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Unethical conduct among professionals in construction industry

الممارسات اللاأخلاقية بين المهنيين في مجال البناء والتشييد

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قال تعالى:

{إِنَّ اللَّهَ لَا يُغَيِّرُ مَا بِقَوْمٍ حَتَّىٰ يُغَيِّرُوا مَا بِأَنْفُسِهِمْ}

(الرعد 11)

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Abstract

In spite of its contribution towards achieving social and economic development objectives, the construction industry is plagued with a number of problems. One of these pressing problems is the unethical behavior of professionals in construction industry, which affects long-term business dealings, and influence quality, time and costs.

The main aim of this research is to identify the most unethical behavior prevailing in construction industry in Gaza Strip, study the impact of these behaviors on life cycle of project and mention the serious phase affected by them and investigate factors affect professionals to behave unethically.

This research has been conducted through literature reviews on the topic related to the unethical behavior among professionals in construction industry followed by a field survey. 220 questionnaires were distributed to ministries, municipalities, NGO's, UN, INGO's agencies and consultant firms, 162 questionnaires were received from respondents with respondent rate of 73.6%.

The results show that scarifying the national interest for any person gain, bid shopping, reducing a subcontractor's quote to meet the budget fair and equitable are the most unethical behaviors observed. Then construction phase is found to be the serious phase affected by those behaviors. Also unethical behaviors seem to have negative impact on cost and quality. The absence of strict contractual laws, lack of high executive control, excessive love for money (greed) and personal culture or personal behavior are the critical factors lead to these behaviors.

The results of the research recommended to the necessity of existing an ethical code. A program to make sure the professionals are always equipped with the required characteristics, responsibilities, traits and behavior as ethical professionals should be done. Finally control and lead the constructing process in Gaza Strip to establish a standard set of rules and professional conduct to promote the construction industry in the Gaza Strip and to achieve a better level of compromise between all involved parties.

ملخص البحث

على الرغم من مساهمة مجال البناء والتشييد في تحقيق أهداف التنمية الإجتماعية والإقتصادية إلا أنها تشهد العديد من المشاكل، من بين أهم تلك المشاكل التصرفات اللأخلاقية المنتشرة بين المهنيين في هذا المجال، والتي بدورها تؤثر سلباً على الناحية المادية وجودة المشاريع والوقت و المعاملات التي تربطها بباقي الصناعات. إن الهدف الرئيسي من هذا البحث هو التعرف على أكثر التصرفات اللأخلاقية المنتشرة بين المهنيين في قطاع غزة ودراسة تأثير هذه التصرفات على دورة حياة المشروع ، والتعرف إلى أكثر مرحلة تظهر فيها مثل تلك التصرفات وماهي العوامل التي تؤدي إلى مثل تلك التصرفات.

اعتمدت هذه الدراسة على مراجعة الدراسات السابقة في المواضيع ذات العلاقة بالتصرفات اللأخلاقية، تلاها بحث ميداني حيث تم توزيع مئتان وعشرون استبيان على الوزارات الحكومية والبلديات والمنظمات الغير حكومية ووكالة الغوث والمنظمات الدولية ذات العلاقة بالدراسة ، حيث تم استلام 162 استبيان وقد وصلت نسبة الإستجابة من المهنيين العاملين في هذه المؤسسات إلى 73.6% .

لقد أوضحت الدراسة إلى أن التفاوض عن المصلحة العامة في سبيل المصلحة الخاصة ، وقيام المقاول الرئيسي بالحصول على تسعير مقاول باطن ومن ثم عرضه على مقاول باطن آخر للحصول على سعر أقل (shopping bid)، وقيام المقاول الرئيسي بتقليل سعر مقاول الباطن بعد إرساء العطاء لتتوافق مع ميزانيته وزيادة مستوى ربحه هي من أكثر التصرفات اللأخلاقية المنتشرة في قطاع غزة وأن مرحلة التشييد هي من أكثر المراحل التي تظهر بها تلك التصرفات، وأن مثل هذه التصرفات تؤثر سلباً على الناحية المادية وعلى جودة المشروع . أيضاً أوضحت الدراسة أن من أهم العوامل التي أدت الى انتشار مثل تلك التصرفات هي عدم وجود قوانين تعاقبية رادعة وعدم وجود رقابة تنفيذية عالية و الحب المفرط للمال (الجشع) والثقافة الشخصية أو السلوك الشخصي .

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List of abbreviations

ANOVA	Analysis of Variance
CI	Construction industry
CIDB	Construction industry development board
CIOB	Chartered Institute of Building
CMAA	Construction management association of America
FMI	Management consulting. Investment banking for construction industry.
INGO's	International Non-Government Organizations.
KMO	Kaiser-Meyer-Olkin
NCOP	National code of practice
NGOs	Non-Government Organizations.
OED	Oxford English dictionary
SPSS	Statistical Package for the Social Sciences
TQM	Total quality management
UN	United Nations
UNDP	United Nations Development Program
UNRWA	United Nations Relief and Works Agency
USA	United States of America

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Chapter 1: Introduction

1.1 Background

Ethics is the branch of philosophy that investigates morality and the ways of thinking that guide human behavior (London, 2006). Professional ethics is currently a high profile topic within the construction industry (Mason, 2009). “Ethical behavior in the construction industry is a subject which rarely discussed openly, probably because for most people in construction it’s the epitome of throwing stones in a glass house” (Miller, 2011, p.27). Construction projects have suffered from under-achievement in the recent past; because professionals’ misconduct has been on the increase. Even for the same construction project, the construction contract has many sellers and buyers (May et al., 2001).

The construction industry is characterized by operation of numerous small operators who subcontract for the available work. This structure has produced an adversarial culture, under-capitalization, and low margins with little or no investment in research and development of new processes or use of new technologies, short-term focus relationships and planning, fragmented approach (London, 2006). Moreover, complexity of construction industry can be clearly shown in its twisted relations with regulators and its inter-organizational relationships, so the improvement of ethical practices and behavior of the individuals in this industry will work to develop it, and improve its performance through establishing mutual understanding of the rights of each party in the industry, and recognize the duties and obligations of each. Therefore these improvements of ethical behavior will lead to improve construction project's quality, time and costs (CIOB, 2006).

Mondejar et al. (2007) point that construction industry is one of the pillars of the world’s economy and characterized by its temporary multiple organization nature, in which people from different countries with different skills and expertise come together to form a team for the duration of a project in order to achieve a common goal. Ameh and Odusami (2010) stated that ethics affects corporate credibility and economic sustainability as well as personal security. The construction industry plays a substantial role in a country’s national economy, irrespective of the country’s levels of economic development (Hassim, et al., 2010). Palestine is no exception; the local

construction industry is one of the main economic engine sectors, supporting the Palestinian national economy. However, many local construction projects report poor performance due to many evidential project-specific causes such as: unavailability of materials; excessive amendments of design and drawings; poor coordination among participants, ineffective monitoring and feedback, and lack of project leadership skills (Enshassi et al., 2009). Though the construction industry is the key driver of economic growth in many countries, the industry faces a long list of ethical challenges related to behavior including bid shopping, payment games, lying, unreliable contractors, claims games (e.g. inflated claims, false claims), threats, conflict of interest, collusion, fraud, and professional negligence (Ho, 2011).

Ethics is a very important issue for engineering profession. It has a sizable role in obtaining the optimal benefits from the construction projects, and it has a major influence for the smooth functioning of the industry itself (Ehsan et al., 2009). Ethical issues in the profession of building and construction industry should be seen as something of interest, this will help to dispel the impression that such issues are less important or separate from the construction industry (Sinha et al., 2004). So at the early stages of the construction project, and at the time of defining its desired objectives and outcomes, several depending levels of values and ethical terms should be taken into account such as personal ethics, team ethics, opening up beyond the direct scope of the project, and global responsibility. Taking into account that all relevant values, which are directly and indirectly changed by the project and their context, will lead to get benefits from the total value management of the projects (Mason, 2009).

Ethics is necessary; because with it people are able to position themselves within the web of interrelationships among other parts of created reality (Suen et al., 2007). Von (2004) expresses the concern that too often in the “real world”, there is disconnect between company objectives – presumably including ethical goals – and actual behavior.

At the construction stage, ethical considerations are applied by giving warnings about avoidable disaster. There are a number of cases where the duty to warn has been considered, however the point is that the rulings of the court on the existence of legal duties cannot be taken as defining the extent of an ethical duty in such circumstances (Mason, 2008). For the building and designing professions, the incalculable value of

human life demands nothing less than the highest moral considerations from those who might risk it otherwise (Ehsan et al., 2009).

1.2 Statement of the problem

In construction projects located in Gaza Strip, Palestine suffers from many problems and complex issues consequently (Enshassi et al, 2009). One of the most important issues that currently arise within the construction industry environment is unethical practices. A high level of ethical performance implies a high level of professional performance, and hence, a low level of client dissatisfaction. The success of construction project depends mainly on the behavior of the parties involved in the project from starting to finishing stages. Most company's works at construction industry are exposed to unethical behavior during projects lifetime. There are many factors that cause people to get involved in ethical issues in construction industry and most of unethical conducts are located in the project procurement process (Hassim, et al., 2010).

