasir, 2015).

The designing of the SI tool with study models is shown in the table-5 below.

Table 5: Structured-Interview Questions Designing (Professionals)

| IQ | KAP Model | Study Objectives | | Validity | Code Model-2 | | CPV Model |
		Elements			Element of Fundamental Canon	Canon	
1	Practice	Unethical	*ii*		Damaged reputation	V	Cs
2	Practice	Framework	*i*	3	Contracts document	III	Pl
3	Practice	Framework	*i*		Contracts document	III	Pl
4	Practice	Framework	*i*		Contracts document	III	Pl
5	Knowledge	Triggering	*ii*		Ethical awareness	VII	Cs
6	Practice	Triggering	*ii*	FC	Cause of immorality	VII	Cs
7	Practice	Code	*iii*		Code presence	VI	Pl
7.1	Attitude/Perception	Code	*iii*		Code implementation	VI	Pl
8	Attitude/Perception	Code	*iii*		Code for performance	VI	Cs
9	Knowledge	Unethical	*ii*		Whistleblowing	I	Vr
9.1	Knowledge	Unethical	*ii*		Responsible role	I	Vr
10	Knowledge	Triggering	*ii*	9	Improve ethics	VII	Pl
11	Attitude/Perception	Consequence	*ii*		Ethics for profit	II	Cs
12	Attitude/Perception	Consequence	*ii*	11	Ethics for profit	II	Cs
13	Practice	Trend	*i*	FC	Ethics for quality	V	Cs
14	Knowledge	Consequence	*ii*	11	Ethics for performance	II	Cs
14.1	Attitude/Perception	Consequence	*ii*		Ethics for performance	II	Cs

Table header row: **Features of the Interview Questions (For Professionals)**

15	Knowledge	Consequence	*ii*	FC	Ethics as resource	V	Cs
16	Knowledge	Unethical	*ii*		Conflict of interest	IV	Vr
17	Practice	Unethical	*ii*	16	Conflict of interest	IV	Vr
18	Practice	Unethical	*ii*		Fair management	II	Pl

Key:FC stands for flash cards supported interview questions; Uppercase Roman numerals I, II, III, IV, V, VI, V, VI and VII are numbers for fundamental canons of code of ethics. **Code model-2 (Fundamental Canons): I=**Social Safety & Sustainable Development; **II=**Competence; **III=**Public Statements; **IV=**Conflict of Interest; **V=**Reputation; **VI=**Respect for the Profession;**VII=**Professional Development

3.6.3. Code Model Questions

i.   Starter Questions

Starter questions are the first part of code model interview questions, whichare provided to both the managers and professionals with the same and similar types of questions to evaluate the preliminary matters concerning code of ethics. Next to starter questions each type of the respondents is encountered with different types of questions that are designed by taking the code as a model. These model questions were provided for the interviewees in a manner that managers were asked specific questions that are based on fundamental principles whereas professionals were asked the questions that are based on the fundamental canon of the code. The purpose of these shared starter questions is to relate the practice of practitioners (managers and professionals) in their common companies with similar interview items.

ii.   Appraisal questions

Appraisal questions are the second and main part of code model interview questions, which are prepared separately for managers and professionals. The appraisal questions to assess the ethical behavior of managers were derived from the four fundamental principles of Ethiopian civil engineers' code of ethics. The items in the companies operator interview for managers involves four themes, these are first: knowledge/ skill for human welfare &environment; second: honesty, impartiality, fidelity; third: competence & prestige of the profession, and fourth: supporting other disciple professionals.

3.7.   Data Analysis and Presentation

Qualitative study analysis uses recursive abstraction, thematic analysis and coding to analyze data that is usually collected through interview, focus group discussion or

observation notes. This study employs qualitative analysis through thematic analysis and coding (Belay and Abdinasir, 2015).

Data analyzed by employing suitable qualitative (thematic description, argumentative description and discussion), and quantitative techniques by statistical computations through manual computation and software such as MS-Excel. Data presented, similarly, by statistical descriptive ways through tables, graphs, charts, and descriptions by paraphrasing qualitative data.

Figure 8: *Diagrammatic Representation of the Study Process*
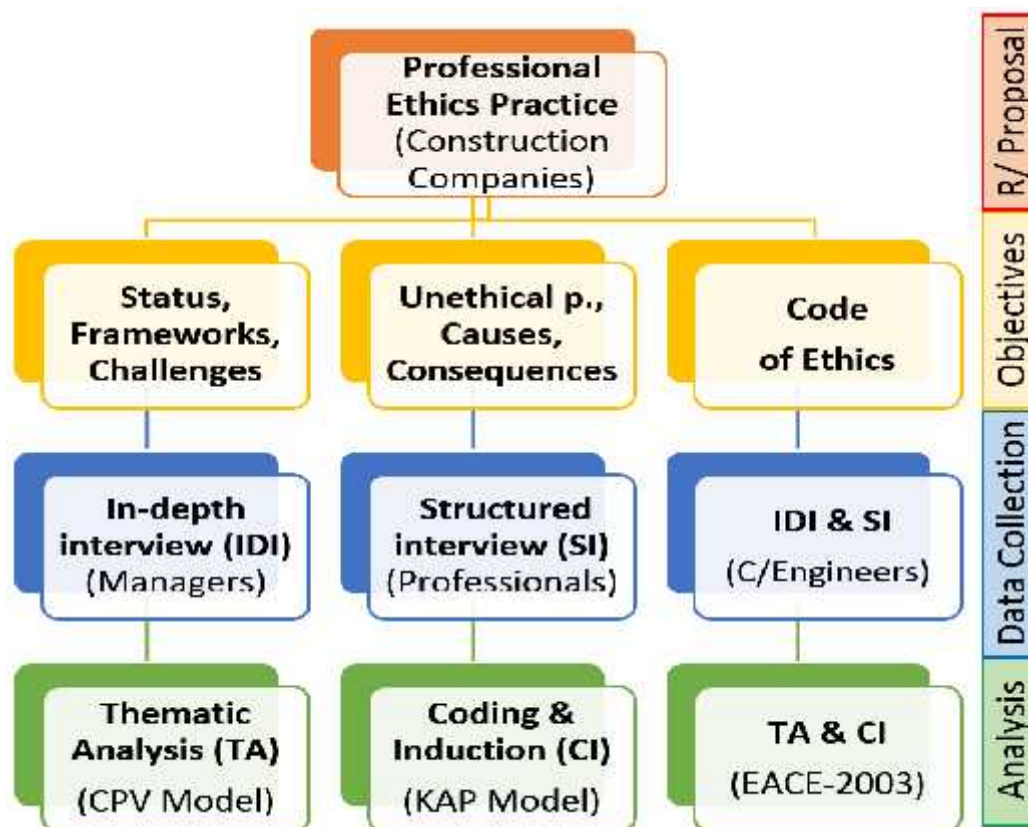
3.8. Ethical Considerations

The researcher of this study was strictly followed the conventional research principles such as academic integrity, free from plagiarism, and honesty as well as obey rules, regulations and requirements of Jimma University and Jimma institute of technology. The data collection session and all stages of this study had been also firmly adhering to legal, moral, and ethical obligations. In this regards, the confidentiality of all respondents and company were respected without any reservation. The name, address or any private profile of the sample respondents/ companieswerenot required, collected and included by

any means/ or form in the study. The respondents were only giving data by their full consent.

CHAPTER 4

RESULTS AND DISCUSSIONS

This chapter is presented in six major sections where the first three major sections consisted the results of the study whereas the second three major sections presented the discussions of the study. The first three major sections (4.1general ethical status, 4.2 unethical practices, 4.3CoE) results of the study in line with the three specific objectives. The second three major sections (4.4 discussions on general ethical status, 4.5 discussions on unethical practices, and 4.6 discussions on professional CoE) presented discussions of the study in line with the three specific objectives.

4.1 Ethical Status

To assess the ethical trends of the construction companies in Jimma, managers the companies were asked five questions among 16 IDI interview items, i.e. Q#1, 3, 4, 8, 11. The questions consist of knowledge and practice elements of KAP model; and consequence, principle and virtue based elements of CPV model. The responses also consist of two out of four elements of code-model-1 elements, i.e. principle 01 (practical knowledge, safety, environment policy); principle 03 (ethical progress, professional prestige).

Table 6: Responses with respect to Specific Objective-1 &Models of the Study

I.Q.		Element of Spc. Obj. 1	Model			
			CPV	KAP	Element of the CoE	
Managers	4	Trend	Principle	Practice	Ethical progress	03
	1	Framework	Principle	Practice	Presence of CoE	03
	3			Knowledge	Practical Knowledge	01
	11		Virtue	Practice	Environment policy	
	8	Challenges	Consequence	Practice	Safety	01
Professionals	13	Trend	Consequence	Practice	Ethics for quality	V
	7	Framework	Principle	Practice	Presence of CoE	VI
	8		Consequence		Significance of CoE	
	2		Principle		Contracts document	III
	3					
	4	Challenge	Principle	Practice	Contracts document	III

On the other hand, professionals were asked six questions among 18 SI interview items, i.e. Q#2, 3, 4, 7, 8 and 13. The questions consists of practice element of KAP model, consequence-based and principle based elements of CPV model, and they consist of canon III (contracts document), canon VI (presence and significance of CoE) and canon V (ethics for quality) aspects of code model-2: elements of fundamental canons. The responses pointed out that all three elements of the specific objective 1 (trend, framework and challenge) was reflected by managers as shown in table-6above.

4.1.1 Managers Responses on Ethical Status
4.1.1.1 Trend

For the Q#4, (progress of professional ethics in the companies), 10 (91%) of the interviewees agreed that there is poor (declining) progress in ethical practices in the study area and the reason for that was the conflict between profit and ethics, one of the managers (9%)said that there is a progress in ethics in his company. From the responses of managers for Q#1, all, 10 (91%) of them similarly responded that there is no the professional CoE adopted/ used in their companies at all, but informally some managers or professional attempted to implement the principles and canons of the CoE. One of the managers (9%) from the large sized construction company said that his company not only has progress in ethical practice but also using international CoE of engineers to control undesirable unethical practice in the company, but not yet adopted Ethiopian CoE of civil engineers'. The implementation of the CoE informally, is hindered by several challenges, such as unavailability of founded framework and preparedness to reward or punish according to the code, therefore, most of the practitioners in the company have no motivation to impact ethically.

4.1.1.2 Framework

For the Q#3, (professional ethics in your corporate strategy), 9 (82%), not employed business ethics in their strategy, and2 (18%) responded that they have attempted to include some ethical issues in their strategic plan at least in principle. For the Q#11 (policy implementation concerning environmental protection) all of them, 11 (100%), said there is no any. Most of them, 8 (73%), either they did not think about it at all or they think that is the duty of government, but 3(27%) of the respondents stated that they tried to act responsibly towards environmental protection.

4.1.1.3 Challenge

For the Q#8 (safety)10 (91%) of them said that there are incidences of safety related problems that caused by poor safety regulation practices in the companies, only one (9%) of them said that they are in a good status in keeping safety measures in their construction works. For instance, providing goggles (protective eyeglasses), masks, aprons, gloves, helmets, safety belts to workers; assuring safe working site before and during operations; warning and informing signs and symbols for passerby and traffic sand etc. All of the respondents also said that occupational hazard is one of the challenges that their companies faced. However, they assured instructions and regulation in the projects to prevent hazards and accidents, the professionals do not keep with this instructions and rules, and creates burden of construction management in the administrative body.

The other major challenge in professional ethical matters that mentioned by 7(73%) managers said there is poor support from government in creating fair and legal market environment and controlling corruption in construction industry.

The overall ethical status of the construction companies in Jimma (from the responses of managers) demonstrated in figure-9below.

Figure 9: Managers Response on Trends, Framework, & Challenges of Ethics
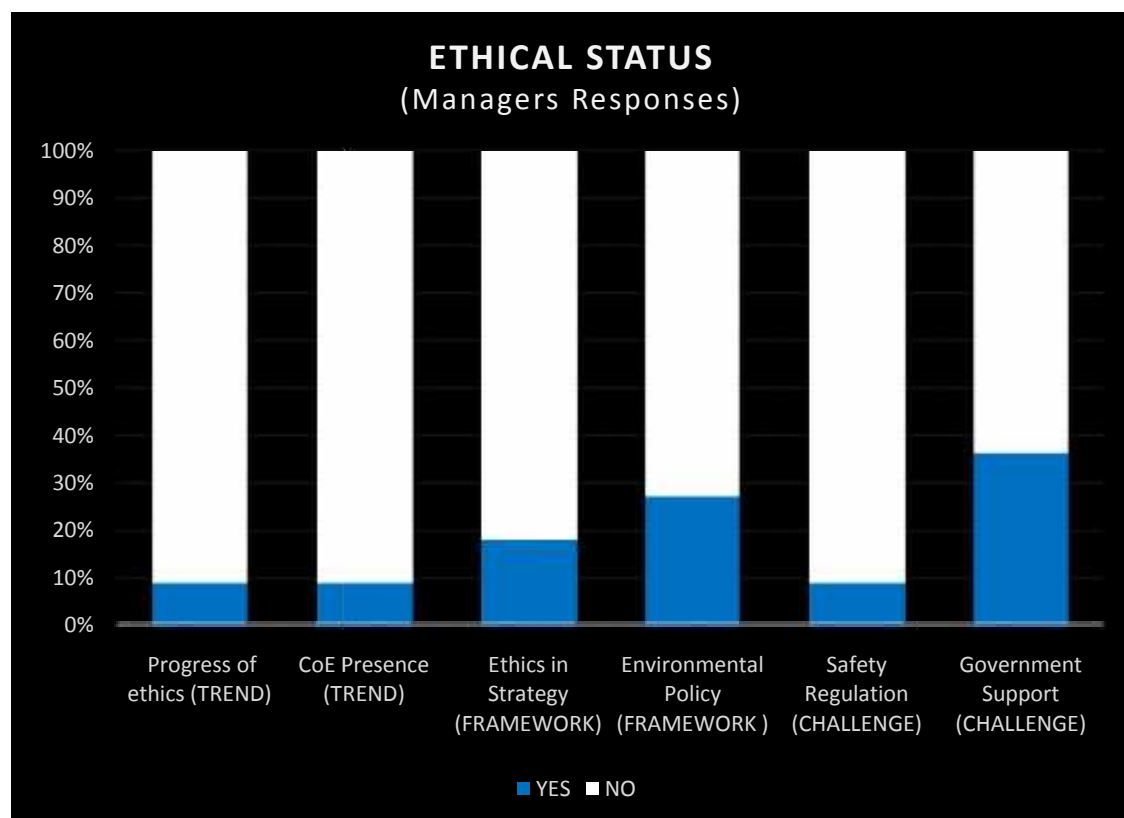
4.1.2 Professionals Responses on Ethical Status

In SI interview sessions the professionals were asked three questions (Q# 2, 3, 4, 7, 8, 13) to assess the ethical trend of construction companies in Jimma city.

4.1.2.1 Trend

The professionals were also asked another questions (Q#13, supported by flash card technique to facilitate the interview) to assess the ethical trend of construction companies. For the question (Q#13), 'how do you evaluate the progress and the construction quality of your company with respect to civil engineering professional ethics, 18 (35%) of the respondent rated low, 22 (43%) of the respondent rated moderate, and 11 (22%) of the respondent rated high. For the question (Q#7), that asked the presence/existence of the EACE professional CoE in their organization, 48 (94%) of respondents responded that there is no, 2 (4%) of them said that they don't know whether it exists or not, 1 (2%) of the professionals said that there is some kind of code of conduct in her company, but she don't know whether it is EACE CoE or not.

4.1.2.2 Framework

For the question (Q#2), by evaluating the professional knowledge aspect through KAP model, they were asked whether they know any construction company in Jimma town that embrace ethical issue in its contracts, 29 (57%) of respondents, out of 51, responded they know one or two companies in the town that embrace ethical issue in its contracts indirectly.

For the question (Q#3), by evaluating the professional practice aspect through KAP model, they were asked whether their organization add special items outside the legal requirements for the contract, almost half, 25 (49%), of the respondents, out of 51, also agreed.

For the question (Q#4), by evaluating the professional consequence based ethical aspect through CPV model, they were asked whether there is a clause in the tender documents or contract provides for the control or prevention of unethical behavior to the contractor, 31 (61%) of respondents, out of 51, said that there is a clause in the tender/ contract documents to control unethical behavior in the projects, and20 (39%) said there is no.

Generally, the companies' status to establish ethical frameworks (such as involving ethical issues in contracts and similar documents) is in moderately low status; such that 28 (56%) professionals in average (from Q#2, 3, 4) responded positively for the availability of ethical issues in contract documents.

Concerning supporting development programs, involving in CSR, and implementing environmental policy; only 7 (14%) out of 51 professionals responded that participated in the programs or playing CSR roles. The remaining 44 (86%) of the respondents said that they did not.

4.1.2.3 Challenge

Almost all, 50 (98%) of the professionals responded that low emphasis to ethics in their responses for the (Q#8). Some of them said that professionals themselves don't give a serious emphasis to ethics because they think that it does not make money or secure job. Some other professionals said that managers and company owners' ultimate goalis only money, they don't care for ethics at all. Other professionals, similarly, believed that professional ethics is ignored by professionals, managers and even government officials intentionally, because it is an obstacle to make businesses.

For the Q#8 (safety) 10 (91%) of them said that there are incidences of safety related problems that caused by poor safety regulation practices in the companies, only one (9%) of them said that they are in a good status in keeping safety measures in their construction works. For instance, providing goggles (protective eyeglasses), masks, aprons, gloves, helmets, safety belts to workers; assuring safe working site before and during operations; warning and informing signs and symbols for passerby and traffic sand etc. All of the respondents also said that occupational hazard is one of the challenges that their companies faced. However, they assured instructions and regulation in the projects to prevent hazards and accidents, the professionals do not keep with this instructions and rules, and creates burden of construction management in the administrative body.

From the responses of other questions (such as Q#8) in the interview session, 49 (96%) of professionals also mentioned that the measures taken by companies to prevent and control occupational hazards and accidents is very low. The companies tend to response when the accidents occurred, there is no a preparations and safety measures to prevent accidents before they are occurred. This caused loss of life, injuries, and property damages. This leads the professionals to act in irresponsible way in day to day activities. Only 2 (4%) of

professionals said that there is safety regulation to prevent accidents and occupational hazards in their companies.

The overall ethical status of the construction companies in Jimma (from the responses of professionals) demonstrated in figure-10below.

Figure 10: ProfessionalsResponse on Trends, Framework, & Challenges of Ethics
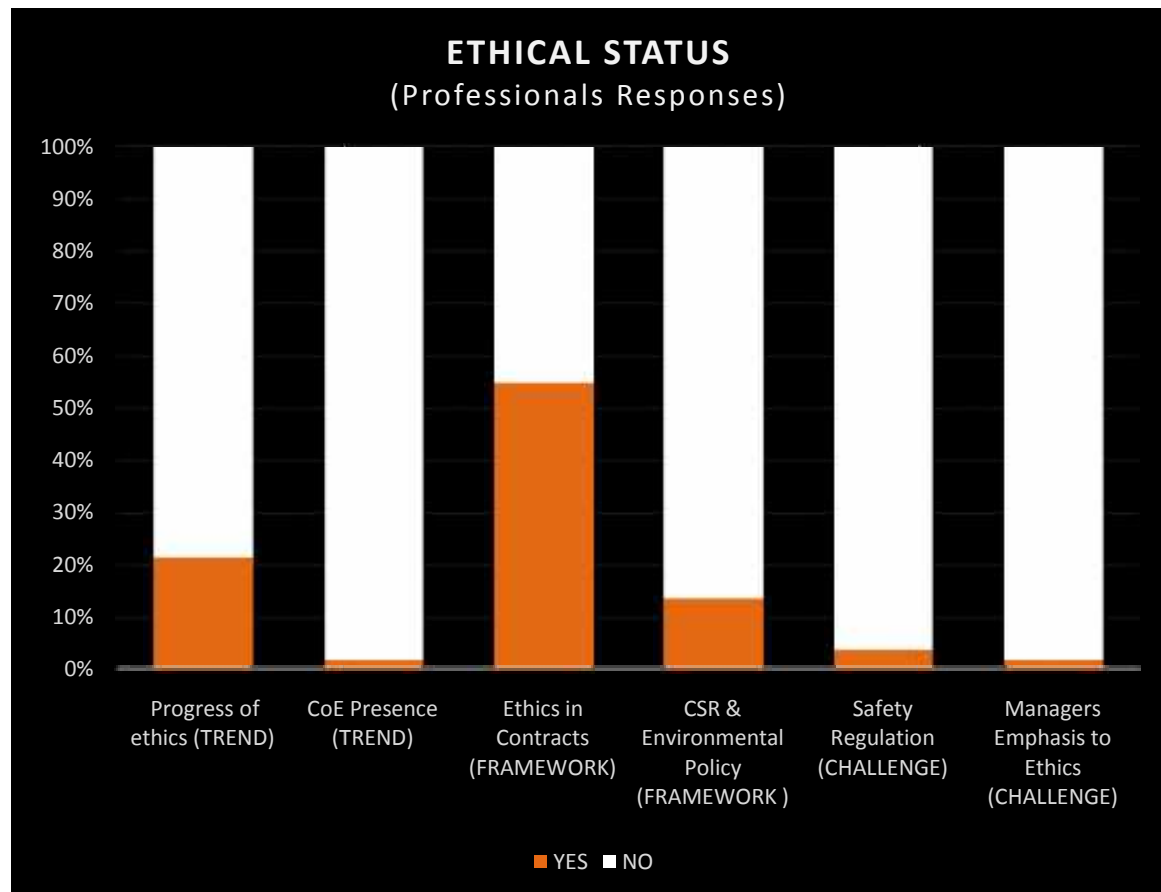
4.2 Unethical Practices

To assess the unethical practice of the construction companies in Jimma, managers of the companies were asked 11 questions among 16 IDI interview items, i.e. Q#2, 5, 6, 7, 9, 10, 12, 13, 14, 15, and 16). The questions consist of all elements of KAP model (knowledge, attitude, practice); and consequence, and virtue based elements of CPV model. The responses also consist of all four elements of code-model-1, i.e. principle 01 (corporate social responsibility, whistle blowing); principle 02 (success via ethics, ethical solution, manage fairly, fidelity); principle 03 (quality, ethical solution, professional prestige); principle 04 (support/ participate).

On the other hand, professionals were asked 12 questions i.e. (Q#1, 5, 6, 9, 10, 11, 12, 14, 15, 16, 17, and 18). The questions consist of all elements of KAP model (knowledge, attitude/perception, practice); all elements of CPV model (consequence, principle, virtue). The responses of these 12 questions also consisted of elements of code model-2, these are: canon I (whistle blowing, responsible role); canon II (ethics for profit, ethics for performance, fair management); canon IV (conflict of interest); canon V (damaged reputation, ethics as resource); canon VII (ethical awareness, cause of immorality, improve ethics).

The questions were intended to evaluate 3 elements of specific objective of the study: namely, major unethical practices, triggering factors towards unethical practices, and outcomes of unethical practices in the construction companies in Jimma city.

The responses point out that all three elements of the second specific objective (unethical practice, triggering factor, outcomes) was reflected by managers as shown in table-7 below.

Table 7: Analysis of the Questions for Specific Objectives-2

I.Q.		Element of Spc. Obj. 2	Model			
			CPV	KAP	Element of the CoE	
Managers	5	Major Unethical practice	Consequence	Practice	Ethical solution	2
	6		Principle	Practice	Support/ participate	4
	7		Virtue	Knowledge	Social responsibility	1
	12		Consequence	Knowledge	Ethical solution	3
	14		Principle	Practice	Manage Fairly	2
	15		Virtue	Practice	Fidelity	2
	9	Triggering factors	Consequence	Attitude	Quality	3
	10		Virtue		Whistleblowing	1
	13		Consequence		Ethical solution	3
	2	Outcomes	Consequence	Attitude	Success via ethics	2
	16			Practice	Professional prestige	3
Professionals	1	Major Unethical practice	Consequence	Practice	Damaged reputation	V
	9		Virtue	Knowledge	Whistleblowing	I
	18		Principle	Practice	Fair management	II
	16		Virtue	Knowledge	Conflict of interest	IV
	5	Triggering factors	Consequence	Knowledge	Ethical awareness	VII
	6			Practice	Cause of immorality	
	11	Outcomes	Consequence	Attitude	Ethics for profit	II
	14			Knowledge	Ethics for performance	V
	15				Ethics as resource	

4.2.1   Managers Responses on Unethical Practices

4.2.1.1 Major Unethical Practices

The managers were asked several questions to identify what unethical practices observed in their companies, all of them tend to point out the ethical problems performed by professionals, some of them only revealed the unethical practices done by them. Generally, in the interview questions Q#5, Q#6, Q#7, Q#12, Q#14, and Q#15, construction quality, development programs, social responsibility, environmental, employer's social welfare, and procurement related concepts were discussed in the IDI interview section, to collect unethical practice related data indirectly from managers. Finally, the major unethical practices responded by managers were identified and analyzed, then ranked as shown in the figure-11 below.

Figure 11: *Major Unethical Practices Ranked (Managers Responses)*
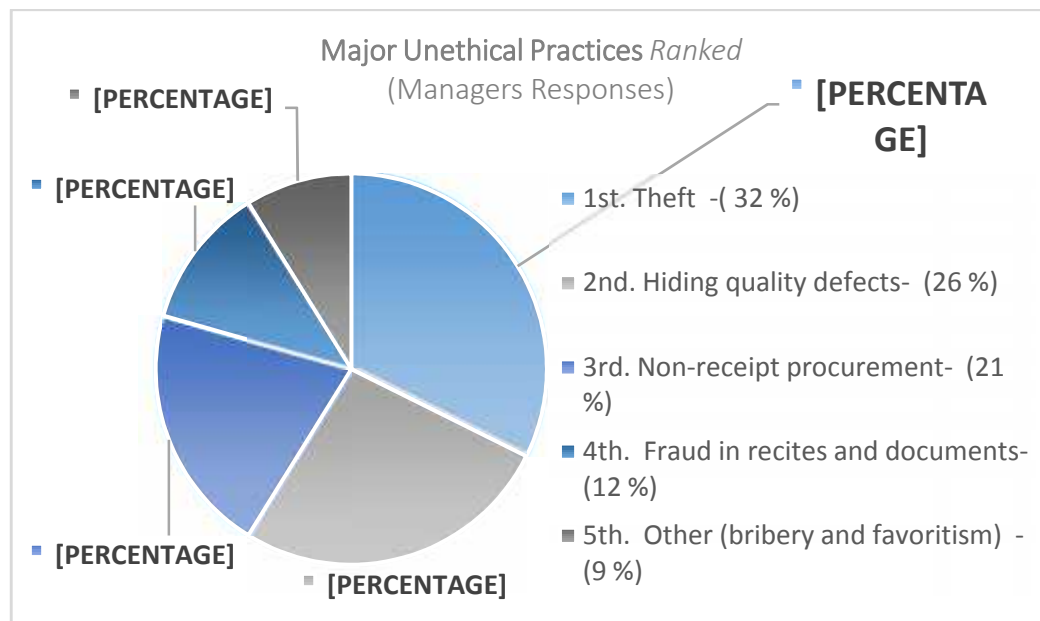
4.2.1.2 Triggering Factors

Q#9, Q#10, Q#13In the responses of Q#4, where the they explained the progress of professional ethics in their companies, 11 (100%) the respondents in the same way explained that the major challenge high price of construction materials, 10 (91%) overloaded and unfair tax system due to impaired procedures in local government bodies, 8(73%) an unavailability of receipt to buy construction materials, 8 (73%) the respondents said corrupted market system, which is also challenge.

In addition, in the responses of Q#8 (construction safety problem), 7 (64%) the respondents said the occupational safety caused by poor quality of construction materials that dominate the market. These case caused extra expense for the maintenance and accident related costs.

Table 8: Triggering Factors Ranked (Managers Responses)

+/-	Triggering factors	High Occurrence		
		Freq.	Perc.	Rank
NEGATIVE	High price of construction materials	11	100%	1st
	Overloaded and unfair tax system (local gov't)	10	91%	2nd
	Unavailability of receipt to buy construction materials	8	73%	3rd
	Corrupted market system	8	73%	4th
	Occupational safety (due to poor quality)	7	64%	5th
	Customs & traditions (addiction and related misconducts: theft, absenteeism)	6	55%	6th

4.2.1.3 Outcomes

For the Q#2, in which the manager asked whether they think professional ethics is important for the success of their company, out of 11 managers 10 (91%) of them, generally perceived that the success of the construction company is also the outcome of professional ethics. Most them said that unethical practice could damage the success of their company especially in terms of reputation, but it might not be damage profit, because economic success better gained through market competitions activities (including unethical actions) rather than being an ethical. In the same manner, 2 (18%) of them believed that long term profit of the company has damaged due to untreated ethical problems, whereas 4 (36%) of the managers reflected that low performance might be the results of unethical practices.

The responses of Q#16 (in which they were asked whether their company had ever legal issue resulted from unethical practices) 7 (64%) of the managers responded that there was some occurrence of legal issues in their companies but the respondents did not want to give full information on the issues.

Generally, from the depth of discussion with interviewees, they revealed that the most common legal issue was charged for financial compensation for occupational injuries. According to their explanation, the reason was that there is no any protective ethical system/ code to prevent and manage such cases in all construction companies in Jimma. Legal issues were the undesirable outcomes of unethical practices performed in the

companies. The outcomes of unethical practices in the companies from the responses of managers is illustrated in figure-12below.