Professional's misconduct has been increased and there is great dissonance between actual behavior of professionals and the ethical duties which are expected, as they the educated party of the industry the expectation of them is to improve the unethical practices and commit their duties. This research aims to investigate the ethical issues in construction industry and give a picture about unethical situations in the construction industry in Gaza Strip. It looks at the complexity of ethical issues and the obstacles which are preventing the practice of codes and ethics in actual industry settings.

1.3 Research importance

The involvement of several professionals bodies in a project can invites more problems. Professionals are always faced with crisis and dilemma in the profession. The important of this study is to identify the unethical conduct by the professionals in Gaza besides to identify ways for reducing it. It was envisaged that the study will be beneficial to all relevant parties that involved in the construction industry ranging from those involved in academic research, student, practitioners of construction industry and the professional's bodies as well.

From the study, the element of the unethical conducts among the professional are determined together with the solution to the problem that can be used by each party in

the industry to make sure that the professional ethics have been implemented and practiced. By doing this, the image, reputation and integrity of the professionals will be increase and professionals are going to be respected by the public.

1.4 Research justification

The construction industry plays an important role in the economic contribution for the development of the country. There is an existence of the interest conflict among the main parties, which are the owner, the engineer and the contractor. The owner always seeks to works with good quality and the least price; the engineer tries to make sure that the contractor is fully in line with the specifications and the contract conditions, while the contractor aims to maximize the profit. To obtain optimal benefits from the industry and ensure the smooth functioning of the industry itself, good ethical practices are vital. Despite the innovations and advanced technology that has taken place in the industry, good ethical practices by the players in the industry are crucial for its growth. Professional institutions and government agencies play a crucial role in minimizing ethical lapses in the construction industry.

Accordingly, it was necessary to analyze the present unethical behavior situation to be familiar with the means to solve and get guide these problems arise from these unethical behavior. Lack of local specialized researches in unethical behavior among professionals in construction industry makes the analysis of the present situation a necessity for development. The increasing awareness over the world in the issue of unethical behavior in construction industry leads towards the invention of new alternatives to resolve this issue and spread ethics among the parties involved in industry. This situation requires an analysis to the local circumstances by comparing it to the international situation.

1.5 Objectives of the research

This research aims to obtain a clear overview about the unethical conducts among professionals in construction industry in Gaza Strip.

The research objectives can be summarized as follows:

1. Identify the most unethical behavior among professionals observed in construction projects in Gaza Strip with more concentrated on procurement process.

2. Evaluate the negative impact of unethical behavior in life cycle of projects in construction industry and possible improvement.
3. Evaluate the most serious phase in the project life cycle affected by unethical practices.
4. Study the key factors drive to unethical behavior appearance in project in Gaza.

1.6 Expected Outputs

This research aims to introduce a factual investigation for the current unethical practices among professionals and to create useful guidelines and applicable recommendations for better work and condition for all parties in the construction industry in Gaza Strip. The study will show the harmful impact of the unethical behaviors during the construction process, and the suitable solutions that could be sufficient to eliminate these effects.

1.7 Brief research methodology

The goals of the research are achieved through the following stages:

Stage 1: Literature review

Review of all the available relevant literatures in order to determine the main issues related to the research subject. The suitable topics then are employed in designing the questionnaire used in the second stage.

Stage 2: Field survey

This stage has these steps:

- Field investigation is conducted at construction organizations and firms in Gaza Strip. Including many professionals like: project managers, site engineers, office engineers, architectures, surveyors and others.
- Based on the extensive literature reviews, a set of questionnaire surveys are designed and distributed. The data about unethical behavior prevalence in the field of construction industry (CI) will be collected by this technique.
- A pilot study is conducted to investigate the strength and weakness points in the questionnaire and to insure valuable feedback.

- Quantitative data analysis methods, including factor analysis, reliability test, Pearson correlation, multiple regression analyses and curvilinear multiple regression analyses will be conducted using Statistical package for the social sciences (SPSS).

Stage 3: Data analysis.

In this stage, analysis the collected data, synthesizing results, producing brief conclusions and applicable recommendations will be done.

1.8 Contents of the thesis

This research consists of five main chapters as followings:

Chapter one: Introduction: This chapter shows the main objectives of the research and give background to the subject area.

Chapter two: Literature review: This chapter shows a historical review from previous studies to explain and identify the ethics in construction projects.

Chapter three: Methodology: This chapter shows the main methodologies used in previous studies and the methodology used in this research which is questionnaire survey in order to achieve the required objectives.

Chapter four: Results discussion: This chapter shows analysis, description, and discussion of research results.

Chapter five: Conclusions and recommendations.

1.9 Research framework

In order to achieve the objectives of the study steps of methodology illustrated in figure 1.1.

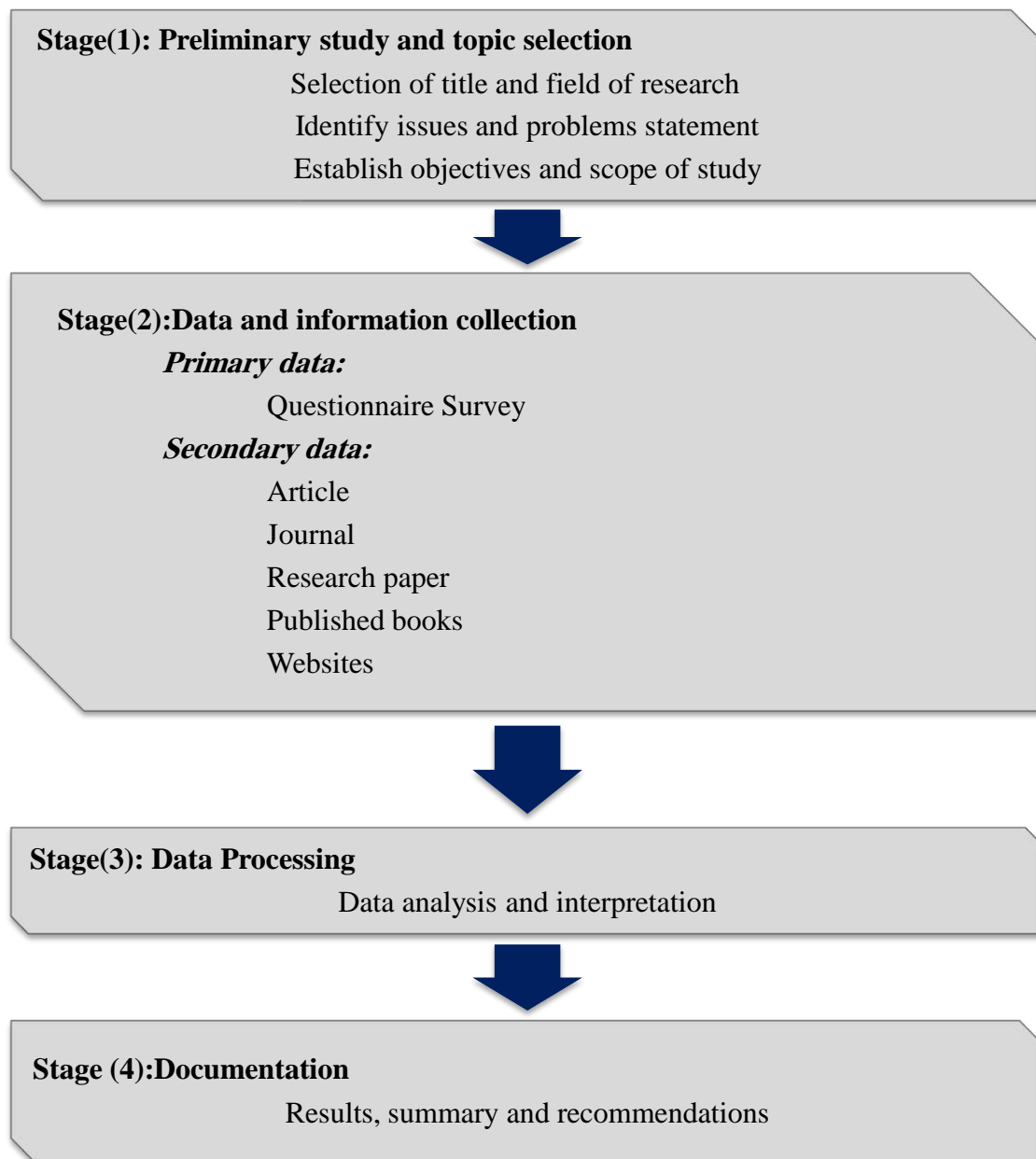


Figure 1.1: Research framework.