Figure 12: *Outcomes of Unethical Practices (Managers Responses)*
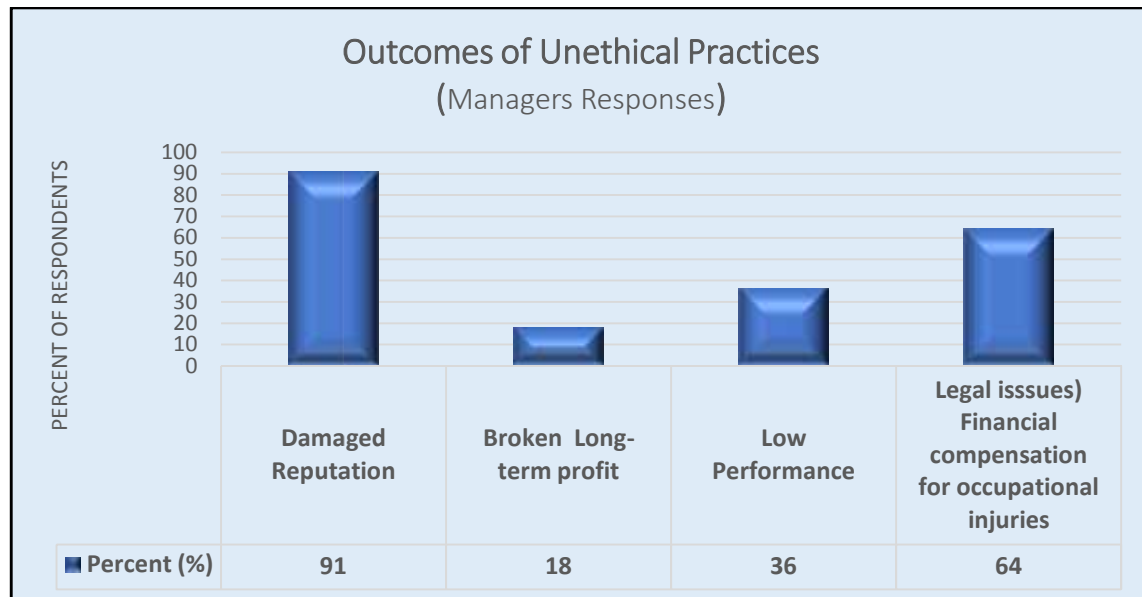
4.2.2 Professionals Responses on Unethical Practices
4.2.2.1 Major Unethical Practice

The professionals were asked what unethical practices do they observe in their work environment with respect to conflict of interest (Q#17), and they mentioned unethical practices that are common in their companies related to conflict of interest. In regard to this, as the most prevalent five unethical practices identified, ranked and presented shown in the figure-13 below.

Figure 13: *Major Unethical Practices Ranked (Professionals Responses)*
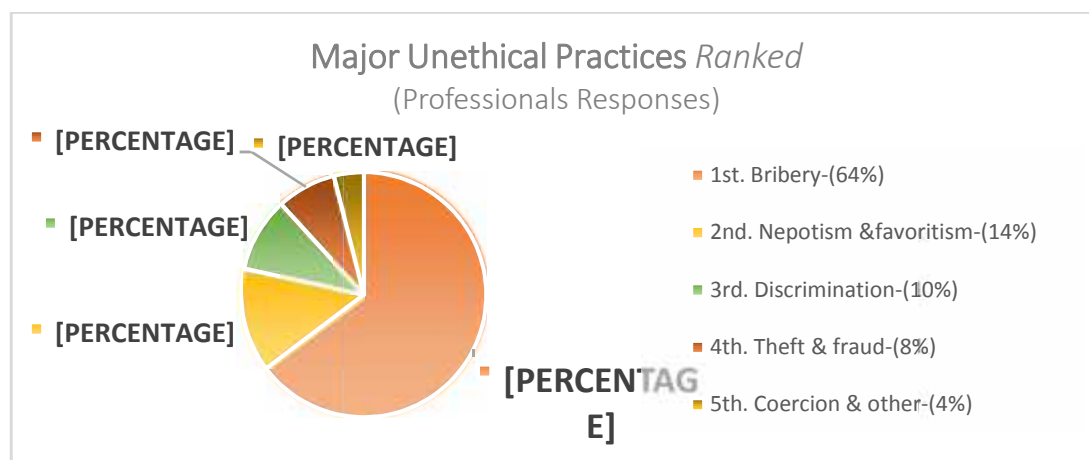
On another question (Q#18) the professionals were asked how do they rate their organization management body ethical practice regarding the hiring and managing employments, and 46 (92%) of them rate low and only 4 (8%) of them rate moderate, no one of them rate high the ethical practice of the company in regard to selection and recruitment. Their reason for that was that there is friends and family interests type of conflicts of interests in recruitment or hiring employees in their companies.

4.2.2.2 Triggering Factors

Triggering factors are any factors that could affect the ethical behavior of the professionals either negatively or positively. They were assessed with interview questions (Q#6, Q#9, Q#9.1 and Q#15; as well as VR test Q#10) to evaluate their attitude and practice elements that could possibly trigger ethical and unethical practice in positive and negative way respectively.

There are other triggering factors that have positive effect on ethics. For instance, concerning the ethical awareness (knowledge element of KAP model) of professionals (Q#5), 34 (67%) of respondents said that they have good ethical awareness.

In contrast, the respondents mentioned triggering factors (Q#6) that have negative effect on the ethical practice of the professionals in their companies, and these were the high prevalent triggering factors which are, grouped in to clusters through thematic qualitative analysis. They were also ranked to illustrate the top triggering factors sand presented in table-10 below.

Q#8 was designed to assess the ethical challenges (is not designed to assess the triggering factors), there were curious findings that can be discussed as triggering factors. For instance in several instances of interview session with professionals (Q#8), they were asked that they think the presence of CoE would improve the construction industry and whether they like the presence of the CoE to enhance ethical control in their company, 49 (96%) of the respondents, agreed, Only 2 (4%) of them were not supported the presence of the CoE and they did not believe it could improve the success and performance of construction industry in the city, because the problem was severe and very difficult to solve.

Table 9: Triggering Factors (Professionals Responses)

+/-	Triggering factors	High Occurrence			Elements of Triggering Factors
		Freq.	Perc.	Rank	
NEGATIVE	Customs & traditions	46	90 %	1st	Chat & alcohol drink habits
	Management support	45	88 %	2nd	No ethical education & training
	Industry culture	45	88 %		Predominant unethical tendencies
	Communication	43	84 %	3rd	Poor motivation & low self-discipline
	Short-term profit	40	78 %	4th	Greed & Poverty
POSITIVE	Attitude towards CoE	49	96%	1st	Supporting the presence of CoE in their company
	Taking corrective measures	45	88%	2nd	Whistleblowing, counseling, reporting, exposing & saying no to corruption
	Good ethical awareness	34	67%	3rd	Moderate ethical awareness
	Valuing ethics as resource**	15	29%	4th	Less value for ethics

*Note: ** Detail qualitative analysis procedure of this item is located in appendix 6, supplementary data section.*

4.2.2.3 Outcomes

However, the respondents accept/ perceive ethics as important resource, their degree of embracing ethics as one of organizational resources (Q#15) was low,15 (29%). They mentioned only 5 (19%) ethics related resources out of 27 resources, or 2 (18%) ethics related group of resources (reputation and morality) among 11 groups of resources (see appendix 6 supplementary data for detailed analysis on how the researcher has systematically evaluates this behavior).

They were also asked what measure would they take, if they see unethical behavior in their company, and 6 (12%) of them said that they would stay silent, 3 (6%) of them expose that unethical practice to other colleagues, 30 (59%) said counseling/ advising the wrong doers, 12 (23%) said reporting/ whistleblowing to concerning bodies. Totally, 45 (88%) of them would take positive actions by one or another way, and these actions are taken as triggering factors towards good ethical practice.

On the other hand, professionals' perception on outcomes of ethics evaluated by three questions (Q#1,11 and 14) where KAP model used to assess attitude/ perception of professionals. According to the results of the study, 46 (90%) of the respondents believed that unethical practices damage reputation of the construction company; 45 (88%) of the respondents believed that there is negative relation b/n ethics & short-term profit in other words intention of short term profit leads to unethical practice. Almost all, 50 (98%), of

the respondents believed that unethical practices affect the overall performance and quality of the construction companies as in table-14 below.

Figure 14: Outcomes of Unethical Practices (Professionals Responses)

Figure showing Outcomes of Unethical Practices (Professionals Responses)

Percent (%)	Damaged Reputation	Broken Long-term profit	Low Performance
	90	88	98
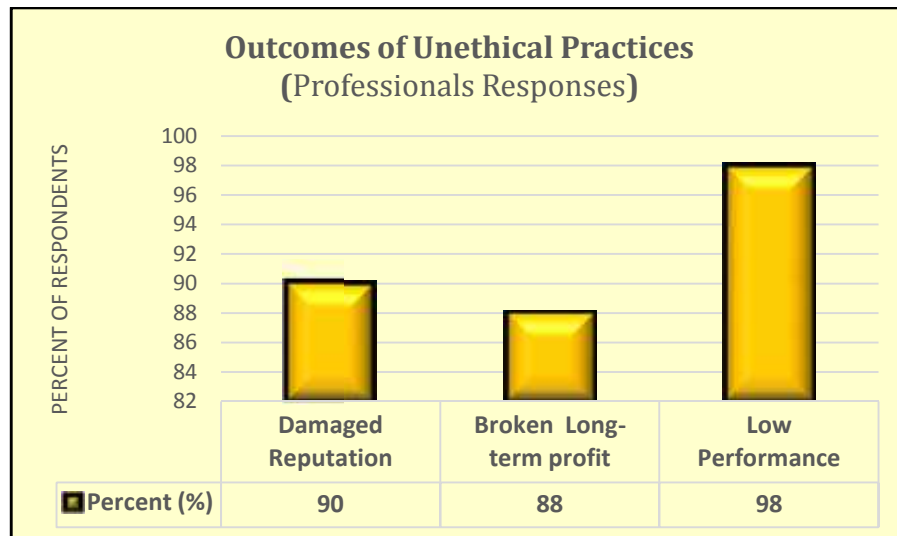
4.3 Code of Ethics

4.3.1   Code of Ethics (Responses from Starter Questions)

A.   Presence of the Code of Ethics

Finding of this study shows that all of the 10 (91%) of the managers responded that there is no CoE in their company at all. Similarly, 50 (98%) of the professionals agreed that there is no CoE in their companies at all.

Figure 15: Presence of the Code of Ethics
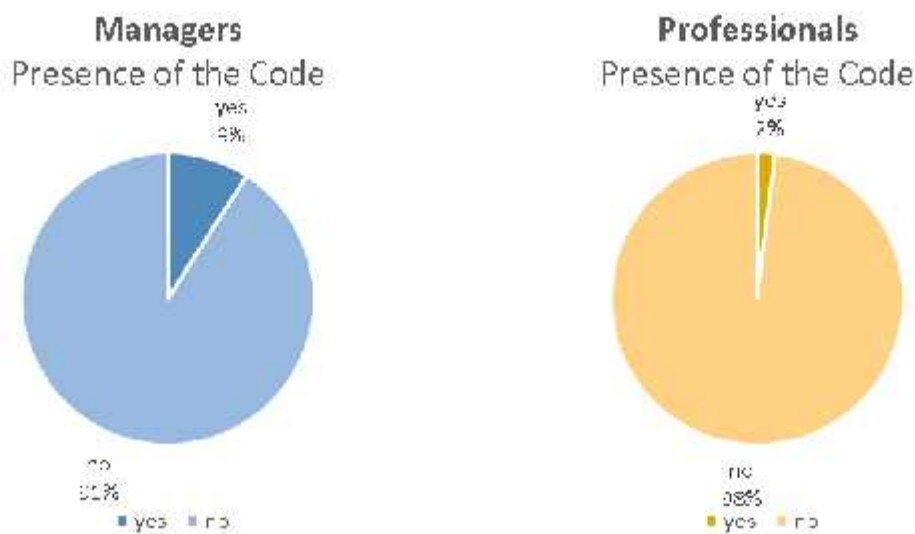
B. The Exposure to the Code of Ethics

From the finding of this study, almost all, 10 (91%) out of 11, of managers said that they have some exposure to the CoE in a life time (from academic courses, reading the whole, seeing the excerpt, hearing in media, etc.) whereas only 1 (9%) manager said no.

On the other hand, 47 (92%) of the professionals said that that they have some exposure to the CoE in a life time (from academic courses, reading the whole, seeing the excerpt, hearing in media, etc.) whereas the other 4 (8%) said no.

Figure 16: Exposure to CoE (Responses for Starter Questions)
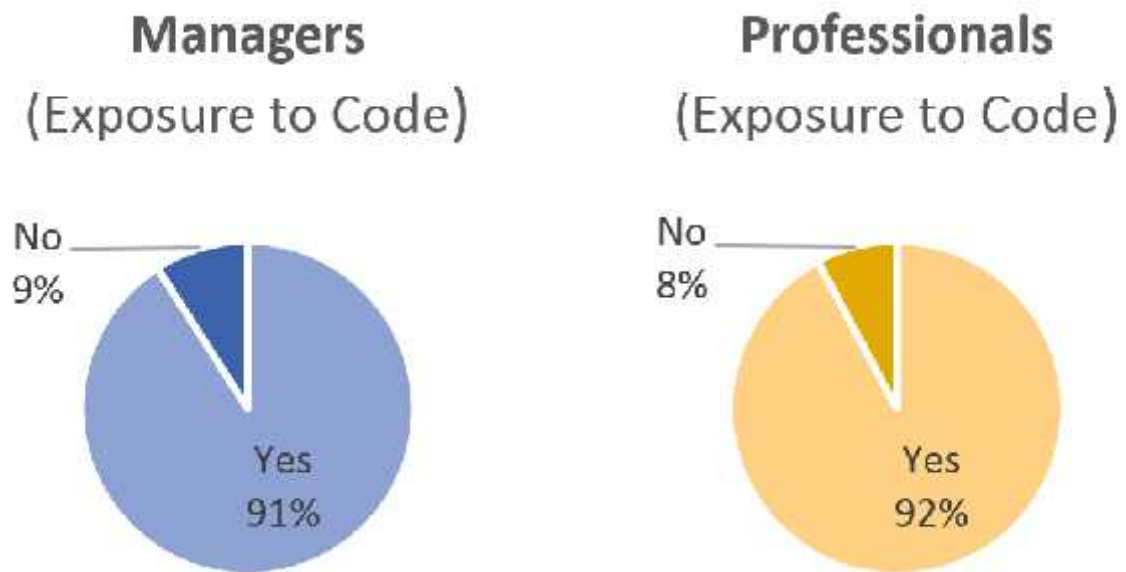
C. Implementation of the Code of Ethics

Out of 10 of managers who agreed that they have some exposure to the CoE in a life time (from academic courses, reading the whole, seeing the excerpt, hearing in media, etc.), only 1 (9%) of the managers agreed that it implemented the ethical practices in the managerial activities in its respective companies, while the other 9 (91%) did not.

On the other hand, out of 47 (92%) of professionals who agreed that they have some exposure to the CoE in a life time (from academic courses, reading the whole, seeing the excerpt, hearing in media, etc.), only 8 (17%) of them said that they apply the CoEin their day to day activities of construction projects and 39 (83%) responded that they did not.

Figure 17:CoEImplementation & Practice (Responses from Starter Questions)
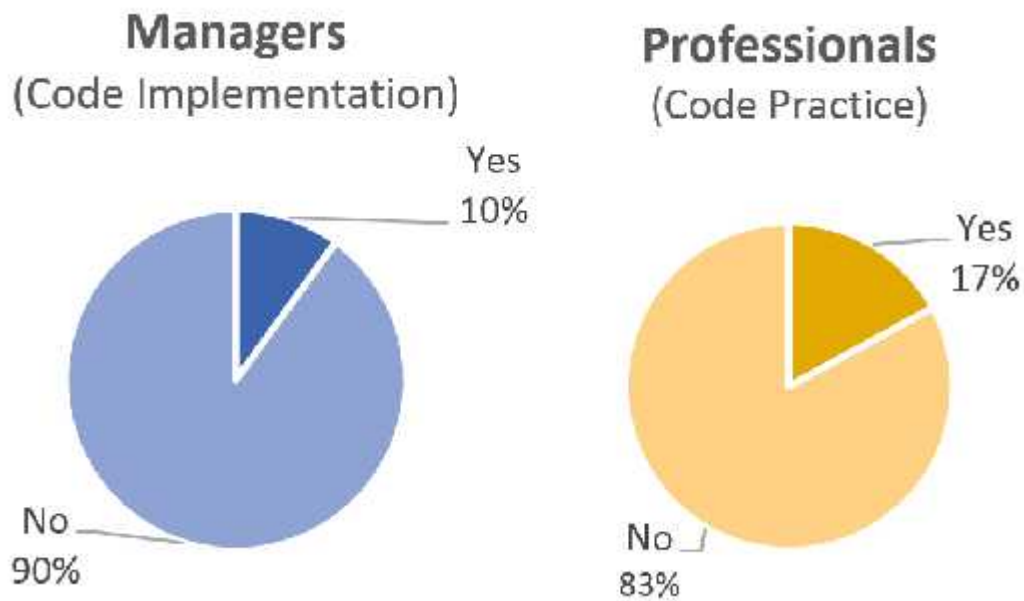
D. Challenges to Implement the Code of Ethics

The managers were asked that what are the major challenges that hinders the implementation of the CoE in their company and 6 (55%) of the managers responded that applying CoE is difficult in their respective companies because there is no a framework (company preparedness for the CoE)organizational structure, mandate, interest, etc.) prepared for the CoEin their company; 3 (27%) of the managers responded that they did not attempt to apply the CoE at all, because they thought that acting ethically is in contradiction to the market activities (success in market comes from "smartness" , no from "morality")) since there was the history that some companies has went bankrupt while they try to operate ethically; and the remaining 2 (18%) of the managers responded different reasons (no reward,lack of awareness on significance of the CoE for profit).

On the other hand, 42 (82%) of the professionals responded that applying CoE day to day activities of construction projects is difficult because there is no a framework (organizational structure, mandate, interest, etc.) prepared for the CoE in their company. The 6 (12%) of the respondents responded that the other colleagues were not interested to cooperate in the implementation of the code, whereas 3(6%) of the respondents responded that they lack the courage to promote the CoE in fear of losing the job, because there was the history that some employees were lost their job when they confront unethical practice in the companies.

The starter survey is interview items provided for both respondent groups (managers and professionals) just before starting the model interview of CoE, with similar four/4 questions: presence of the CoE in the company, the exposure of individuals to CoE, implementation/ of practice, and challenges faced in the implementation of the CoE.

Both group of respondents (62 or 100%) said that there was no CoE available in their respective company. All of respondents of this study were sampled from all construction companies in Jimma city. Therefore, it can be concluded that all construction companies in the city do not have a professional code of ethics or they do not adopt the EACE CoE in their organization.

Altogether the staffs (managers and professionals) who has some kind of exposure to the CoE in life time were 57 (92%) - out of 62 respondents. Among 57 staffs (managers and professionals) who have exposure to the CoE, only 9 (15%) implemented/ apply the CoE either in their managerial or professional activities of the companies.

Figure 18: *Challenge in Implementation of CoE*
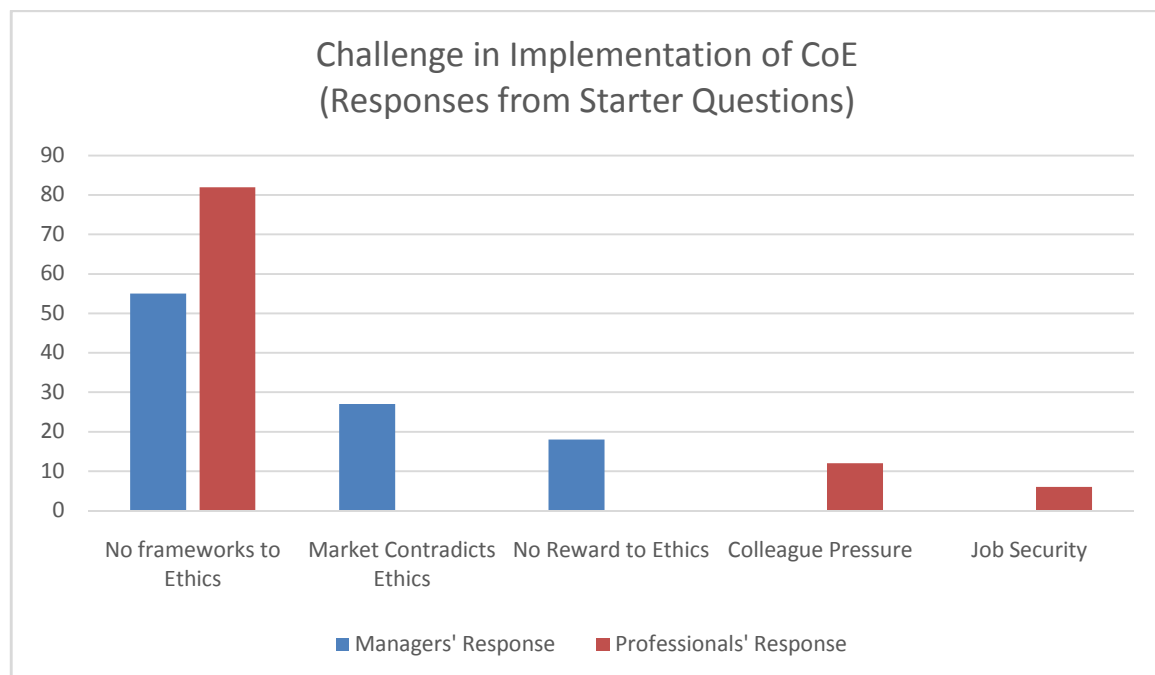
As indicated above in figure-18, the highest and shared challenge between both groups (managers and professionals) that hindered the implementation of the CoE is the lack of framework and setting in the company for the professional CoE, such that 6 (55%) of the managers and 42 (82%) of the professionals (totally 48 (77%) of respondents out of 62 samples responded it. The other challenges market contradiction and no reward to ethics

from managers' responses; and colleague pressure and job security from professionals' responses has illustrated above in the figure-18.

Summarizing the results of the starter questions responses from managers and professionals is illustrated below in figure-19.

Figure 19: *Practice of CoE of ethics (Starter Responses)*
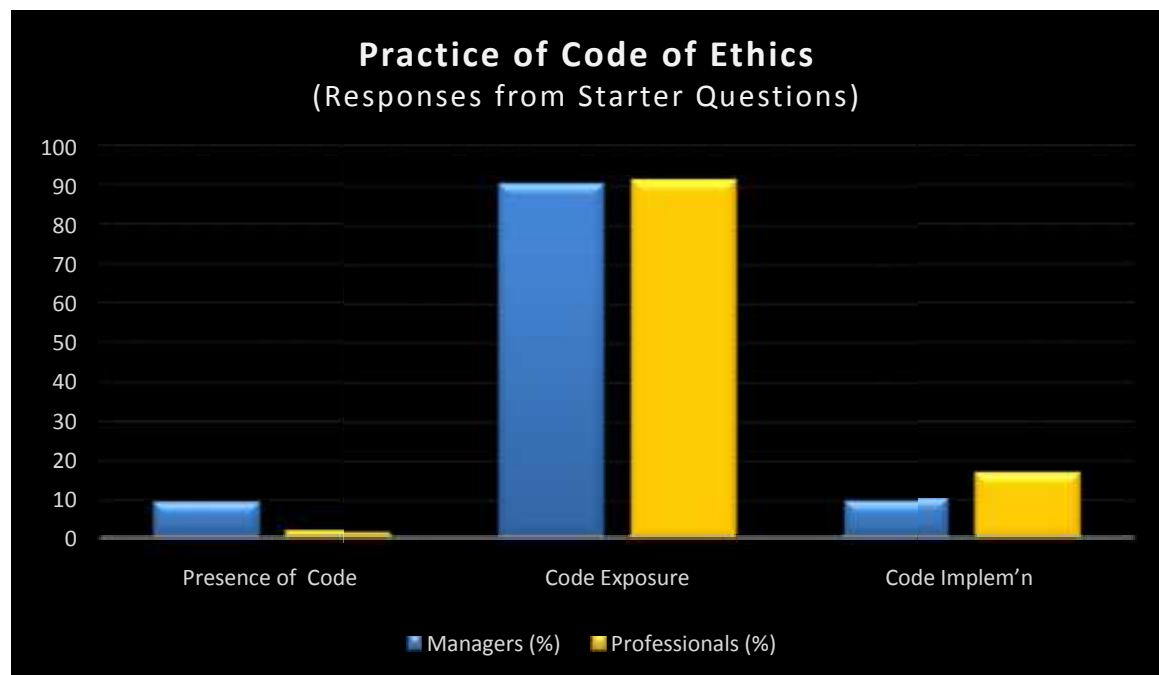
4.3.2 Code of Ethics (Responses from Appraisal Questions)

4.3.2.1 Managers Responses on Code of Ethics

The model questions of managers include four issues. These are one: human welfare &environment; two: honesty, impartiality, & fidelity; three: competence & prestige of the profession; four: supporting other disciple professionals.

There are two classes for the model questions of CoE. The first, four/ 4 model questions for managers (principles based); and the second, the seven/ 7 model questions for professionals (canon based). The model questions of professionals consist of sever issues.

A. Human Welfare &Environment

To evaluate the knowledge and attitude of the managers (n=11) on ethical issues, they were asked about 'enhancing human welfare & the environment' whether it is an ethical or a developmental issue, only 2 (18%) of them responded that it is ethical issue whereas 6 (55%) of them responded that its developmental issue, 1 (9%) of them responded that

it's both developmental and ethical issue, and 2 (18%) of them responded that it's neither developmental nor ethical issue.

Figure 20: *Human Welfare & Environment (Managers)*

**Human Welfare & Environment:
Is it an Ethical Issue?**
(Managers Responses

- None of them 18%
- Ethical issue 18%
- Both of them 9%
- Developmental issue 55%
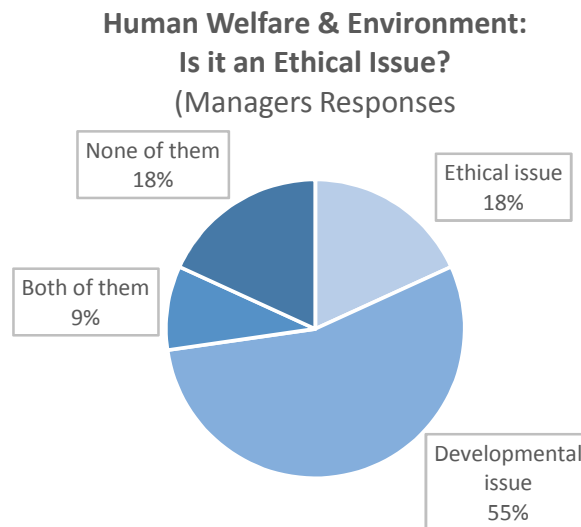
B. Honesty, Impartiality, & Fidelity

In this IDI interview item, the managers were given a case (an example of whistle blower engineer) and asked to reflect their opinion. And 2 (18%) of them reflected that the engineer took ethical measure, 4 (36%) of them reflected that the engineer took unethical measure. But, 5 (46%) of them reflected that the engineer reflected that the engineer was disloyal to his/ her company, and these class of respondents were not sure to label the engineer ethical or unethical.

Figure 21: *Honesty, Impartiality, & Fidelity (Managers)*

**Honesty, Impartiality, & Fidelity
(Whistle blowing: ethical?)**
(Managers Responses)

- Ethical practice 18%
- Disloyalty to company 46%
- Unethical practice 36%
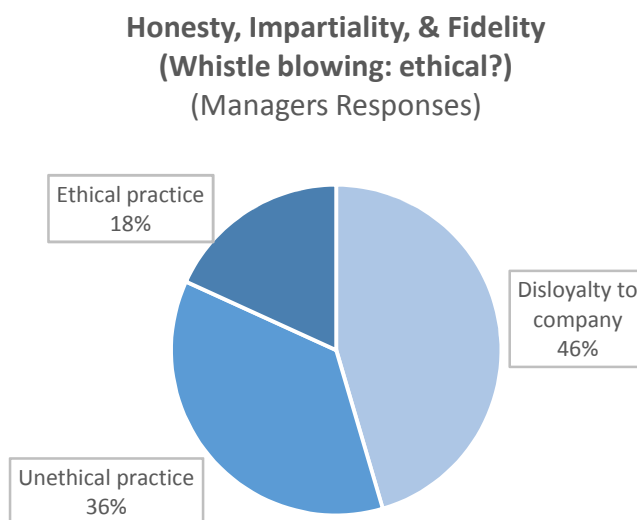
C. Competence & Prestige of The Profession

The managers were provided with a case (hardworking civil engineer in their company consistently avoids personal professional seminars to show loyalty to the company) and requested to reflect their opinion. Seven/ 7 (64%) of them reflected that the engineer was ethical and they would reward the engineer materials/ money (car, home, house furniture, electronics, etc.), 3 (27%) of them reflected that the action was neither ethical nor unethical, the engineer done his duty, so no need of rewarding. Only 1 (9%) respondent said that the engineer was unethical according to competency requirements of professional ethics the engineer must be penalized.

Figure 22: Competence & Prestige of the Profession (Managers Response)

Competence & Prestige of The Profession
Avoiding seminars: ethical or unethical?
(Managers Response)

Neither of them 27%
Unethical 9%
Ethical practice 64%
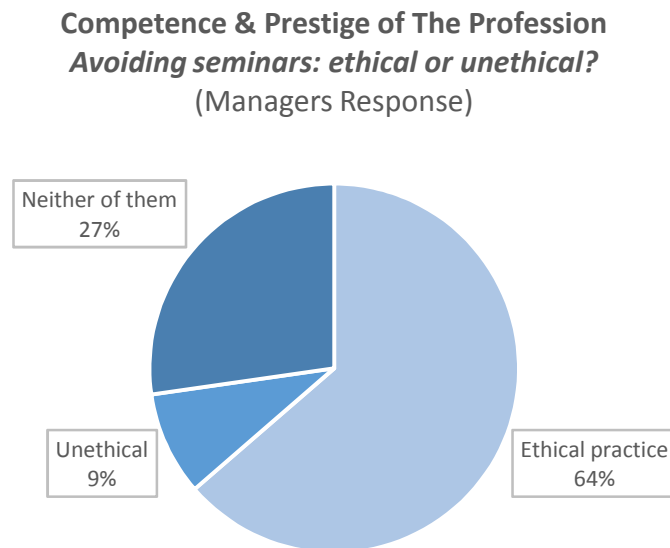
D. Supporting Professionals in Other Organizations

To evaluate their attitude towards helping other professionals and public sectors in engineering profession, the managers were asked what corrective measure would they take if an engineer in their company supports the professionals in other discipline beyond the planning of company (by taking in to the consideration the article in the CoE that states "Engineers shall perform services only in area of their competence."? This item was selected to be asked in interview to check how the managers recognize the meanings/ messages of the articles in the CoE, and how the personal perception of the CoE could affect implementation of ethics in given company. The other three questions also have such kind of purpose in addition to what they are intended for primarily.