Chapter 2: Literature review

2.1 Introduction

Ethics have an undeniable influence on the credibility and economic sustainability of companies as well as affecting the personal security. There is an agreement and a growing assent inside and outside the construction industry that corruption and other unethical practices are endemic in the construction industry (Ameh and Odusami, 2010). Ethics in construction mirror the tenets of values-based leadership, stressing the need for shared values, integrity in the bidding and contracting processes, common understanding of professional practice, partnering, balancing of risks with financial rewards, and the building of long-term trusting relationships (Moylan, 2008). Project management has a vital part for the development of any country. The highly competitive business world has created massive pressure on the project managers to achieve success. The pressure is derived from survival and profit building in business organizations which leads and sometimes compels the project managers to keep track of unethical practices (Mishra and Mittal, 2011).

Professional ethics nowadays is considered as a high profile topic within the construction industry (Mason, 2009). Ethical behavior in the construction industry is a subject rarely discussed openly, probably because for most people in construction it's the epitome of throwing stones in a glass house (Miller, 2011). Though the construction industry is the key driver of ethics management economic growth in many countries, the industry faces a long list of ethical challenges related to behavior including: bid shopping, payment games, lying, unreliable contractors, claims games (e.g. false claims, inflated claims), threats, collusion, conflict of interest, fraud, and professional negligence (Ho, 2011).

Ray et al. (1999) specified that the basic concern of ethics is the meaning and justification of statements about the rightness and wrongness of actions in particular intent. The virtue or vice of the motives which motivate them. Means the praise worthiness or blame worthiness of the agents who perform them, and Ends. The goodness or badness of the consequences to which they give arises.

Ethics in project management is a substantial issue and plays an essential role in projects success. One of the selected areas that must be focused on is project

procurement. In this part (Hassim, et al., 2010) has found it as one of the major areas in project management that has contributed to ethical issues during the implementation of his project. Ethics is necessary; because by it, construction managers are able to position themselves within the web of interrelationships among other parties in a project environment (Mondejar et al., 2007). Ethical violations in construction are never on the front page of the newspaper, but they happen every day. In many cases, they cause real-world problems for owners as well as many good companies that refuse to participate in the types of unethical preconstruction procurement activities of their potential clients and general contractors (Miller, 2011). Vee and Skitmore (2003) stated that the industry is generally seen unsafe, unethical, and insensitive to the needs of minority groups such as women and migrants.

This chapter will illustrate the ethics in general it's definition and philosophy then take preview on business ethics later it discuss professional and professional ethics and the definition of profession, professionals and professional ethics then identify the ethical issues in construction industry and its impact.

2.2 Ethics

2.2.1 Definition

Ethics is generally defined as a system of moral principles, by which human actions and proposals may be judged good or bad, right or wrong; and the rules of conduct recognized in respect of a particular class of human actions (Oxford Dictionary, 1999). Ethics is defined as the moral principles by which a person is guided (OED). Ethics is something that done every day it is not only about long words and dilemmas but is about people: people with different views, value and experiences. It is a way to know that your beliefs are valuable, and stand by that value, and respect other people values (Hendrick, 2008). Ethics defined as the discipline dealing with what are good and bad about moral duty and obligation (FMI/CMMA, 2004).

There is no absolute definition of ethics, several definitions of this term private and costly luxury, a terribly thin covering of ice over a sea of primitive barbarity, conforming to a local and volatile standard of right, not only the way in which we behave towards our neighbors, but also the way in which we keep to the integrity

of our own thinking, drawing the line somewhere, feeling temptation but resisting it, the line of conduct that pays, the science which investigates the general principles for determining the true worth of the ultimate ends of human conduct (dictionary of quotable definition, 1970 cited in Hinze, 1993).

2.2.2 Ethics philosophy

According to Wikipedia Ethics, known as moral philosophy, is a branch of philosophy that involves systematizing, defending, and recommending concepts of right and wrong behavior. It comes from the Greek word *ethos*, which means "character". Major areas of study in ethics may be divided into 3 operational areas, *Meta-ethics*, about the theoretical meaning and reference of moral propositions and how their truth values (if any) may be determined, *Normative ethics*, about the practical means of determining a moral course of action, *Applied ethics*, about how moral outcomes can be achieved in specific situations.

The basic concern of ethics is of the meaning and justification of utterances about the rightness and wrongness of actions, in particular: *Intention* The virtue or vice of the motives which prompt them. *Means* The praiseworthiness or blameworthiness of the agents who perform them, and *Ends* the goodness or badness of the consequences to which they give rise (Ray et al., 1999). Mondejar et al. (2007) argued that ethics is necessary because by it construction managers are able to poison themselves within the web of interrelationships among other parties in a project environment.

2.2.3 Ethical behavior in general

According to Vee and Skitmore (2003), Ethics generally comprise system of moral principles- by which human actions and proposals may be judged good or bad, or being right or wrong-, the rules of conduct recognized in respect of a particular class of human actions, and Moral principles as of an individual. Behavior that is right in one culture may be considered wrong in another. Even within the same culture the interpretations may be ambiguous and even contradictory. Contributing to this vagueness is the fact that individuals often make their own interpretations of proper moral and ethical behavior (Hinze, 1993).

Sinha et al. (2007) opined that ethics cannot be taught; rather what can be taught is a framework for evaluating ethical dilemmas and making decisions. Because ethics instruction includes multiple dimensions, an integrated approach to the framework seems appropriate. In fact ethics is not all about definition, set down the code of ethics nor establish how the code of ethics might be prepared (Oyewobi et al., 2011). Hassim (2010) and Pearl et al. (2005) stated that Ethics is not only about simply recognizing an objective good but includes thoughts, language, reasoning, processes and judgment that informs the choices people make in their daily lives that affect their own well-being and that of others. It is not only about the way we behave, think or act. There are also other factors that affect the way we act either ethically or unethically.

However, Oyewobi et al. (2011) declared that ethics is not just about recognizing whether an objective is good but encompasses a careful thought in making viable choice or identifying if the choice is right or wrong. It's hard to manage ethical values, it is a personal thing. It is about personal behavior and it is about standards – like quality standards. It's not acceptable that staff behaved at work in any way they like. Further the identity of the organization is perceived by the customers and that impression can include all shades between corrupt and ethical. Ethics can be managed if wanted to (Holme, 2008).

2.3 Ethics in business

Business ethics is legal behavior and a collection of moral principles or a set of values being shared not only with the business community, but also within society as a whole (Ray et al., 1999). Business ethics commonly involve work related ethical dilemmas and work related ethical judgments and commonly divided into two areas consisting of normative and descriptive ethics (Mishra and Mittal, 2011). Tow and Loosemore (2009) pointed that business ethics is concerned with the social acceptability morally and legally of business decision making and action on the wider community.

Business ethics refers to the measurements of business behavior based on standards of right and wrong, rather than depending totally on principles of accounting and management (Hartman, 2005). Until recently, it was thought that business and ethics should not be mixed. Indeed, the abstract term "business ethics" has been called as an oxymoron (Mason, 2011; Ray et al., 1999). It is now recognized, however, that the

general concepts of ethics are applicable in business on the grounds that business exists not solely to suit certain individuals, but because it serves society and meets collective and individual needs and the environment in general (Vee and Skitmore, 2003; Mason, 2009; Pearl et al., 2005).

Toner (2001) stated that the term “Corporate Values” is commonly used to describe two different types of values: universal (or personal) values and core company values. He defined universal values like trust, courage and honesty which provide a framework within the organization for the process of decisions making which materially affect the organization's performance. Core company values are principles or beliefs which provide guidance to employees, like “relentless customer focus”, and which a company might determine to be critical to business success. Ethical decisions in the business arena are crucial because they can have significant implications for business as well as society (Mishra and Mittal, 2011).

Contrary to the idea that business and ethics do not mix, business is in fact subject to moral rules since it involves social conduct. It prescribes what people do and it is concerned with value personal and professional, as well as practices (London, 2006). However, Roger (1998), believed that business activity is saturated and heavily involved in morality and ethics, so virtues and moral values within business is required the development process, but in reality there is a confusion and a dilemma about the business ethics, even among businesspeople, or sympathizers with the business, There are unrealistic expectations about the sorts of ethical decisions businesspeople can legitimately take. These confusions arise from the misunderstandings of the role of business in our society.

Hatcher (2004), indicated that companies in the business environment, operating in the foundation for economic goals and reap the profits, but to the side, companies must employ a work ethic in order to support and serve these economic goals. So companies began to make efforts to find ways and means to assess the ethical performance through the work, but these efforts still less than what required. Ethics and business ethics are dependent on reigning values in the societal and business environments (Svensson and Wood, 2005). Jefferies and Kirk (N.D) pointed that Inter-organizational relationships are of the highest importance and the ability to build sustainable relationships grounded in ethical practice is necessary. To achieve these sustainable relationships parties need to develop from a low trust/low ethics base to a

high trust/high ethics base in their business transactions. The global construction industry recognizes that improving its ethical performance is important. Managing ethical behavior requires an understanding of the individual and situational factors that influence the ethical behavior of employees (London, 2006).