The managers' response was that 7 (64%) of them supposed the engineer was unethical and deserves punishment, the other3 (27%) thought that the engineer was neither ethical nor unethical (the engineer can do whatever he/she wants unless and otherwise the time and resource of their company is not compromised). In this question, only one (9%) of them label this issue as ethical.

Figure 23: Supporting Professionals in Other Organizations (Managers Responses)

Supporting Professionals in Other Organizations: Is it Ethical?
(Managers Responses)

Ethical 9%

Niether ethical nor unethical 27%

Unethical 64%
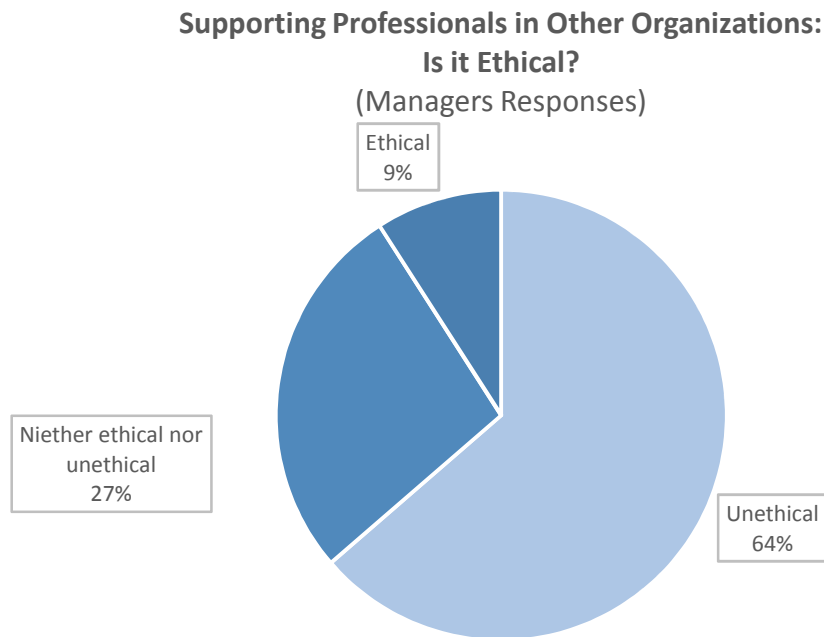
Summing up the frequencies of the respondents that label human welfare and environmental issues as ethical in one or another way (i.e. ethical or both ethical and developmental) were 3 (27%) of managers. On the other hand, the sum of respondents who did not characterized human welfare and environmental issues as ethical issue in one or another way (i.e. developmental, none) were 8 (73%) of managers.

The overall obedience of the managers towards the CoE is summarized below in the figure-24 below.

Figure 24: *Managers' Obedience to CoE*
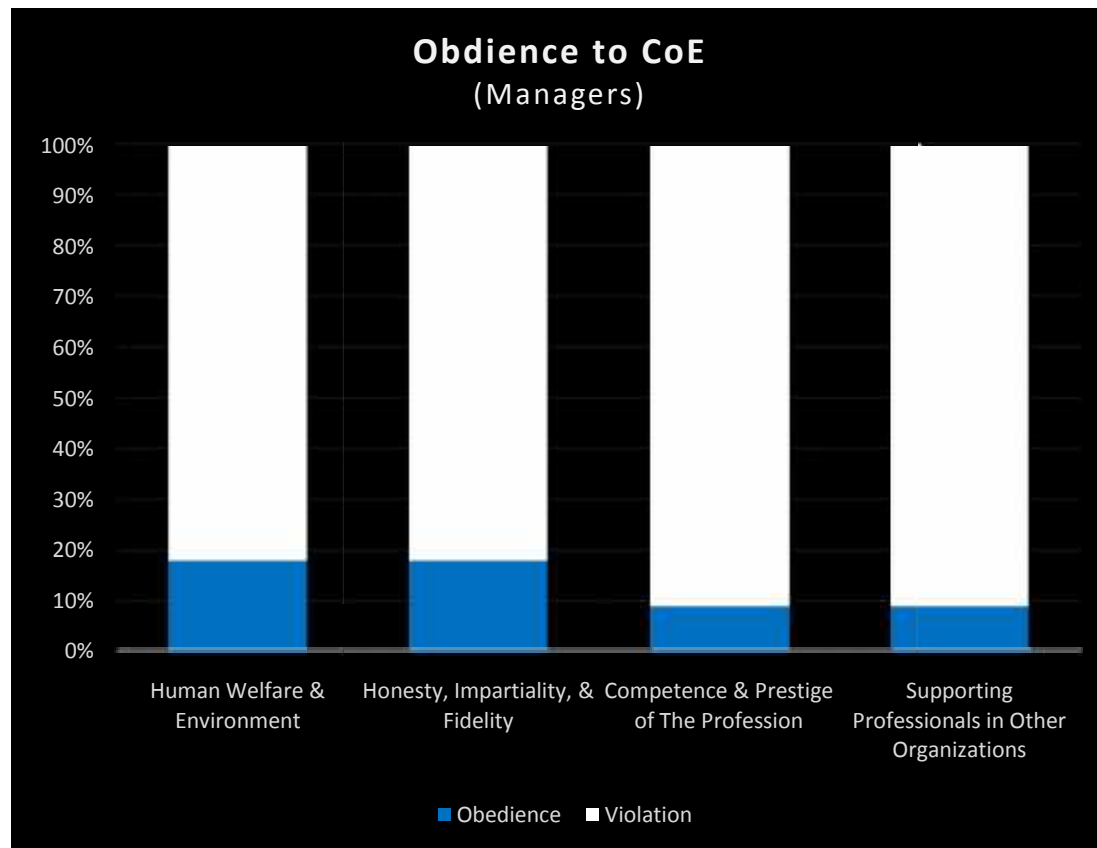
4.3.2.2 ProfessionalsResponses on Code of Ethics

The model questions of professionals consist of seven/ 7 issues. These questions items were adapted from CoE to assess the ethical practice trend of the professional by taking the CoE as a tool/ model.All of the seven Question was derived from the seven engineering ethics canons. The responses of the professionals in the interview session was tallied/ checked in the pre-prepared form by the researcher, by determine whether the CoE was violated or not by the responder. The questions were delivered as case/ practical activity that initiate critical reflections and their actual experience in the construction companies.

The most violated canon was canon five (V) that states about reputation. The professionals responded that even though reputation shall be maintained, but job 36 of them (70%) reflected that job security is much better than reputation. In the same manner, all of the seven canons was violated in the range from 65% to 41% (the least magnitude of violation, i.e. respect for profession).

The quotes summarized in the column three of table 11were analyzed and reduced from thematic qualitative analysis of vast textual data in to condensed and representative statement for the respondents in that specific group of violation. The frequency/ percentage of violation of the seven canons items are ranked, and summarized in table-11 below.

Table 10: CoEViolations among Professionals

Canon	Canon title	Violation Summarized (Respondents thoughts)	Freq. of Violation	Perc. Of Violation (N=51)	Rank
V	Reputation	"I involved in political contributions to secure my job"	36	71	1st
II	Competence	"I take any assignment out of my areas of qualifications, if it has a good payment"	33	65	2nd
IV	Conflict of Interest	"I can manage my schedule to be employed in more than one company without each company's consent"	30	59	3rd
I	Social Safety & Sustainable Dev't	"Whistle blowing is NOT my duty."	27	53	4th
III	Public Statements	"As a risk taker civil engineer, sometimes I dare to promote my interest at the expense of integrity."	27	53	
VII	Professional Development	"NOT reading professional literatures is NOT unethical. It is a choice of an engineer	24	47	6th
VI	Respect for the Profession	"Yes, I believe that honor/dignity cannot bake a bread. Financial gain excels professional respect."	21	41	7th

There was also another observed finding on the violation of the CoE, i.e. the respondents from large sized construction companies obeyed the canons greater than medium and small-sized companies (see appendix 6, supplementary data for detailed data). The total number of CoEviolators were 4 (36%) in large sized companies were whereas 17 (43%) in small and medium sized companies.

Figure 25: Code violation among Professionals

The obedience level of these canons can be deduced by taking the negation of these degree of violations. Therefore, the obedience level of the Canon-I (social safety & sustainable development) is 24 (47%), canon-II(competence) is 18 (35%),canon-III (public statements) is 24 (47%),canon-IV (conflict of interest) is21 (41%),Canon-V (reputation) is 15 (29%),canon-VI(respect for the profession) is30 (59%), and canon-VII (professional development) is 27 (53%).The overall obedience of the professionals towards the CoE is summarized below in the figure below.

Figure 26: Professionals' Canon Obedience
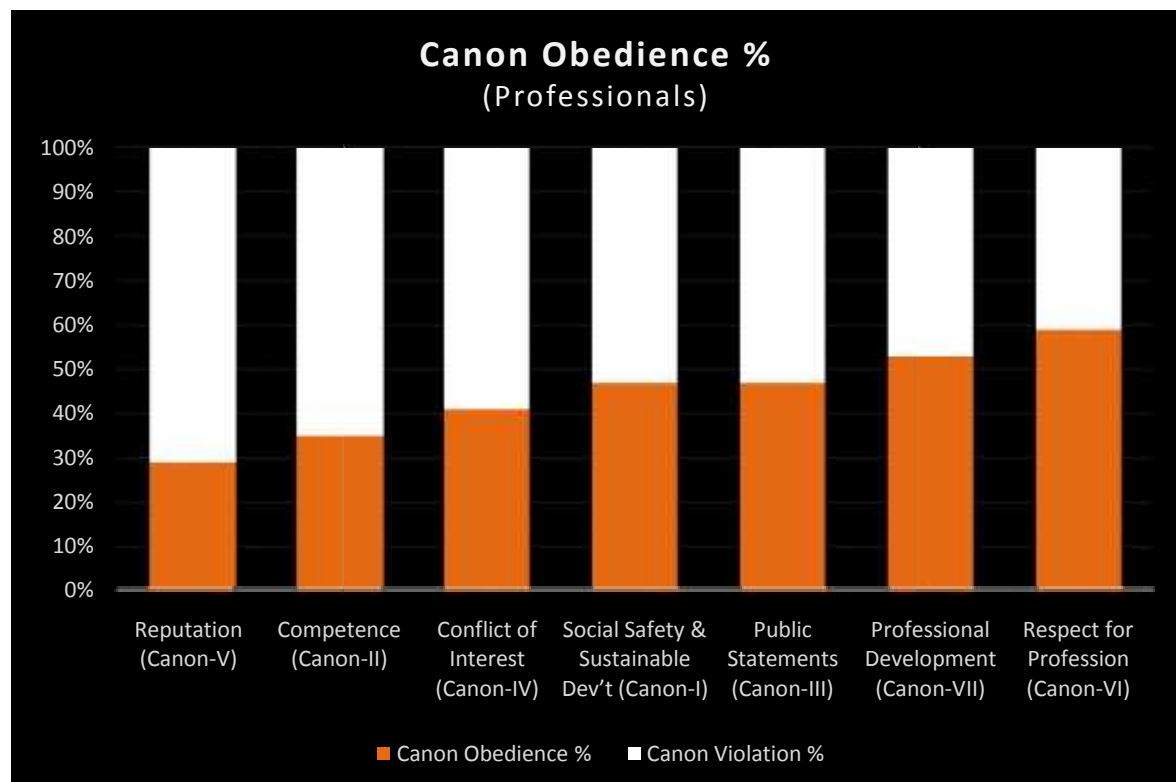
4.4 Discussions

4.4.1 Ethical Status (Trends, Frameworks, and Challenges)

The first specific objective of the study aimed to evaluate the ethical status in the companies through three factors: trends, frameworks to ethics, and challenges. As a qualitative analysis, in this discussion section the degree of these factors/ parameters are defined by verbatim such as: very low, low, moderate, high, and very high for percentage of agreements of responses from 1-20%, 21-40%, 41-60%, 61-80%, and 81-100% respectively.

The general trend of ethics, with respect to the progress of ethical practices and adopting the CoE of EACE, in the construction companies in Jimma city is very low, according to the results from the data collected from the respondents (managers, and professionals). For the purpose of validity and reliability improvement, this finding also confirmed or triangulated by starter questions of Code-model and the same result (very low) observed. As it has been indicated in results of starter questions responses, presence and implementation of the CoE is in a very low level. But, the trend with respect to the exposure to CoE or professional ethics was found to be in a very high level. This implies that, the level of exposure to CoE or professional ethics only is not significance to improve the ethical practice trend in the companies, this finding is in line with the other researches that are reviewed in the empirical review of the study.

The frameworks to employ ethics in the structures and systems of the company is generally in a very low level. For instance, the company readiness for CSR & environmental policy formulation and implementation is very low according to the results from both managers and professionals. On the other hand, with respect to employing business ethical issues in strategy is very low whereas employing ethical issues in contract documents is low.

Concerning the challenges faced in the companies in regard to ethical matters, the result of the study showed that minor emphasis given to ethics by stakeholders (managers, owners, professionals), poor safety regulation that causes legal disputes and reduced support from governmental organization in the prevention corruption were the key challenges, according to the results from IDI and SI interview. Similarly, the result from code model questions (which is provided for validity-reliability test and triangulation) the

same result was found that there were no frameworks (such as support from government and emphasis given to ethics in company practitioners). Additionally, contradiction between market and ethics, colleagues pressure to commit corruption, fear of professionals not to lose their job if they whistle blowing are the challenges observed in the study area.

Consequently, the overall ethical practice status of the construction companies found to be in a very low level, besides the preparedness of the companies for ethical practice is very poor as well as there are several challenges faced that hinder the progress of ethical practice. The single opportunity found in the study area concerning ethical issues is the good exposure of practitioners (managers and professionals) to ethical issues, which is found to be in a high level.

According to CPV model of ethics, the ideal ethical practice progress achieved through conducting the three elements of the model (consequence-based, principle-based and virtue based ethics) at the same time. In this regard, the result of this study showed that the ethical status in the construction companies mainly dedicated towards consequence-based ethics by ignoring virtue-based ethics such as CSR and involving in social development programs. Therefore, the ethical practice status is found to be miscarried according to the CPV model.

According to KAP model, individuals or group of people reached to action level after passing three behavioral stages: knowledge, attitude and practice stages. Knowledge stage consists familiarity and awareness, attitude/ perception stage consists motivation, agreement, outcome expectancy, and perceived self-efficacy. Practice stage is manifested by feasibility and cue to action that could be showed by judgment to given conceptual or practical cases/ problems. The result of this study showed that, ethical status of the construction companies has go through knowledge stage to practice stage by skipping attitude stage, this implies that there is a flaw in the development of practice behavior. In other words, there is well developed knowledge aspect among practitioners that was manifested as good acceptance towards CoE. But there should be a well-developed attitude aspect towards ethics to get in to practice stage and then to action stages.

The ethical status of the companies also found to be in poor level when evaluated with code models. The results showed that two fundamental principles (principle 01: practical knowledge, safety, environment policy; principle 03: ethical progress, professional

prestige) and three canons (canon III: contracts document; canon VI; presence and significance of CoE; canon V: ethics for quality) violated by managers and professionals respectively. Therefore, code models agreed with KAP and CPV models and approved that the ethical status of the construction companies is very poor.