Talukhaba et al. (N.D) demonstrated that a company's ability to maintain an ethical corporate culture is the key to attraction, retention and productivity of employees. Business exists not solely to suit certain individuals, but because business serves society and, in addition, meets collective and social needs (Mason, 2009). Business ethics will not change unethical business practices unless those engaged in the practices wish to change them (London, 2006).

2.4 Professional

Professional is a person who has attained a high degree of professional competence in a particular activity. The word professional denotes a person who is highly educated, enjoys work autonomy, earns a comfortable salary, and engages in creative and intellectually challenging work (Ogachi, 2011).

Professions is an occupation in which an individual uses an intellectual skill based on an established body of knowledge and practice to provide a specialized service in a defined area, exercising independent judgment in accordance with a code of ethics and in the public interest (Uff, 2003). Profession has been described as a group of people organized to serve a body of specialized knowledge in the interests of society (Vee and Skitmore ,2003). "Professionalism" is the possession and autonomous control of a body of specialized knowledge, which when combined with honorific status, confers power upon its holders (Hamzah et al., 2010; Mason, 2009; Pearl et al., 2005). Profession is an occupation which requires both advanced study and mastery of a specialized body of knowledge and undertaken to promote, ensure or safeguard some matter that noticeably affects others' wellbeing (Vee and Skitmore, 2003). Oyewobi et al. (2011) submitted further that a token of a major profession is in its ability to accept the responsibility to act in the public interest which requires an overt commitment by its attachment to subdue personal advancement to this responsibility. Abd Rahman (2008) professional must be proficient in all criteria for the field of work these criteria are:

- Highest Academic Qualifications such as University College or Institute

- Expert and Specialized Knowledge in field which one is practicing professionally
- Excellent manual or practical and literary skills in relation to Profession working in
- High quality work in creations, products, services, presentations, consultancy, primary or other research, administrative, marketing or other work endeavours.
- High standard of professional ethics, behavior and work activities while carrying out one's Profession (as an employee, self-employed person, enterprise, business, company, or partnership)
- Reasonable amount of professional working experience in either or of the above capacities in fields of work one has professional qualifications.

There are five basic assumptions which underpin the understanding of ethics and which are recognized by (RICS, 2000 cited in Oyewobi et al., 2011)

- 1) Professional Ethics is a process: ethics are dynamic and cannot be learnt once. It is a way of reviewing behavior against constantly changing standards. What may be ethical today, or in a particular society may be viewed differently by others or at another time.
- 2) Human behavior is the caused: there is always a motive for all unethical or ethical human behavior, for example, for financial gain, power and compassion.
- 3) Actions have consequences: there is cause and effect consequence. It can also be likened to Newton's Third Law of Physics that every force has an equal and opposite reaction.
- 4) What is ethical depends on the individual's point of view: this is influenced by a variety of factors including published codes and statements
- 5) Good ethical business practice rests on mutual vulnerability: all of us are each susceptible to the actions of others, and the way we are treated depends on how we treat others. Respect is not a right, it must be earned. Therefore the need for professional ethics is based on the vulnerability of others. The client for example must be protected from exploitation in a situation in which they are unable to protect themselves because they lack the relevant knowledge to do so.

2.5 Professional ethics in construction industry

Fellows (2003) and Hamzah et al. (2010) stated that professional ethics is a system of behavior norms. Such norms related to the employment of the particular knowledge and so, largely, concern the relationship between experts and lay persons so that both the morality and behavior of professionals could be dealt with in their day-to-day practice by this system. The definition of professional ethics recognized by the working party is giving of one's best to ensure that clients' interests are properly cared for, but in doing so the wider public interest is also recognized and respected (Howard, 2000 cited in Abd Rahman, 2008). Vee and Skitmore (2003) said that professional ethics is treating others with the same degree of honesty that they would like to be treated.

Construction industry today live in order to serve the world's population and meet their needs in the provision of shelter and conquer distances, protection from disasters and other basic human needs that have not changed over the centuries. But the process of construction and its surrounding environment has become more complicated as the laws and regulations, governmental and environmental permits have increased and become more severe stresses. Thus, construction projects also increased in its size and it becomes needy to experts, professionals, high-tech equipment, and better control systems (Uff, 2003). This trend will require that tomorrow's project leaders have technical, business, organizational, ethical, and leadership gift to complete their construction projects successfully. (Sinha et al., 2004). Vee and Skitmore, (2003) indicted that professional ethics involves assessing each decision in practice not only in regard to individual moral concerns but also in terms of professional norms. The construction Management Association of America indicated more than 80 percent of almost 300 construction industry professionals (including architects, engineers and contractors) had personally witnessed unethical behavior in the previous year (Miller, 2011).

The issues of professional ethics within the construction industry affect a wide spectrum of population. The local authorities, public works department, client organizations, consultants, suppliers, contractors, home buyers, and users of public infrastructure, are all within the scope of professional ethics. All those mentioned have their own contributions towards the problems in hand, and issues of ethics and integrity in the Malaysian construction industry (Hamzah et al., 2010). Wulf (2004)

stated that the new ethical issues are ones for the profession rather than ones for the individual. Issues for the profession are called macro ethical questions in contrast to those for the individual, which are called micro ethical questions. Sinha et al. (2004) pointed that there is a lack of focus in the construction field regarding the integration of social impact awareness and ethical behavior into professional practice. There are many reasons why professionals are involved in unethical practices. This may be due to insufficient legislative enforcement, fierce competition, the economic downturn, insufficient ethical education from schools and professional institutions, cultural changes and high complexity of construction works (Hamimah et al., 2012).

Professionals have always been linked with the notion of “service”. This perceived relationship provides the basis for those who describe a profession as a group of people organized to serve a body of specialized knowledge in the interests of society specifically takes this view in describing professions as “groups that apply special knowledge in the service of a client” this altruistic spirit of a genuine profession cannot be achieved without an ethics component (Pearl, et al., 2005). The main goal of professional work should be far broader than physical or financial interests of the client or the professional himself (Uff, 2003). The engineering profession since has direct effect on the lives of people, these professionals owe special moral responsibility. However, it has been suggested outweigh their responsibility to others, such as public (Ehsan et al., 2009). Bond (2009) stated that there is no difficulty or conflict between the professional ethics of an engineer and the social responsibility of his organization, they both seek low levels of risk and show the levels of social responsibility that the Government and the public are demanding.

The profession should have a high degree of control to run its professional affairs without undue influence from other professions (Ogachi, 2011). Sinha et al. (2004) stated that professional ethics can be different from general ethics to the extent that professional ethics must take into account:

- Relations between practicing professionals and clients,
- Relations between the profession and society in general,
- Relations among professionals,
- Relations between employee and employer, and perhaps most importantly,
- Specialized technical details of the profession.

Mason (2009) stated that the spirit of any genuine profession cannot be achieved without an ethics component. According to UN (2006) Professional standards of ethical conduct, no matter what the organization, contain typical characteristics, including commitments to:

- Behave honorably in all aspects of work and professional activity.
- Conduct oneself in such a manner as to maintain trust and confidence in the integrity of the acquisition process.
- Avoid “clever” practices intended to take undue advantage of others or the system.
- Uphold the organization’s standards and policies and all relevant legislation.
- Avoid conflicts of interest.

Moylan (2008) stated that ethics in the construction industry, reflecting the range of values and principles held by the companies, which are in real need to the values and principles shared, safety and good faith in tendering processes and contracting, and mutual understanding in professional practice, as well as create a balance between risk and the need to earn money, and the pursuit of confidence-building and long-term relationships. Within the construction industry context ethics is a way of ‘giving ones best to ensure that clients’ interests are properly cared for (Oyewobi et al., 2011). In a construction context, ethical behavior might be measured by the degree of trustworthiness and integrity with which companies and individuals conduct their business (Mason, 2009).

At the end of this discussion the important definition which will be used in this thesis summarized as:

<p>Ethics: defined as the discipline dealing with what are good and bad about moral duty and obligation.</p> <p>Professional: A person, who is highly educated, enjoys work autonomy, earns a comfortable salary, and engages in creative and intellectually challenging work.</p> <p>Professional ethics: is treating others with the same degree of honesty that they would like to be treated.</p>

2.6 Ethical principles and codes of conducts

There are many efforts taken to increase the ethical standards and integrity among the professionals in construction sectors worldwide. (Hamzah et al., 2010). In order to create fairness, accountability and transparency for any business transaction, regulations are necessary, particularly in a competitive environment. These attributes may be achieved through various mechanisms of compliancy. These may manifest as statutory instruments and codes of conduct (Ssegawa and Abueng, N.D).

Construction industry organizations must scrambling to find effective ways to attract and keep the best talent and elevate their performance, productivity and service levels to new heights, as in the case of failure to reach effective solutions to the ethical problems, it is expected that increasing ambiguity in the nature of the relationships that govern the relation between individuals and groups of people, and increasing ambiguity in their attitudes to ethical issues moral orientation. (Ray et al., 1999). In addition, Roger (1998), said that "Civil societies have always promoted well-recognized virtues – independence, self-reliance, community responsibility, duty to family, hard work, thrift, honesty, sobriety and so forth. These virtues are important in transacting with others, just as much in commercial settings as they are in non-commercial settings". The ethical codes put forward by countless engineering societies and engineering education agencies are by and large locked into a world-view that was first developed in the Age of Enlightenment. (George, 2006). Pearl et al. (2005) indicate that many large companies as well as industry and professional associations have written documents labeled as codes of ethics or codes of conduct.

Codes are designed to delegate responsibility to both competing tenderers and the principal (client, owner) to achieve a balance between what is right and what is common-sense for each individual project. They are applicable both generally, to many of the traditional forms of contracting (e.g. lump sum or design and build), and specifically, to projects of a less standard nature (e.g. restoration work) or where risks involved, are hardly or difficult to determine or delegate (Ray et al., 1999). Codes of practice are existed in the construction industry to treat ethical problems. In the Australian construction industry, codes of tendering have been written in order to deal with ethical problems such as withdrawal, bid cutting, cover pricing, compensation of tendering costs and collusion"(CIOB, 2006). Increasingly strict and universal government regulations are a fact of life in our society. There are rules and

regulations covering business, manufacturing, finance, safety, the environment, education, research, law, medicine, and government itself. The increasingly stringent application of OSHA standards in the construction industry is based on the concern for human life. Equality, life, liberty, the pursuit of happiness, security, civic duty, justice, honor, rule of law, privacy, and private property; these are the widely held values in our society (sinha et al., 2004).

According to Masson (2011) ethical conduct is the compliance with the following ethical principles:

1. **Honesty** - act with honesty and avoid conduct likely to result, directly or indirectly, in the deception of others.
2. **Fairness** - do not seek to obtain a benefit which arises directly or indirectly from the unfair treatment of other people.
3. **Fair reward** - avoid acts which are likely to result in another party being deprived of a fair reward for their work.
4. **Reliability** – keeping up skills up to date and provide services only within your area of competence.
5. **Integrity** - have regard for the interests of the public, particularly people who will make use of or obtain an interest in the project in the future.
6. **Objectivity** - identify any potential conflicts of interest and reveal the conflict to any person who would be adversely affected by it.
7. **Accountability** - afford information and warning of matters within your knowledge which are of potential detriment to others who may be adversely affected by them. Warning must be given in sufficient time to allow the taking of effective action to avoid detriment.

Uff (2003), suggested that it should pursue towards the formulation of an ethical code of conduct governing the rules of ethical practices for employees in the construction industry. He identified some guidelines for the activities that can be contained in this ethical code, these activities are such as drawing up conditions of contract-including the appropriate placing of risk-,obtaining and processing of tenders, negotiating and awarding of contracts, administration of contracts-including the initial settlement of

contentious matters- , formulation and processing of claims, acting as an advocate in formal proceedings, and acting as an expert (including expert witness) in formal proceedings. Most companies support the use codes of tendering, defend the right of withdrawal of tenders, disapprove of bid shopping, cover pricing and union involvement in the tendering process, and support the principals' right to know what is included in a tender and the self-regulation of the tendering codes. In addition, most companies have developed, and follow, distinctive ethical guidelines that are independent of, and often contrary to, the nationally prescribed codes (Ray et al., 1999). As the number of professions and professionals growth and the work environment becomes more ethically sensitive, the adoption of ethical principles, and the enforcement of standards become matters of increasing importance to society (Pearl et al., 2005). In terms of professional manner, it has been identified that the majority of professionals believe that obligations between the client and public are of equal importance (Vee and Skitmore, 2003).

Jefferies and Kirk (N.D) stated that the NCOP (National code of practice for construction industry) set out nine key ethical principles to ensure ethical behavior occurred at all stages of the project by all parties. They are:

- All aspects of the tendering process must be conducted with honesty and fairness at all levels of the industry.
- Parties must conform to all legal obligations.
- Parties must not engage in any practice which gives one party an improper advantage over another.
- Tenderers must not engage in any form of collusive practice and must be prepared to attest to their probity.
- Conditions of tendering must be the same for each tendered on any particular project.
- Clients must clearly specify their requirements in the tender documents and indicate criteria for evaluation.
- Evaluation of tenders must be based on the conditions of tendering and selection criteria defined in the tender documents.
- Confidentiality of all information provided in the course of tendering must be preserved.

- Any party with a conflict of interest must declare that interest as soon as the conflict is known to that party.

Ssegawa and Abueng (N.D) stated that the CIDB (construction industry development board) Code makes the assertion that parties in any public procurement should in their dealings with each other and insofar as relevant, in the interest of public at large, should (i) discharge their duties and obligations timeously and with integrity, (ii) behave equitably, honestly and transparently, (iii) comply with all applicable legislation and associated regulations and treasury instructions, (iv) act so as not to prejudice the interests of or damage the reputation of another party without good cause and (v) satisfy all relevant obligations and responsibilities established in the procurement documents. To overcome the ethical issues, an organization should not only have a professional code of conducts but also to enforce and willingness of the whole organization to commit to the code of ethics (Abu Hissam et al., 2010).

2.7 Unethical behavior in the construction industry

There is a growing consensus within and outside the construction industry that corruption and other unethical practices are endemic in the construction industry. Ethical issues in the profession of building and construction industry should be seen as something of interest, this will help to dispel the impression that such issues are less important or separate from the construction industry. (Sinha et al., 2004). The construction industry is classified as the most fraudulent industry worldwide, providing the perfect environment for ethical dilemmas, with its low-price mentality, fierce competition and paper-thin margins (Hamimah et al., 2012). With regard to the construction industry itself, the ethical considerations which are necessary are required, and to include, for example giving warning of the disasters which must be avoided. The responsibility here is complex and ethical issues in this case must be considered (Uff, 2003). One of the most frequently reported unethical practices in business is bribery, described as: “the offering of some good, service or money to an appropriate person for the purpose of securing a privileged and favorable consideration (or purchase) of one’s product or corporate project” (Vee and Skitmore, 2003). Other regularly reported unethical practices are related to fraud, breach of confidence and negligence. Deceit, trickery, sharp practice, or breach of confidence, by which it is sought to gain some unfair or dishonest advantage, is the description of the unethical practice of fraud (Vee and Skitmore, 2003).

Unethical conduct and corruption in the construction sector across the world has taken a high toll including lost lives, financial resources, diverted resources, and destruction of the environment (Azhar, 2011). Oyewobi et al. (2011) stated that Unethical and corrupt practices have a lot of adverse effect on the industry, to the development of the economy and human resources. Unethical or corrupt practices tend to distort construction process and thereby hamper economic fortune. Unethical performance delays the free play of market forces, discourage economic aid from the foreign donors and it makes almost impossible to attract and international investors shun the corrupt environments to the detriment of the economies and communities of the respective countries. Unethical conduct, it is said, does not eventuate from a person's upbringing, but rather it is part of the process of learning practical business or being inducted into the practice (Vee and Skitmore, 2003). Olusegun et al. (2011) stated that there is illegally expended in bribery and corruption to high and management officials in Government offices during contract award, execution and payments.

Patrick (2006) revealed that corruption can be occurred in several forms and different ways and at any stage during the life cycle of the construction project. According to Survey conducted by (Vee and Skitmore, 2003; Pearl et al., 2005) in Australia, it was identified several types unethical conducts and ethical dilemmas in the construction industry such as corruption, negligence, bribery, conflict of interest, bid cutting, under bidding, collusive tendering, cover pricing, frontloading, bid shopping, withdrawal of tender, and payment game. It is apparent that there is an existence to significant areas of concern pertaining to the ethical conducts practiced by the construction professionals. Vee and Skitmore (2003) have further classified unethical practices into four general types of actions which are unfair conduct, conflict of interest, collusion, fraud and bribery.

2.7.1 Unethical behavior according to developed country

According to the online questionnaire survey conducted in USA of owners, architects, construction managers, contractors, and subcontractors and industry representatives conducted by FMI/CMAA in late 2004 the survey was sent by FMI/ CMAA electronically to a randomly selected list revealed that more than 80% of respondents had witnessed unethical behavior in construction in the past year. Bid practices, specifically bid shopping and reverse auctions, garnered strong responses and comments in this survey, most saw the need for everyone to have

and share ethical codes with employees and partners, but few practice this procedure, 50% of respondent unethical behavior affect the cost and the range of cost is between of 1% and 2% of the total project cost, few companies make ethical issues part of their mission statement and the construction professionals, whether they like it or not, will work with companies that are unethical. In addition, there seems to be a sense of powerlessness among the construction professionals to improve ethics, because they believe that this is the way it's done in this business. The construction industry is a perfect environment for ethical dilemmas, with its low-price mentality, fierce competition, and paper-thin margin (FMI/ CMAA, 2004).