4.4.2 Unethical Practices (Major Problems, Triggering Factors, & Outcomes)

The second specific objective of the study aimed to evaluate the detail situation of ethical practices in the companies through three factors: major unethical practices, triggering factors, and outcomes of the unethical practices. As a qualitative analysis procedure, in this discussion section the degree of these factors/ parameters are defined by verbatim such as: top, moderate, minor level for 1-30%, 31-60%, and 61-100% respectively percentage frequency of the factors in the result of the study.

The top unethical practice found in the study that occurred in the construction companies in Jimma is bribery either to shortcut the tedious bid processes for government officials or to persuade the company managers to get subcontract projects without adequate qualification. The second form of unethical practice is found to be theft of construction materials which is mainly conducted by construction company employees, and it's prevalent moderately. Moreover, there were other common unethical practices in the companies which are observed in minor degree than bribery and theft, these are hiding quality defects, non-receipt procurement, nepotism and favoritism, fraud in recites and documents, discrimination, theft and fraud, and coercion.

The result of this study showed that there are ten/ 10top negative triggering factors that perceived to stimulate unethical practices. Among these triggering factors customs and traditions (alcohol and chat/ Catha-idulisis addiction that causes theft, absenteeism and related misconducts) is mentioned by the managers as a least or minor triggering factor opposite to that of professionals who mentioned it as the foremost major triggering factor. In the main, the top level triggering factors (negative) found in this study, which stimulate unethical practices are listed below in the descending order of frequency:

- High price of local construction materials
- Burdened bid process and unfair tax system (in local government)
- Poor management support to employees (No ethical education& training)
- Prevailing corrupted industry culture (Predominant unethical tendencies)

There are also other negative triggering factors such as, poor communication (due to poor motivation & low self-discipline), targeting on short-term profit (due to greed &poverty), and unavailability of receipt to buy local construction materials, corrupted market system, and occupational hazard (due to poor quality).

On the other hand, there was also positive triggering fact or that has a potential to motivate a good ethical behavior among practitioners in construction companies in Jimma, these are:

- Good attitude towards CoE (Supporting the presence of CoE in their company)
- Taking corrective measures (Whistle blowing, counseling wrongdoers, reporting, exposing & saying no to corruption)
- Moderate ethical awareness
- Valuing ethics as resource (they focus especially on preserving good reputation)

This implies that, there is a promising potential to accept ethical system in the companies among professionals and managers.

The result of the study found that outcomes of those unethical practices in the study area. The top outcomes were low performance of projects, damaged company reputation, and broken long-term profit.

Generally, the construction companies in Jimma were impaired by unethical practice problems, majorly by bribery and theft along with hiding quality defects, non-receipt procurement, nepotism and favoritism, fraud in recites and documents, discrimination, theft and fraud, and coercion. These unethical practices were triggered majorly by high price of local construction materials, burdened bid process and unfair tax system (in local government), and poor management support to employees (lack ofethical education& training) in the study area. The major outcomes of these unethical practices were low performance and damaged company reputation. Therefore, unethical practices severely affected the construction companies in Jimma city.

According to CPV model, the unethical practices that found in the result of this study are occurred due to unbalanced and less emphasis given to principle and virtue ethics. For instance, by examining the two major unethical practices in the study area, bribery is an unethical act that violates the principle-based ethics, and theft is violation of virtue ethics. Virtue ethics is about character and ideal to do to others what people would have others

do to them. Therefore, the lack of virtue and principle ethics has inhibited the occurrence of ideal ethical practice in the construction companies.

The KAP model analysis of the study showed that there is a good knowledge (familiarity and awareness to professional CoE) in the study area. Moreover, there was also good attitude towards ethics, but cue to action (practice level) is low, this inhibited the practitioners to reach to action stage. This might cause the high incidence of unethical practices in the study area. The code models assessment also was in line to the result of two models (KAP and CPV). However, there was a good understanding of all four fundamental principles and canons, their understanding did not keep them from involving in unethical matters. This implies that, the awareness of ethics alone could not prevent unethical practices in the construction companies.

4.4.3   Code of Ethics (Fundamental Principles and Canons)

The third specific objective of the study aimed to evaluate the detailed state of ethical practice activities in the construction companies through investigating the respondents to value and reflect the appraisal and other supplementary questions based on the EACE CoE.The study factors assessed in this cases were fundamental principles and canons of the professional CoE. As a qualitative analysis procedure, in this discussion section the degree of these two factors/ parameters were defined by verbatim: very low, low, moderate, high, and very high for 1-20%, 21-40%, 41-60%, 61-80%, and 81-100% of results frequency percentages respectively.

The ethical practice state of the managers in regard to the principles of the CoE was found to be in a very low level. All four principles of the CoE (human welfare and environmenthonesty, impartiality, and fidelity; competence and prestige of the profession; supporting professionals in other organizations) were observed to be highly violated (obeyed in a very low level) by managers in solving the practical construction company ethical problems demonstrated in the given cases. Similarly, among the seven canons of the CoE the two (reputation and competence) were violated (obeyed in low level);whereas the other five canons (conflict of interest, social safety & sustainable development, public statements, professional development, and respect for the profession) were also violated (obeyed in moderate level than other) by professionals in solving the practical construction company ethical problems observed in the given cases. Generally, the obedience of CoE found to be very low in construction companies in Jimma.

To sum up the overall ethical practice assessment of the study, the construction companies in Jimma city were found to be in a very low ethical status, where there was high prevalence of unethical practice (such as bribery and theft) which were triggered by high price of local construction materials, burdened bid process and unfair tax system (in local government), and lack of ethical education and training. The obedience of CoE also found to be in a very low level among managers and professionals of the construction companies in Jimma city.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1   Conclusion

The following major conclusions have been deduced to point out ethical practice of construction companies in Jimma city, based on the results and discussions of the study.

- The ethical practice trend/ progress of the construction companies is in a low level in Jimma city. The readiness/ frameworks of the companies for ethical practice is poor. There are several challenges faced that hinder the progress of ethical practice, such as minor emphasis given to ethics by managers, owners, professionals of the companies, poor support from government in the prevention corruption, contradiction between market and ethics, colleagues pressure to commit corruption, and fear of professionals not to lose their job if they whistle blowing corruptions. The single opportunity found in the study area concerning ethical issues is the exposure and awareness of practitioners (managers and professionals) towards ethical issues, which is found to be in a good level.

- The construction companies in Jimma were affected by several unethical practice problems, majorly by bribery and theft. There are also other unethical problems such as, hiding quality defects, non-receipt procurement, nepotism and favoritism, fraud in recites and documents, discrimination, theft and fraud, and coercion. These unethical practices were triggered majorly by high price of local construction materials, burdened bid process and unfair tax system (in local government), and poor management support to employees (lack of ethical education& training) in the study area. The major outcomes of these unethical practices were low performance and damaged company reputation.

- The obedience of code of professional ethics/ CoE found to be low in construction companies in Jimma. However, the managers and professionals have good knowledge of the CoE, they showed poor results in the assessment of appraisal case examination of code models. Managers obedience to fundamental principles (human welfare and environment honesty, impartiality, and fidelity; competence and prestige of the profession; supporting professionals in other organizations)

wasvery low. Even though the professionals were better than the managers in the appraisal test of the code model, their result in obeying the fundamental canons (reputation, competence, conflict of interest, social safety & sustainable development, public statements, professional development, and respect for the profession) was also low.

5.2   Recommendation

The following recommendations are forwarded to the construction companies in Jimma city, ministry of construction and urban development, Ethiopian association of civil engineers, and concerning government sectors and stake holders to improve professional ethics practice and to decrease the major triggering factors that lead to undesirable outcomes which affected the construction companies in Jimma city.

- Rewarding and motivating the managers and professionals who conducting good ethical practices and whistleblowing unethical practices. The result of the study showed that there is better awareness and attitude of practitioners towards ethical issues, this opportunity should be addressed by construction company administrators in Jimma to get good reputation and enhanced performance through ethical practice progress of the company, rather that involving risky and corrupted short term profit goals that might lead the survival of the company in to question.

- Encouraging the construction companies to incorporate appropriate frameworks for ethical issues in their strategies, plans, contract and other documents. The ministry of construction and Ethiopian association of civil engineers should collaborate and design a policy and system to distribute the EACE CoE book, monitor the implementation, and evaluate/ audit the company's ethical status. There should be a mandatory training and certification requirement of construction managers and professionals on professional ethics and CoE before employment and during employment. There should be also a committed committee in construction companies that controls the ethical matters.

- The local government bodies should facilitate and control the supply of local construction materials in a fair price to mitigate the undesirable competitions and resulting unethical matters. The tax and finance offices should motivate the construction companies by establishing modern and smooth systems.

- The prevailing corrupted bidding and tender system must be restructured in the country level with automated and standalone government commission that integrated with the strong legal and regulatory governmental bodies which check each other to alleviate the chronic ethical problems that also results with several complex problems that forced the construction companies to rush in to unethical practices for their survival.

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APPENDICES

Appendix 1: GENERAL IN-DEPTH INTERVIEW (IDI)

Introduction

The purpose of theseinterviews (IDI and SI) is to obtain information and data for the specified research conducted as a partial fulfillment of the requirements for master's degree in civil engineering (Construction Engineering and Management) at Jimma University.

Research Topic

Assessment of Professional Ethics Practice in Construction Companies in Jimma city

Objective

The purpose of this research is to assess the ethical practice of construction companies in Jimma city

Confidentiality

The data collected and the information to be answered in these interviews will be used for academic research purpose only. All specific company and interviewee information will be kept confidential at all times. Only generalized analysis of the information contained within this completed questionnaire utilized in the research process.

Thank you for your earnest cooperation in advance.

Best Regards,

Sincerely yours

KIDUS WOLDEMARYAM
Post graduate student in Construction Engineering & Management
Jimma University, JIT, Civil Engineering Department
Tel: 09-17-83-29-84/09-54-59-59-00

For Managers/ Owners

*Name of the data collector*_____

Sample _____

i. *Level of your company*

	Large-sized	*Medium-sized*	*Small-sized*
Level	*7, 8, 9*	*4, 5, 6*	*1, 2, 3*
Check (✓)			

ii. *Managerial position in the company*_____

1. Is professional ethics addressed formally (CoE) or informally in your company?
2. Do you think professional ethics is important for the success of your company?
3. Is it possible to consider professional ethics in your corporate strategy? If yes, what arrangements it needs?
4. **"VR-test"** How can you explain the progress of professional ethics in your companies?
5. How does your organization respond to changes in business ethics as it is a function of time, culture, quality?
6. Does your construction companies involve in any of country's development programs?
7. How do you consider playing social responsibility as organizational competitiveadvantages?
8. Did your company face under construction safety problem?
9. How do you consider construction quality in relation to other attributes of service quality like effectiveness and durability?
10. **"VR-test"** Are you in a position to identify and inform potential quality failure hazard to users if any?
11. **"VR-test"** Do you have any policy concerning environmental protection? If yes, what type?
12. What possible environmental pollution could arise from your company? What mechanism did you implemented to solving the problem
13. **"VR-test"** If there is a pollution, do you have to control that pollution? compensate them?
14. Do permanent and contract employers in your company noted by tax office and non-government employees' social welfare office?
15. Sometimes construction companies precede non receipt procurement, did you ever do this? How do you solve it?
16. Is your company had ever conflict or legal issue?What was the case?

Appendix 2: GENERAL STRUCTURED INTERVIEW (SI)

For Professionals

1. Do you ever heard of professional ethics problem that damaged the reputation of the company in construction projects in Jimma?
2. **"VR-test"** (Have you ever dealt with an organization which /that includes ethical issues in its contracts or other documents?)
3. Does your organization add ethical items including the legal requirements for the contract?
4. Is there a clause in the tender documents or contract provides for the control or prevention of unethical behavior to the contractor?
5. How do you describe the level of ethical awareness do the employees in your organization have?
6. **"FLASH CARD!"** What are the difficulties (causes of unethical practice) for developing a strong ethical awareness in your organization? (FLASH CARDs given below)
   6.1. *Lack of support from management: Insufficient ethical education & ethics training (Abdul-Rahman et al., 2011)*
   6.2. *Prevailing trend/ culture within the industry: Construction industry culture (Abdul-Rahman et al., 2011)*
   6.3. *Short-term profit: Greed and Poverty (Oke, 2016) attention*
   6.4. *Poor personal and organizational relationship: Poor communication (Yeslam et al., 2015)*
   6.5. *Poor personal motivation and self-discipline: Weak self-control (Belle and Cantarelli, 2017))*
   6.6. *Customs and traditions: Culture (Oke, 2016)*
   6.7. *Specify other cause of unethical behavior in your company*
7. Do you have an ethical CoE in your Organization?
   7.1. If there the CoE, do you think that it is enacted in the company?
8. Do you think the existence of ethical CoE can improve construction industry?
9. What measure would you take, if you see unethical behavior?
   9.1. What else do you want to suggest about it?
10. **"VR-test** "What measures do you suggest to improve ethical practices in construction?
11. Do you think there is a positive relationship between ethical behavior and long-term profitability of the company?
12. **"VR-test"** (Do you think there is a positive relationship between ethical behavior and short-term profitability of the company?)
13. **"FLASH CARD!"** How do you evaluate/ rate the progress and construction quality of your company with respect to civil engineering professional discipline and ethics?
14. **"VR-test"** (Do you think that unethical practices affect the quality, performance or production efficiency in the construction industry?)
   14.1.   If you agree that ethics affects performance, how do you rate it?
15. **"FLASH CARD!"** Mention two crucial organizational resources you know that would determine the success of your company directly or indirectly?
16. What unethical practice do you observe in your work environment with respect to conflict of interest?
17. **"VR-test** "What unethical practice (emerged from conflict of interest) do you faced in your organization, or performed by owner/manager deliberately or not?
18. With respect to hiring and managing employments, how do you evaluate your organization management body?

Appendix 3: SPECIFIC CODE-MODEL QUESTIONS

For both Managers & Professionals

3.1. Starter Questions

Presence: Presence of the CoE in your company.

Exposure: Your personal exposure to the CoE (from education courses, reading the whole, seeing the excerpt, hearing in media, etc.).

Implementation: Implementation/ practice/ application of the professional CoE in your managerial activity or day to day construction professional activity.

Challenge: Challenges you faced to implement/ apply theprofessional CoE.

For Managers

3.2. Appraisal Questions
3.2.1. Fundamental Principles of the CoE *(continued from IDI interview)*

EACE (2015) article 5, pp.6

IDI-17. Knowledge/ Skill for Human Welfare &Environment: *(Article 5, -1)* Enhancing the environment, is it an ethical or developmental issue for civil engineers?

IDI-18. Honesty, Impartiality, Fidelity:(Article 5, -2) Construction companies usually earn their profits by implementing their projects in cost effective manner. Likewise, you have to keep your company's secret (such as quality defects, cooked financial data and so on) from clients/ public and if unfortunately, a *"stubborn"* engineer disclose that secret. Do you think he/ she is unethical?

IDI-19. Competence & Prestige of The Profession:(Article 5, -3) What would you reward if a competent and hardworking civil engineer in your company consistently avoids personal professional seminars and higher education scholarship to show his/ her loyalty to you and the company at the time of you are executing tough projects?

IDI-20. Supporting Other Disciple Professionals:(Article 5, -4) EACE CoE (2015), states that "Engineers shall perform services only in area of their competence." If you are an ethical committee chairman of your company (assume there is the committee) what corrective measure would you take if an engineer in your company supports the professionals in other discipline beyond the company?