Questionnaire survey in Australia conducted by Vee of and Skitmore (2003) for typical project managers, architects and building contractors on a range of ethical issues surrounding construction industry activities. Most (90%) subscribed to a professional Code of Ethics and many (45%) had an Ethical Code of Conduct in their employing organizations, with the majority (84%) considering good ethical practice to be an important organizational goal. 93% of the respondents agreed that "Business Ethics" should be driven or governed by "Personal Ethics", with 84% of respondents stating that a balance of both the requirements of the client and the impact on the public should be maintained. No respondents saw any cases of employers attempting to force their employees to participate in, unethical conduct. Despite this, all the respondents had witnessed or experienced some degree of unethical conduct, in the form of unfair conduct (81%), negligence (67%), conflict of interest (48%), collusive tendering (44%), fraud (35%), confidentiality and propriety breach (32%), bribery (26%) and violation of environmental ethics (20%), the greed being one of the main factors leading to unethical conduct.

Perceptions of American construction companies about unethical business practices and corruption in international construction had been studied. Necessary data was collected via a questionnaire survey. The results indicated that bid shopping, procurement of substandard/defective materials, bribery, and employment of illegal workers are the most prevalent ethics issues in international construction. Cultural practices, political systems, and social norms were found to be the biggest contributors behind these problems. About half of the survey participants were of the opinion that unethical business practices and corruption

have slightly decreased during the last five years due to following of strict codes of ethics by many large international contractors (Azhar et al., 2011).

At the same country Ray et al. (1999) conducted a questionnaire survey and the result indicated that most companies support the use of code and with the right of withdrawal of tender and refused bid shopping, cover pricing and union involvement in the tendering.

In the UK and according to Chartered Institute of Building (CIOB) survey in the UK in 2006, it was found that unethical practices and corruption contained therein is considered one of the most serious problems facing the sectors of the economy including the construction sector. But the very serious effects clearly appear in the construction industry, where the results in the delayed completion of the business and delivery, as well as in terms of value and quality of the products, in addition to very high costs and financial problems. The results seems that there is a degree of corruption present in many area of UK construction industry.

According to the study of Abd Rahman (2008), it was indicated that the most common elements of unethical conduct that are faced by the professionals are gifts, hospitality, bribes and inducements, relations with local communities, health and safety, protection of the environment and political and social behavior. On the other hand, trust, self-discipline, responsibility, integrity, communications, certain personality traits, being honest and accountability are the most essential characteristic and responsibility that an ethical professional should have in their daily practice. Tendering process is one of critical processes in construction industry project that is deal with ethical issues ranging from the costs incurred by unsuccessful tenderers, equitable tendering practices and rights of disclosure to the declaration of conflicts of interests (Ray et al., 1999 and Uff, 2003).

An empirical survey of bid cutting practice on Australia, the practice of bid cutting was widespread and one of unethical practices from sub-contractor viewpoint is the practice of lowering subcontract prices after the award of the main contract. However, although SCs considered this practice to be unethical, they still went along with it with comments such as “if you don’t negotiate then you don’t have much chance of getting the job” and “it was unethical, but through common usage

it is the standard procedure, just as SCs must now screw their suppliers etc.”(May et al., 2001).

2.7.2 Unethical behavior according to developing country

The Nigerian construction industry is tremendously vulnerable to ethical erosion due to heterogeneous nature of the industry which makes it imperative for construction professionals to exhibit high level of professional ethics. One of prevention of meaningful development in the Nigerian Construction Industry is the threat of corruption and corrupt practices the study quantitatively determined by questionnaire and the study showed the causes of corruption as: poverty, excessive love for money(greed), politics in the award of contract, professional indiscipline profit maximization by Contractor, quackery, fall-out of endemic societal corruption and favoritism (Olusegun et al., 2011).

Oyewobi et al., (2011) submitted that the international community viewed corruption and other unethical issues as common occurrences at all stages of the Nigerian workforce considering the recent incessant rankings by the Transparency International. IT[Corruption Perception Index (CPI) 2007] ranked Nigeria as the 2nd, 3rd, 6th, 18th, and 37th most corrupt nation in the world in 2003, 2004, 2005, 2006, and 2007, respectively. The building construction industry is perceived to be more susceptible to ethical problems because of several features and that corruption has effect on all stages of construction right from Planning, Tender stage to Completion stage.

Ameh and Odusami (2010) assessed the perception of construction professionals in ethical issues the result indicate that the most common unethical behavior is financial bribery and also there is great pressure on construction managers to act unethically, professional misconduct and professional negligence. Professional ethical lapses often lead to project abandonment, capital flight, and huge economic loss in the form of additional cost of projects, which runs, between 40 and 60% of awarded contract sum.

Alutu and Udhawuve (2009) identified the various factors that could encourage unethical practices in his study in Nigeria and the most unethical behavior which ranked the highest of respondent that people want to acquire wealth by all means to enhance public status followed by people are driven by their inherent greed for

money, Contractors get vital information on the contract by paying agreed sums of money to officers of awarding organizations. The factor that contributed most to the unethical practices is economic pressures, followed by societal practices, vested interests of stakeholders in contracts, and last organization's practice. The result also showed that there are vested interests in design, award, execution, and commissioning of projects by stakeholders of the projects and that unethical practices have serious negative impact on project management.

A study carried out in Botswana by Ssegawa and Abueng (N.D) to gauge the perception of contractors perceived prevalence in unethical behavior in the industry and if the new code is effective in combating unethical conducts the result is agree with the first statement and negative for the code.

Ehsan et al.(2009) addresses the ethical issues facing the construction industry of Pakistan, from the results of comprehensive and in depth research carried out through questionnaire survey, interviews and telephonic survey of various stakeholders there was not a single person related to the construction industry who had not experienced some degree of unethical conduct in the form of undertaking work beyond capability (15%), bribery (20%), favoritism (30%), unfair conduct (30%), strict rules (18%) and overriding of audit process over contracting process (35%). Bribery and political corruption is being addressed very directly by several professional societies and business groups around the world.

Talukhaba et al. (N.D) investigates the relationship exists between the corporate culture and performance of South African construction firms the results of the questionnaire survey confirmed that there is a positive correlation between corporate culture and business performance. Mason (2009) concludes that a single industry-wide code has a contribution to make in improving the ethical standards of conduct within the industry.

A questionnaire survey was conducted in the construction industry in Malaysia, a fast developing economy. Results indicate that various forms of unethical conducts have significant impact on construction quality. This study concludes that professional ethics is a pre-requisite to attaining sustained and acceptable quality in construction (Hamzah, 2010). Tow and Loosemore (2009) conducted a survey of construction firms and identifies three factors influential to ethical conduct the

absence of ethics training programs; the absence of reward systems for those who act ethically within the industry, and the low level of visibility that exists within the industry.

According to Azhar et al. (2011) and Olusegun et al., (2011) and Vee and Skitmore (2003) and Degn and Miller (2003) the unethical and corrupt practices in the construction industry can take many forms but the most common ones are as follows:

- Bribery: Cash or non-cash favor to get something in return (e.g. upcoming promise of a future contract without following standard procedures, promotion, or a vacation).
- Fraud: Deception to get financial or other advantages (e.g. procurement of substandard or substandard materials, underpayments to workers, etc).
- Extortion: A form of blackmail where one party makes threats against another party of adverse consequences unless demands are met by the other party.
- Embezzlement: The pinching of corporate or public funds.
- Kickbacks: Sweeteners or rewards for favorable decisions.
- Bid Rigging: Illegal conspiracy in which contestants join to artificially increase the prices of a bid.
- Overbilling: Expanding unit prices for activities that are scheduled to happen earlier in the project to increase the cash flow.
- Change Order Games: Submitting a low bid to win the project and later on recover the profit by submitting change orders.
- Claim Games: Making extra earnings by submitting false claims.
- Money Laundering: Moving cash or assets obtained by criminal activity from one location to another, often to conceal the source of funds.
- Employment of Illegitimate Workers: Workers who are not authorized to work in a country or at a specific jobsite.
- Forgery: a fraudulent alteration of a written document or seal with the intent of injuring the interests of another person.
- Cover pricing: occurs when a bidder wants to be seen to participate but does not want to win the job so asks a competitor for a realistic “**cover price**” and submits it as a genuine bid. A company may have a good reason to ask for a

cover price so it can present a believable bid: it might get dropped from a tender list if it doesn't participate; or it might lack capability or capacity for the job but want to attract future work from the same principal. Those motivations seem harmless

- conflict of interest defined as an interest which, if pursued, could keep professionals from meeting one of their obligations “Right of Conscientious Refusal” which is the right of an employee to refuse to partake in unethical conduct when forced to do so by an employer

Vee and Skitmore (2003) stated that the main types of unethical behavior in architecture to be:

- Concealing of construction faults and stealing someone else's drawing.
- Exaggerating experience and academic achievements in resumes and applications for commissions.
- Charging clients for work not done, costs not incurred or overstated.
- False promises of progression as practiced by some architects.
- Misleading clients in project management.
- Involvement in conflict of interest.

Studies have shown that 50% of building failure cases in Nigeria is traceable to design faults (carelessness and negligence), 40% to construction faults (professional incompetence and fraudulent practices), and 10% to product failures (Ameh and Odusami, 2010).

2.7.3 Effect of unethical behavior in construction projects

One of the aftermaths of corruption is the raising of the cost of construction to an embarrassing level. The prevalence of poor pre-contract planning, inept/incompetent contractors, incompetent consultants/professional advisers, fraud, poor project funding/delayed payments, late appointment of relevant professionals, nonapplication of due process in contract awards, hasty preparation/award/execution of projects, adverse market forces/inconsistent government policies, design inadequacies, choice of contractual arrangement/form of contract, and inflation have been identified as the causal factors responsible for the very high cost of construction in Nigeria (Alutu and Udhawuve, 2009). Olusegun et al.(2011) mention that the effects of bribery and corruption as

building collapse, abandonment of project, upward review of contract, cost, extension of time and reduction in the life span of building.

The effects of unethical practices have lasting impact detrimental to construction and engineering companies such as wasted tender expenses, tendering uncertainty, increased project costs, economic damage, blackmail, criminal prosecutions, fines, blacklisting and reputational risk. The issue of professional ethics has sparked enthusiastic concern and pragmatic discussion among the general public and there is growing demand by the current literature for good ethical practices and professional behavior in the construction industry. In the face of its size and universality, the construction industry is often cited as plagued with graft and malpractices. Common issues highlighted are tendering practice, substandard quality of construction work, safety culture, payment woes, corruption and most importantly, public accountability for money spent on public buildings and infrastructure (Hamimah et al., 2012).

Even though there are guidelines and acts to guide the procurement process, there are still ethical issues that arise in project procurement that eventually leads to a lower quality outcome for the project. In Malaysia, a number of public sector projects are facing this problem; the headquarters of Malaysian External Trade Development Corporation; the delay in completion of school buildings; school computer labs; cracks in 31 pillars of Middle Road Ring Two (MRR2) projects; and the most recent is the collapsed roof of Sultan Mizan Zainal Abidin's Stadium in Terengganu (Hassim et al., 2010).

2.8 Ethics in project procurement

Hassim et al.(2010) defined procurement as the means of achieving project objectives and value for money by taking into account the risks and constraints, leading to decisions about the funding mechanism and asset ownership for the project. Project procurement is one of the important areas in project management. It includes the broad management functions of planning, organizing and leadership, staffing, controlling and communicating procurement processes and activities across the spectrum of the “upstream” supply chain activities of both public and private organizations. Mlinga (N.D) stated that Procurement encompasses the whole process of acquiring goods and/or services. It begins when an organization has identified a

need and decided on its procurement requirement. Procurement walks through the processes of risk assessment, seeking and evaluating alternative solutions, contract award, delivery of and payment for the goods and/or services and, where relevant, the ongoing management of a contract and consideration of options related to the contract. Procurement also extends to the ultimate disposal of property at the end of its useful life. When a project is competitively bid, the owner hires an architect to create a set of plans and allow general contractors (contractor) to submit bids to build the project. In most states, statutory law requires that the prime contract for a governmental/public project is awarded to the lowest responsible bidder, whose bid meets those requirements set by the awarding authority. In the case of public projects, the awarding authority, or owner, is the public/governmental agency, and the projects are paid for through tax monies (Dejn and Millar, 2003). Gjonbalaj and Pantina (2010) point that procurement process begun from very first step with provision of funds then transferred to contract awarding for architect and designers then to design, contract awarding to contractors, price quotation, tender opening, tender evaluation finally contract.

That procurement process begun from very first step with provision of funds then transferred to contract awarding for architect and designers then to design, contract awarding to contractors, price quotation, tender opening, tender evaluation finally contract (Gjonbalaj and Pantina, 2010).

As Ogachi (2011) stated that procurement professional should have professional qualifications in procurement and supply management, is engaged in a calling for procurement practice, and is a member of a recognized professional association for procurement and supply. This definition leaves out the academic qualifications that such professionals should possess; the Public Procurement Oversight Authority is supposed to define the required minimum academic qualifications.

According to Gjonbalaj and Pantina (2010) procurement phases is:

- Publication of contract notice
- Classic procedure for awarding contracts, different method of awarding contract like open procedure, restricted procedure, negotiated procedure after publication of a contract notice, negotiated procedure without publication of a contract notice

- Design content
- Price quotation procedure
- Tender opening
- Tender evaluation
- Contracts- general principles

There are several phases in project procurement process as depicted in figure 2.1 and show how this process development with time.

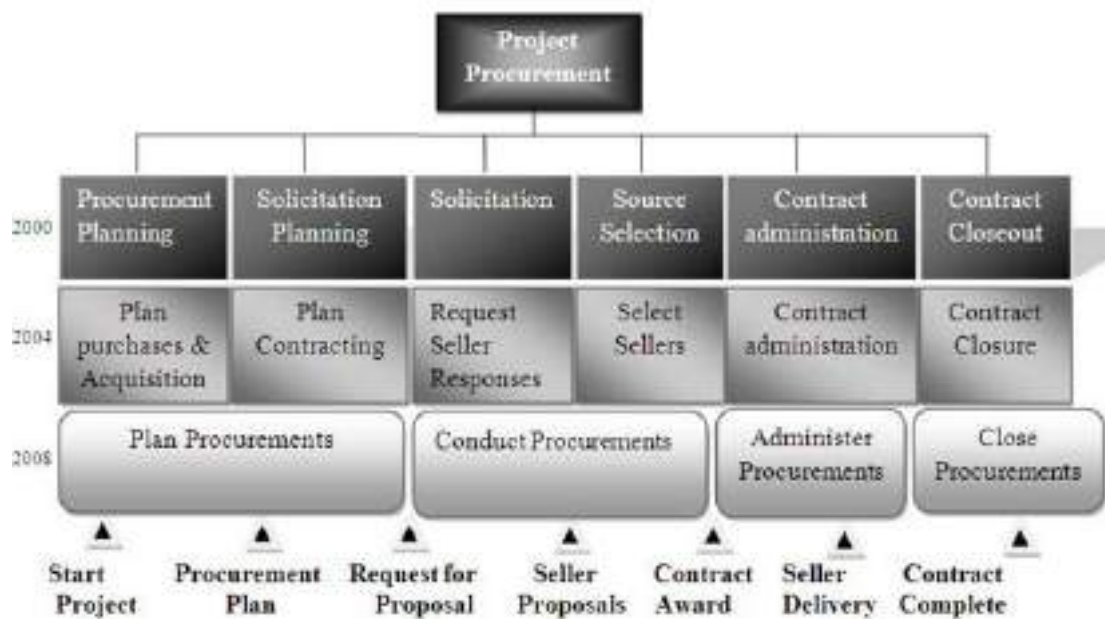


Figure 2.1: Project procurement phase cycle. Source: (Hassim, 2010)

Ethics in project management is an important issue and has an essential role in success of projects. One of the areas that must be focused on is project procurement. This area is one of the major areas in project management that has contributed to ethical issues during the implementation of project (Hassim, et al., 2010). The procurement exercise follows steps. These steps must be observed in order to ensure that all the stakeholders involved in the procurement exercise obtain fair treatment. The steps include; planning for the required procurement over a given period, identifying the source of the items, highlighting specifications/initiation of procurement, determination of procurement procedure, Sourcing (soliciting) offers, evaluation of offers, post qualification, commencement of contract, contract performance (delivery) and management, record keeping and accountability, payment and post contract performance (Eyaa and Oluka, 2011).

Ray et al. (1999) stated that activities such as collusive tendering and the claim for unsuccessful tenderer's fees are regarded as unethical as well as fraudulent. Hamimah et al. (2012) identified the common forms of corruption involved in procurement process as: bid rigging, collusion by bidders, fraudulent bids, fraud in contract performance, and fraud in an audit inquiry, product substitution, defective pricing or parts, falsification/misrepresentation of costs, bribery and acceptance of gratuities, misuse of government funds, travel fraud and theft and embezzlement. Ethics and probity are important considerations throughout the entire process of procurement. "Procurement is a hotbed of ethical challenges because the decisions and choices made in procurement affect the entire public sector (Mlinga, N.D). Procurement is one of the most vulnerable to fraud, corruption and ethical issues, Due to the fact that governments around the world spend about USD 4 trillion each year on the procurement of goods and services, a minimum of USD 400 billion per year is lost due to bribery (Hassim et al., 2010). Ethical issues in project procurement are not only about bribery or corruption but also conflict of interests and collusive tendering (Hassim et al., 2010).

Jefferies and Kirk pointed that ethics during the pre-contract stage is where the relationship is set. A fully documented transparent contract reduces uncertainty. Preparation leads to better results. Greater structure and stated expectations will result in respect from clients. Client requirements and contract size may influence ethical behavior. There is a link between ethics and commercial value and the lowest price culture does not enhance ethical practice. Other ethical issues considered common during the pre-contract stage include selective tendering, and contractors claiming experience they don't have. One option is for the client to share a code of ethics with the contractor.