For Professionals

3.2.2. Fundamental Canons of the CoE *(continued from SI interview)*

EACE (2015) article 5 - 13

SI-19. Social Safety & Sustainable Development: *(Article-7, Canon-**I,** -4)* Informing the issues (e.g. violation of public safety) of the other companies to authority is **NOT** the duty of the professionals.

SI-20. Competence: *(Article-8, Canon-**II,** -1)* A professional shall take a responsibility, if assigned to perform a job out of his/ her areas of qualification and/ or experience.

SI-21. Public Statements: (*Article-9, Canon-**III,** -5)*as civil engineers are risk takers, occasionally, they should promote their interest at the expense of their integrity.

SI-22. Conflict of Interest: *(Article-10, Canon-**IV,** -5)*an industrious civil engineer engaged in multiple employments in different companies at the same time with/ without the knowledge of their employers. Because he/ she can manage the schedules.

SI-23. Reputation: *(Article-11, Canon-**V,** -1)* A civil engineer could give political contribution to secure work, if he/ she fail to secure it through employment agencies.

SI-24. Respect for the Profession:(*Article-12, Canon-**VI,** -1)*since civil-engineering is a backbone of economy, therefor professionals shall strive to gain economic profit even before haughty honor and dignity. Because honor cannot bake a bread.

SI-25. Professional Development: *(Article-13, Canon-**VII,** -1)* Civil engineers recommended to read technical literatures, do engineering researches and attend professional seminars for their self-development and promotion, even though these are not ethical issues.

Qualitative Data Collection (for SI and IDI)

Guideline to Structured Interview

PRIMER

This guide is prepared to facilitate the data collection and analysis of this study.IDI is designed as both data collection technique and qualitative validity/ reliability test tool. The validity/ reliability test for qualitative research was conducted before and during data collection by administering the survey questions online in the Google-form.

The Ethiopian Association of Civil Engineers/ EACE Professional CoE (2015) is used as a measuring tool to evaluate the ethical behavior (knowledge, attitude/perception and practice) of the professionals and company management bodies so as to infer qualitatively the ethical trend of their respective companies. Therefore, to measuring tools (fundamental principle & Canon tools) are designed to the managers/owners and professionals/engineers respectively as indicated below

Part-1:IDI and SI Sessions

A. QUESTIONS DESIGNED FORQUALITATIVE VALIDITY/ RELIABILITY TEST

The questions selected for the test are designated by abbreviation **"VR-test"** in front of the question, and put inside outside borders/ box. They are intentionally repeated after modifying from original items, and they will be administered at the end of the survey/interview (after part-4).

➢ Question item number #2 (modified from Q#3)
➢ Question item number #12 (modified from Q#11)
➢ Question item number #14 (modified from Q#13)

B. NOTES ON THE TECHNIQUES DURING IDI

The questions that need FLASH CARDs/ guidance before interviewing are designated by abbreviation **"FLASH CARD!"** in front of the question.

Question item number #6 attempts to evaluate the perception of respondents on causes of unethical behaviors. Before starting pointing the FLASH CARDs from 6.1. - 6.6, check whether the respondent could mention the causes first. Then after, discuss with the respondents by pointing the given/ FLASH CARD causes. The participant can respond either with short phrases (very unlikely, unlikely, less probably, likely and very likely etc.

Question item number #13: the interview/ respondents may answer it with short phrase (e.g. very low, low, moderate, high, very high etc.) or with any other form they want.

Question item number #14 is a perception evaluating item. Therefore, the researcher should guide the respondents to be on the point and so to save the time. The interviewee/ respondents may rate their perception with short phrase (e.g. very unlikely, unlikely, less probably, likely and very likely, etc.) or with any other form of expression they want.

Question item number #15 The purpose of this question is to evaluate the respondents whether they consider ethical elements as one of organizational resources. At the analysis phase the researcher expected to sort out the answer to find any ethical issues are mentioned by respondents and categorize this ethical issues according to the level of

respective respondents. The respondents are expected to mention at least two / resources. And this items will be analyzed qualitatively.

Part-2:Code Model Questions (*starter & appraisal questions*)

The researcher must NOT inform the respondents either the source of the question items (EACE CoE, 2015) or the title/ article numbers, in order to get unbiased and genuine reflections of the respondents. The researcher must gather all reflection of the respondents with care on the prepared tables and organize it for further analysis. The extended reports should be arranged for suitability of either manual or software (MAXQUAL-DA 2020, MS-word MS excel) at the analysis phase, the data could be coded, reduced to manageable and interpretable form by employing thematic qualitative analysis technique. **(This is also working for In-depth interview)**

NOTES ON THE TECHNIQUES DURING IDI
The data collector/ research must clarify the questions to get brief and clear response from the respondents. Collect a data by focusing one specific ethical issue at each question and guide the respondents from playing around the bush or skipping the point simply by giving general statements. The respondents can reflect for this IDI interview either with short phrases (*I believe, I don't know, I don't believe and so on*) or whatever other form of expression they want.

CANON TOOL: The Guideline to practice from SEVEN/ 7 FUNDAMENTAL CANONS (EACE, 2015:Article 7 - 13) are used to measure the PROFESSIONALS' knowledge, attitude and practice of ethics. ALL QUESTIONS ITEMS ARE NOT A DIRECT EXCERPT FROM THE CoE!

If you encounter with a sign "VR-test" and if also the question is bordered within the box, that question should be skipped for later to be asked after completing part II interview on professional CoE. That questions are designed to test internal validity and reliability of the instrument.

The respondents expected to explain their opinion in depth for each cases illustrated in the four questions.

PRINCIPLE TOOL: The FOUR/4 FUNDAMENTAL PRINCIPLE of ethics (EACE, 2015: Article 5) is used to measure the knowledge, attitude/ perception and practice of COMPANY MANAGERS/ OWNERS of the company towards ethics. ALL QUESTIONS ITEMS ARE NOT A DIRECT EXCERPT FROM THE CoE!

Appendix 5: GLOSSARY

Accountability: Backward-looking responsibility in the sense of being held to account for, or justify one's actions towards others.

Beneficence: the duty to improve the conditions of others.

Bid Rigging - Unlawful conspiracy whereby competitors join to falsely raise the prices of a bid.

Bribery - Non-money or money support to get something consequently

Change Order Games - Presenting a low bid in order to win the project and later on get back the profit by presenting change orders.

Claim Games - Making additional earnings through presenting false claims.

Conflictofinterest: The situation in which one has an interest (personal or professional) that, when pursued, can conflict with meeting one's professional obligations to an employer or to (other) clients.

Cover pricing - Happens when a bidder only wants to be seen to take part but never wants to win the occupation so asks for an adversary for a reasonable "spread cost" and shows it as a real offer. An organization may have decent reasons to ask for at a spread cost so it can present a solid offer including that: it might get dropped from a delicate run-down in the event that it doesn't join in, or it might need capacity for the employment yet need to pull in future occupation from the same important.

Creativity: The virtue of being able to think out or invent new, often unexpected, options or ideas. Creativity is an important professional virtue for designers.

Extortion - A type of blackmail whereby one party threatens the other party of adverse consequences unless the other party meets listed demands.

Fairness and clarity - don't try to get an advantage which comes in a deceptive way or specifically from the out of line treatment of different people.

Fidelity: the duty to keep promises.

Fraud - Deceit to obtain financial or other advantages

Gratitude: the duty to thank those who help us.

Honesty and confidence - work with trustworthiness and avoid lead liable to come about, by implication or straightforwardly in the double dealing of others.

Honesty: Telling what one has good reasons to believe to be true and disclosing all relevant information.

Integrity - have regard for the hobbies of the general population, fundamentally people who will use or get an enthusiasm for the task later on.

Integrity: Living by one's own (moral) values, norms and commitments.

Justice: the duty to recognize merit.

Money Laundering - Moving assets or cash acquired by criminal activity from one place to another, to hide the source of finances.

Moralresponsibility: Responsibility that is based on moral obligations, moral norms or moral duties.

Morality: The totality of opinions, decisions, and actions with which people express, individually or collectively, what they think is good or right.

Non-maleficence: the duty to not injure others.

Norms: Rules that prescribe what actions are required, permitted, or forbidden.

Objectivity - perceive any conceivable irreconcilable situations and uncover the contention to any person who might be adversely influenced by it.

Overbilling - Increasing unit prices for activities that are planned to occur earlier in the project to raise the cash flow.

Profession: Often mentioned characteristics of a profession include: 1) use of specialized knowledge and skills; 2) a monopoly on the carrying out of the occupation; 3) assessment only possible by peers. In addition, the following two requirements are also sometimes mentioned: 4) service orientation to society; and 5) ethical standards.

Professional autonomy: The ideal that individual professionals achieve themselves moral conclusions by reasoning clearly and carefully.

Professional code: CoE that is formulated by a professional association.

Professional responsibility: The responsibility that is based on one's role as professional in as far it stays within the limits of what is morally allowed.

Reasonable reward - maintain a strategic distance from behavior which is prone to bring about another gathering to be denied of a simply remunerate for their employment.

Reliability - maintaining abilities and offering benefits just in your general vicinity of capability.

Reparation: the duty to compensate others when we harm them.

Responsibility - stay away from data and cautioning of issues within your insight which are of conceivable mischief to other people who may be adversely influenced by them. Cautioning should be given in enough time to allow making of viable move to maintain a strategic distance from damage.

Self-improvement: the duty to improve our virtue and intelligence.

Sustainable development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Virtues: A certain type of human characteristics or qualities.

Appendix 6: SUPPLEMENTARY DATA

6.1 Profile of the Companies:

Table 11: Profile ofthe Companies andthe Samples ofthe Study

PROFILE OF THE COMPANIES AND THE SAMPLES OF THE STUDY								
Grade	Construction Cost *(In Million ETB)*	Professional Mandatory	& Level of Equipment Machinery *(Heavy=H) Intermediate=I) (Light=L)*	Company Level *(from Study Analysis)*	Sample size			
					For IDI		For SI	
1	Above 350	PE VII	12 (H, I, L)	Large-sized	M=3	3	CE=7 CR=3 EE=1	11
2	Up to 350	PE VI	10 (H, I, L)					
3	270	PE V	7 (H, I & L)					
4	185	PE IV	3(Dump Truck), 1(pickup)	Medium-sized	M=1 O=2 R=1	5	CE=16	16
5	100	PE III	3 (L, M)					
6	45	PE II	2 (L, M)					
7	18	PE I	1 (pickup)	Small-sized	O=2 R=2	4	CE=24	24
8	9	GE III	-					
9	5	GE II	-					
					Total	11		51

IDI=in-depth-interview,

SI=structured interview;

M=Manger,

O=Owner,

R=Representative;

CE=civil engineers,

CR=construction related,

EE=electrical engineer

   = total;

PE=Professional Engineer,

GE=Graduate Engineer

6.2 Demographic Data of the Respondents:

Table 12: *Demographic Data Format*

DEMOGRAPHIC DATA

This data is intended to be filled by the researcher before the interview on the consent of the interviewee:

Name of the data collector_____

Sample   _____

Level of company

	Large-sized	*Medium-sized*	*Small-sized*
Level	*7, 8, 9*	*4, 5, 6*	*1, 2, 3*
Check (✔)			

i. Sex

female	male

ii. Age

less than25	26-30	31-35	36-40	Above 40

iii. Marital status

Married	Unmarried

iv. If unmarried, do you have any other Family responsibility? A. yes B. No

v. If you have family responsibility, please specify it_____

vi. Educational Qualification

PhD	Master	Bachelor	diploma	TVET	12/10th complete	Under high school

vii. Field of study   _____

viii.   Your Current work position / responsibility

General Manager	Project manager	Site Eng.	Architect	Surveyor	Other (Specify)

ix. Years of experience

Less than 1 yr.	1 yr. - 5 yrs.	5 - 10 yrs.	11 - 20 yrs.	Above 20 yrs.

x. Years of engagement, in this organization

Less than 1 yr.	2 - 5 yrs.	6 - 10 yrs.	Above 20 yrs.

Table 13: Demographic Data of the Respondents

GENERALINFORMATION		FREQ.	%
Gender	Male	38	74.5
	Female	13	25.5
Age	less than 25	4	7.8
	26-30	32	62.7
	31-35	11	21.6
	36-40	2	3.9
	above 40	2	3.9
Marital status	Married	24	47.1
	Unmarried	27	52.9
ExtraFamily responsibility	Yes (Unmarried)	2	7.4
	No (Unmarried)	25	92.6
	Yes(Married)	7	29.2
	No(Married)	17	70.8
Educational Qualification	Bachelor	36	70.6
	Diploma	3	5.9
	Master	12	23.5
Job position	General manager	5	9.8
	office Engineer	13	25.5
	project manager	7	13.7
	quantity surveyor	2	3.9
	resident engineer	2	3.9
	Site Engineer	13	25.5
	Other	9	17.9
Job experience	less than one year	5	9.8
	2 - 5　years	29	56,9
	6- 10 years	13	25.5
	More than 10 years	4	7.8
Years of employment in Current Company	less than one year	16	31.4
	2 - 5　years	32	62.7
	6- 10 years	2	3.9
	More than 10 years	1	2

6.3 Extra Primary Data from IDI and SI

Table 14: Code violation

	Canons of CoE	Company size						Total N=51	
		Small N=24		Medium N=16		Large N=11			
		f	%	f	%	f	%	f	%
I	Safety/Sust.	3	13.04	3	11.1	3	18.75	9	13.68
II	Competence	4	17.39	5	18.5	2	12.5	11	16.72
III	Pub.Stat't	2	8.7	5	18.5	2	12.5	9	13.68
IV	Conf.Interest	2	8.7	5	18.5	3	18.75	10	15.2
V	Reputation	6	26.1	4	14.8	2	12.5	12	18.24
VI	Respect Prof	3	13.04	2	7.4	2	12.5	7	10.64
VII	Prof.Dev't	3	13.04	3	11.1	2	12.5	8	12.16
	Tot violation	23	100	27	100	16	100	66	100
	Violator freq.	9	42.86	8	38.1	4	19.05	21	41.18
	Violator %	37.5		50		36.4		38.9	

- Totally (21) 41.18% violates the CoE by one or another case. Most violator from total is small companies = 42.86% from the total violators (least violators are larges with 19.05% from total.
- 37.5% in small, 50% in medium and 36.4% in large companies violated the CoE. In this case, most violator with in its own group is mediums 50%. Least violator with in its own group is large company
- In both scenario large companies found to be ethical than others. The least ethical are small companies.

6.4 Extra Results and Discussion

Table 15: *Ethics as resource*

	Professionals Responses	Grouping Resources	Freq. N=51	% N=51	RANK N=51	Ethics related Resource
1	Office Equipment	1. Asset	9	18	5	
2	Company's Machinery					
3	Construction Equipment					
4	Money	2. Finance	17	33	1	
5	Financial Documents					
6	Good Name	3. Reputation	15	29	2	Reputation
7	Business Reputation					
8	Fuel	4. Supply	3	6	10	
9	Construction Materials					
10	Working Time	5. Time	8	16	7	
11	Project Time					
12	Telephone	6. Utility	2	4	11	
13	Electricity					
14	Waterline					
15	Decency	7. Morality	9	18	5	Morality
16	Trustworthiness					
17	Social Value					
18	Knowledge	8. Proficiency	14	27	3	
19	Skill					
20	Job Experience					
21	Organizational Power	9. Administration	4	8	9	
22	Managerial Position					
23	Good Communication	10. Environment	6	12	8	
24	Conductive Work Environment					
25	Safe Environment					
26	Documents	11. Information	12	24	4	
27	Company Secrets					

The respondents were asked to mention list of significant organizational resources for the success of their company to evaluate whether they perceive ethics as resource or not. Then, they mentioned totally 27 company resources (table). To assess the attitude of respondents on ethical issues, these 27 resources were clustered in 11 groups and ranked by their frequency.

Then, the top 3 groups of resources and ethics related resources were selected for discussion; these top three resources were finance, reputation, and proficiency (knowledge, skill and job experience) followed by the other 8 groups of resources i.e. utility, time & finance, asset, supply, (administration, information, and morality consecutively. The second topmost resource mentioned in the rank was reputation (good name), on the other hand, the fifth resource mentioned in the rank was morality (decency, trustworthiness, social value) and these are the two ethics related resource in the list. Thus, the respondents mentioned two types of ethics related resources among the 11 types.

Generally, they mentioned only 5 (19%) ethics related resources out of 27 resources, or 2 (18%) ethics related group of resources among 11 groups of resources. This implies the degree of perceiving ethical issues as company resource is very low compared to the other organizational resources mentioned by respondents. In contrast, among those few ethics related resources they gave a high degree of emphasis for reputation even above all other group of resources except finance. The perceived reputation is the most important company resource next money.

6.5 EACE Professional Code of Ethics
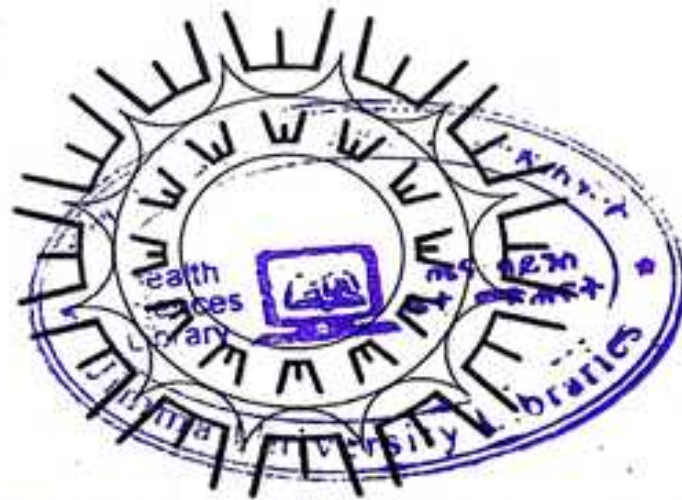
Figure 27: EACE Professional Code of Ethics

CODE OF PROFESSIONAL ETHICS

TABLE OF CONTENTS

CODE OF PROFESSIONAL ETHICS
OF THE ETHIOPIAN ASSOCIATION OF
CIVIL ENGINEERS
PREAMBLE

WHEREAS, Civil Engineering is an important and learned profession;

WHEREAS, the members of the profession recognize that their work has a direct and vital impact on the quality of life for all people;

WHEREAS, the professional services to be provided by Civil Engineers require honesty, impartiality, fairness, integrity, competence and equity and shall be dedicated to the protection of public health, safety and welfare;

WHEREAS, in the practice of their profession, Civil Engineers shall perform under a standard of professional behavior which requires adherence to and preservation of the highest principles of ethical conduct on behalf of the profession;

NOW, THEREFORE, WE, Members of the Ethiopian Association of Civil Engineers hereby unanimously have adopted the following Code of Professional Ethics, which has been adopted from different internationally re-known Civil Engineers Societies, and hereby declare the unreserved recognition and acceptance, and therewith to be guided and abided by same.

1

2

PART ONE
GENERAL PROVISIONS
ARTICLE 1
DESIGNATION

This document may be designated as "The Code of Professional Ethics of the Ethiopian Association of Civil Engineers."

ARTICLE 2
DEFINITIONS

In this Code, unless the context otherwise requires:-

1. "(The) Association" means the "Ethiopian Association of Civil Engineers".

3

the Bylaws, the Policy and other highest decision and procedure of the Association.

ARTICLE 4
COMPONENTS AND HIERARCHY OF THE CODE

1. The Code shall have the following components, viz,
   a) Fundamental Principles;
   b) Fundamental Canons; and
   c) Guidelines to Practice.

2. The hierarchy of the components of the Code shall be as so provided under sub-Article (1) of this Article.

PART TWO
FUNDAMENTAL PROVISIONS
ARTICLE 5
FUNDAMENTAL PRINCIPLES

Engineers uphold and advance the integrity, honor and dignity of the engineering Profession by;

5

2. "Code" means the Association's Code Professional Ethics referred under Article 1.

3. "Members" or "Engineers" means Civil Engineers, who have become members to the Association as per the Bylaws of the Association. The type and level of membership shall be as defined by the Bylaws of the Association.

4. "Profession" means the field of Civil Engineering.

ARTICLE 3
SCOPE OF APPLICATION

1. This Code shall apply to the civil engineers who are members to the Association.

2. All members of the Association shall subscribe to the Code, the Constitution

4

1. Using their knowledge and skill for the enhancement of human welfare and the environment;

2. being honest and impartial and serving with fidelity the public, their employers and clients;

3. Striving to increase the competence and prestige of the engineering profession; and

4. Supporting the professional and technical societies of other disciplines.

ARTICLE 6
FUNDAMENTAL CANONS

1. CANON 1: Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the

6

development in the performance of their professional duties.

2. CANON II: Engineers shall perform services only in areas of their competence.

3. CANON III: Engineers shall issue public statements only in an objective and truthful manner.

4. CANON IV: Engineers shall act in professional matters for each employer or client as faithful agents or trustees, and shall avoid conflicts of interest.

5. CANON V: Engineers shall build their professional rep

7

reputation on the merit of their services and shall not compete unfairly with others.

6. CANON VI: Engineers shall act in such a manner as to uphold and enhance the honour, integrity, and dignity of the engineering profession.

7. CANON VII: Engineers shall continue their professional development throughout their careers, and shall provide opportunities for the professional development of those engineers under their supervision.

8

GUIDELINES TO PRACTICE
UNDER THE FUNDAMENTAL CANONS
ARTICLE 7
CANON I. SOCIAL SAFETY AND
SUSTAINABLE DEVELOPMENT

Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development in the performance of their professional duties.

The Guidelines

Engineers shall recognize that the lives, safety, health and welfare of the general public are dependent upon engineering judgments, decisions and practices incorporated into structures, machines, products, processes and devices.

Engineers shall approve or seal only those design documents, reviewed or

9

prepared by them, which are determined to be safe for public health and welfare in conformity with accepted engineering standards.

3. Engineers, whose professional judgment is overruled under circumstances where the safety, health and welfare of the public are endangered, or the principles of sustainable development ignored, shall inform their clients or employers of the possible consequences.

4. Engineers who have knowledge or reason to believe that another person or firm may be in violation of any of the provisions of Canon I shall present such information to the proper authority in

10

furnishing such further information or assistance as may be required.

5. Engineers shall seek opportunities to be of constructive service in civic affairs and work for the advancement of the safety, health and well-being of their communities, and the protection of the environment through the practice of sustainable development.

6. Engineers shall be committed to improving the environment by adherence to the principles of sustainable development so as to enhance the quality of the life of general public.

ARTICLE 8
CANON II. COMPETENCE

Engineers shall perform services only in areas of their competence.

The Guidelines

Engineers shall undertake to perform engineering assignments only when qualified by education or experience in the technical

11

2. Engineers may accept an assignment requiring education or experience outside of their own fields of competence, provided their services are restricted to those phases of the project in which they are qualified. Qualified associates, consultants, or employees shall perform all other phases of such project.

3. Engineers shall not affix their signatures or seals to any engineering plan or documents dealing with subject matter in which they lack competence by virtue of education or experience or to any such plan or documents not reviewed or prepared under their supervisory control.

ARTICLE 9
CANON III. CAUTION RELATIVE TO PUBLIC STATEMENTS

Engineers shall issue public statements only in an objective and truthful manner.

12

The Guidelines

1. Engineers shall endeavor to extend the public knowledge of engineering and sustainable development, and shall not participate in the dissemination of untrue, unfair or exaggerated statements regarding engineering.

2. Engineers shall be objective and truthful in professional report, statements, or testimony. They shall include all relevant and pertinent information in such reports, statements, or testimony.

3. Engineers, when serving as expert witnesses, shall express an engineering opinion only when it is founded upon adequate knowledge of the fact, upon a background of

13

technical competence, and upon honest conviction.

4. Engineers shall issue no statements, criticisms, or arguments on engineering matters, which are inspired or paid for by interested parties, unless they indicate on whose behalf the statements, are made.

5. Engineers shall be dignified and modest in explaining their work and merit, and shall avoid any act tending to promote their own interests at the expense of the integrity, honor and dignity of the profession.

14

parties, unless they indicate on whose behalf the statements, are made.

Engineers shall be dignified and modest in explaining their work and merit, and shall avoid any act tending to promote their own interests at the expense of the integrity, honor and dignity of the profession.

ARTICLE 10
CANON IV.   FAITHFUL PROFESSIONAL PERFORMANCE AND AVOIDING CON-FLICT OF INTEREST

Engineers shall act in professional matters for each employer or client as faithful agents or trustees, and shall avoid conflicts of interest.

The Guidelines

Engineers shall avoid all known or potential conflicts of interest with their employer or clients and shall

15

prompty inform their employers or clients of any business association, interests, or circumstances, which could influence their judgment, or the quality of their services.

2. *Engineers may not accept compensation from more than one party for services on the same project, or for services pertaining to the same project, unless the circumstances are fully disclosed to and agreed to, by all interested parties.*

3. *Engineers may not solicit or accept gratuities, directly or indirectly, from contractors, their agent, or other parties dealing with their clients or employers in connection with work for which they are responsible.*

4. *Engineers in public service as members, advisors, or employees of*

16

governmental body or department shall not participate in considerations or actions with respect to services solicited or provided by them or their organization in private or public engineering practice.

1. *Engineers may not use confidential information coming to them in the course of their assignments as a means of making personal profit, if such action is adverse to the interests of their clients, employers or the public.*

5. *Engineers may not accept professional employment outside of their regular work or interest without the knowledge of their employers.*

17

ARTICLE 11
CANON V.   PROFESSIONAL REPU-TATION AND AVOIDING UNFAIR COMPETITION

Engineers shall build their professional reputation on the merit of their services and may not compete unfairly with others.

The Guidelines

Engineers may not give, solicit or receive either directly or indirectly, any political contribution, gratuity, or unlawful consideration in order to secure work, exclusive of securing salaried positions through employment agencies.

Engineers shall negotiate contracts for professional services fairly and on the basis of demonstrated competence and qualifications for the type of professional service required.

18

3. Engineers may request, propose or accept professional commissions on a contingent basis only under circumstances in which their professional judgments would not be compromised.

4. Engineers may not falsify or permit misrepresentation of their academic or professional qualifications or experience.

5. Engineers shall give proper credit for engineering work to those to whom credit is due, and shall recognize the proprietary interests of others. Whenever possible, they shall name the person or persons who may be responsible for designs, inventions, writing or other accomplishments.

6. Engineers may advertise professional services in a way that does not contain

19

misleading language or is in any other manner derrogatory to the dignity of the profession. Examples of permissible advertising are as follows:

A. Professional cards in recognized, dignified publications and listings in rosters or directories published by responsible organizations, provided that cards or listings are consistent in size and content and are not misleading with respect to the engineer's participation in projects described.

B. Display advertising in recognized and dignified business and professional publication, provide that it is factual and is not misleading with respect to the engineers' extent of participation in projects described.

20

C. A statement of the engineers' names or the name of the firm and statement of the type of service posted on projects for which they render services.

D. Preparation or authorization of descriptive articles for the lay or technical press, which are factual and dignified. Such articles may not imply anything more than direct participation in the project described.

E. Permission by engineers for their names to be used in commercial advertisements, such as may be published by contractors, material suppliers, etc., only by means of a modest, dignified notation acknowledging the engineers' participation in the project described. Such permission may not include public endorsement of proprietary products.

21

may not include public endorsement of proprietary products.

7. Engineers may not maliciously or falsely, directly or indirectly, injure the professional reputation, prospects, practice or employment of another engineer or indiscriminately criticize a, the work of others.

8. Engineers may not use equipment, supplies, laboratory or office facilities of their employers to carry on outside private practice, without the consent of their employers.

ARTICLE 12

CANON VI. RESPECT FOR THE PROFESSION

Engineers shall act in such a manner as to uphold and enhance the honour, integrity, and dignity of the engineering profession.

22

The Guidelines

1. Engineers may not knowingly act in a manner, which will be derogatory to the honor, integrity, or dignity of the engineering profession or knowingly engage in business or professional practices of a fraudulent, dishonest or unethical nature.

ARTICLE 13

CANON VII. PROFESSIONAL DEVELOPMENT AND OPPORTUNITIES FOR PROFESSIONAL COLLEAGUES

Engineers shall continue their professional development throughout their careers, and shall provide opportunities for the professional development of those engineers under their supervision.

23

The Guidelines

1. Engineers shall keep current in their specialty field by engaging in professional practice, participating in continuing education courses, reading in the technical literature, and attending professional meetings and seminars.

2. Engineers shall encourage their engineering employees to become registered at the earliest possible date.

3. Engineers shall encourage their engineering employees to attend and present papers at professional and technical society meetings.

4. Engineers shall uphold the principle of mutually satisfying relationships between employers and employees with respect to terms of employment including professional grade descriptions, salary ranges, and fringe benefits.

24

PART THREE
FINAL PROVISIONS

ARTICLE 14
ENFORCEMENT OF THE CODE

1. The Association itself shall enforce the Code by investigating the report on potential violation of the Code and shall take appropriate and specified disciplinary action against the violator member.

2. The Association hereby empowered the Professional Ethics Council to hear and decide on matters of violation of the Code.

3. The Association hereby empowered the Executive Committee of the Association to receive hear and decide on matters of violation of the Code as appellate organ.

4. The Professional Ethics Council shall hereby empowered to periodically review the Code and to recommend such

25

review to the Board of Directors of the Association.

5. The details of the enforcement issues of the code shall be as provide under in the Bylaws of the Association.

ARTICLE 15
DUTY TO REPORT

All members of the Association shall have an imperative duty or obligation to report promptly to the Professional Ethics Council any observed violation of the Code by any member of the Association.

ARTICLE 16
EDUCATION ON PROFESSIONAL ETHICS

1. The Association shall endeavor to educate members and the general public on ethical issues pertaining to the profession of Civil Engineering.

26

2. The Association shall prepare case studies to provide guidance on ethical issues relative to civil engineering.

3. The Association sponsors seminars on Professional Ethics relative to Civil Engineering.

4. The Association may publish the Code on any publications of the Association.

5. The Association shall make available the Code to the general public.

ARTICLE 17
APPROVAL AND REVIEW OF THE CODE

1. The Code shall hereby approved by the General Assembly of the Association.

2. This Code shall be reviewed by the General Assembly of the Association by the vote of two third members of same.

27

ARTICLE 18
EFFECTIVE DATE

This Code shall enter into force on such date, on which the approval of same officially declared by the General Assembly of the Association.

THE ETHIOPIAN ASSOCIATION OF
CIVIL ENGINEERS

28

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