The construction industry in developing countries e.g. Africa has also been found suffering from corrupt practices. For example, a recent survey revealed an alarming amount of unethical behavior in the Nigerian construction industry where there was 89% agreement between respondents that contract officers negotiate their own percentage share of the contract before a bid is prepared (Tow and Loosemore , 2009).

The tender phase opens opportunities for practices such as bribery, preferential treatment, and collusion while the construction stage might lead to poor safety conditions, covering up of poor quality work and unfair working hours for

subcontractors (Tow and Loosemore, 2009). Ethical issues in the construction industry not only concern bribery or corruption but also conflict of interest and collusive tendering (Hamimah et al., 2012). Ray et al. (1999) also believed that there are five major issues with ethical implications in tendering process. These comprise (1) withdrawal, (2) bid-cutting,(3) cover pricing, (4) compensation of tendering costs, and (5)collusion.

It is important for the public sectors to identify the factors that contribute to the ethical issues in project procurement planning. This is to ensure that the ethical issues can be identified at the earlier stage to avoid from any opportunities of unethical behavior to occur (Hassim et al., 2010). As mentioned in UN (2006) some ethical concepts and principles that relate to the procurement process are:

- Loyalty and respect for rules and regulations
- Integrity
- Impartiality and fairness
- Transparency
- Confidentiality
- Avoidance of appearance of impropriety
- Due diligence.

Procurement professionals cannot abide merely by the letter of the law or the specific words in any code, but rather, they are guided by the spirit of the law or the broader concept that the code is intended to express. One reason why many procuring organizations avoid detailed and specific codes is these may give the impression that anything not prohibited is permitted or that anything not specifically addressed is not important. People in other professions who have not been trained in or are not appreciative of procurement ethics may not realize that a situation not specifically identified in the code may still be vitally important. Those who do not understand the foundation of a general requirement may not be able to apply a code in a specific situation (UN, 2006). There are many factors that cause people to be involved in ethical issues in project procurement. In Malaysia, research has been carried out to show the effect of unethical behavior to the construction quality. This research identifies several instances of unethical misconduct Most of these unethical conducts are in the project procurement process (Hassim et al., 2010).

Hassim (2010) classified the factor contribute to unethical behavior to

- Economic downturn: companies are willing to do anything in order to survive during the recession especially to get a tender or projects from the public sectors.
- National objective: many national policies and objectives that need to be achieved order to be a developed country, a lot of project must be completed at the specific time, increasing of expenditure as funding of building and improvement to infrastructure. All these have caused pressure to the construction players and cause ethical issues in project procurement.
- Leadership: More than half of the respondents of the research conducted felt that leadership is needed as role model to improve the professionalism and show good leadership style.
- Non transparent selection process: One of the main reasons that ethical issues occur in plan procurement is due to the non-transparent selection process. For example, concession agreements and government procurement lead to sub-optimal outcomes.
- Ineffective evaluation of the process: The open tender process is one of the ways to mitigate the possible conflicts of interest and to promote cost-efficiency in project procurement.
- Ineffectiveness of professional ethics and policy in procurement: failure on the part of professional personnel to exercise the degree of care considered reasonable under the circumstances can cause ethical issues to occur in project procurement.

2.9 Ethics and quality of projects

Human factors are the causative of the majority of quality-related issues. The issue of professional ethics plays an important role in quality-related problems in a construction project (Hamzah et al., 2010). The industry has a reputation for poor quality and service, a bad safety record, and a history of broken promises and sharp practice (Tow and Loosemore , 2009). Unethical behavior by the construction industry parties impacts the quality of projects (Hamzah et al., 2010). Contractors and clients that are in the construction industry will try to get projects using whatever methods including unethical behavior that ignores morality and integrity. This is because they are willing to do anything to survive during the economic downturn.

Due to this unethical behavior by the construction industry parties, there is a big impact on the quality of the project (Hassim et al., 2010).

Hamzah et al.(2010) mentioned that quality is dependent on ethical behaviour, whereby quality and ethics have a common care premise which is to do right things right and it is a proven way to reduce costs, improve competitiveness, and create customer satisfaction. It is apparent that low ethical standards among construction professional will lead to quality problem. Increase in unethical behavior will see a consequential decline in the quality of project performance as evidenced by statistics from the construction sites. Though the number of industrial accidents overall has declined by 35% over an 8 year period from 2005, the construction industry recorded an increase of 5.6%. Fatalities increased a staggering 60% during the same period. One study found that poor management relating to poor inspection programmers, poor safety policies and lack of safety education programmes, and unsafe working methods as the main reasons behind these statistics. A lot of these companies are not even legally compliant, let alone going beyond compliance (Hamimah et al., 2012). Mlinga (N.D) reckons that the problems of poor quality, late completion and cost overruns of construction projects are attributed not only to the technical skills of the experts but rather their ethical skills.

The Malaysian construction industry is no exception. Even though there are guidelines and acts to guide the procurement process, ethical issues still arise in projects, leading to lower project quality outcomes (Hamimah et al., 2012). One of the key challenges of the construction industry in Malaysia is to focus on continuous quality improvement. However, with the ethical issues arises in project procurement, the quality of project performance has declined (Hassim et al., 2010). Project management is about getting things done on time and within budget while meeting or exceeding stakeholder expectations. Yet project management practitioners must not only carry out their projects efficiently, but also with a high level of moral character in an increasingly global environment (Mishra and Mittal, 2011). Figure 2.2 illustrate the importance of ethics in project performance and quality the researcher add it as the fourth parameter for project it is considered ethics as the fourth most important dimension in the project.

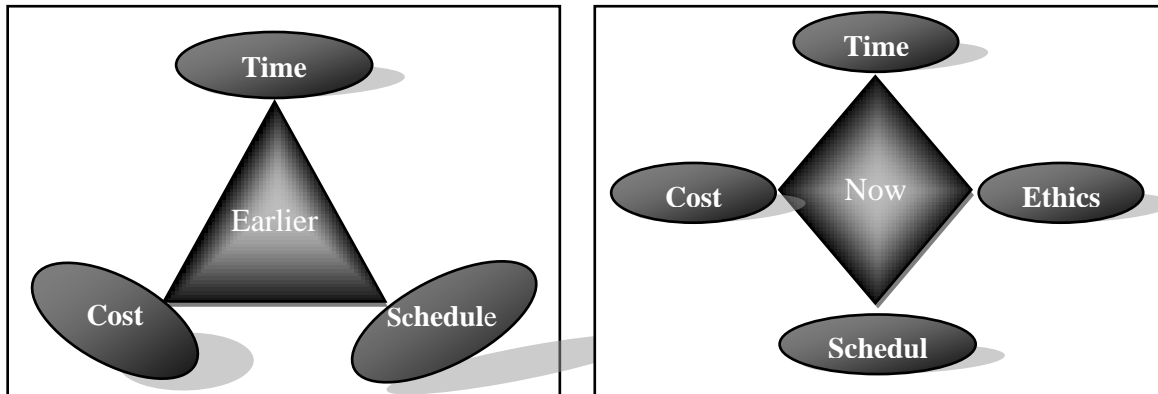


Figure 2.2: TQM triangle. Source: (Mishra and Mittal , 2011)

Svensson and wood (2005) suggested the managerial importance of considering the impact of business ethics on core values in TQM, since business ethics originates from reigning values in the society and in the marketplace. Business ethics may therefore be seen as a crucial core value per se in TQM. The worldwide business environment is moving towards a stronger focus on business ethics. As this environment changes, then as a result, one can assume that its members will expect and even demand more ethical behavior from its business leaders and their companies. To not recognize this progression of core values in TQM can be a fatal omission from both the company's philosophy and the company's subsequent application of the core values of TQM in the marketplace.

2.10 Concluding remarks for literature review

This chapter has provided a comprehensive background for the research on the unethical conduct, its causes and the impact of these behaviors. The study has been focusing on major topics that are important to the study. Firstly began with identify unethical behavior among professionals started with ethics definition which defined as the discipline dealing with what are good and bad about moral duty and obligation then talk about ethics in business, who is professional? Literature mentioned that he is a person, who is highly educated, enjoys work autonomy, earns a comfortable salary, and engages in creative and intellectually challenging work, professional ethics is that treating others with the same degree of honesty that they would like to be treated, the code and principle of ethics which set a list of principle in previous literature, must compliance with like honesty, fairness, fair reward, reliability, integrity, objectivity, accountability, etc. then these previous literature identify the unethical conduct prevailing in construction industry for example unfair conduct, negligence, conflict of

interest, collusive tendering, fraud, confidentiality and propriety breach, bribery and violation of environmental ethics in this research it was categorize the unethical behavior according to developed country and developing country and each group what is the unethical behavior spread on these country.

The second objective is to study the negative impact of behaving unethically in project from previous research it is clear that it has negative impact on cost which is cause to rise on cost of project, building collapse, abandonment of project, upward review of contract, extension of time and reduction in the life span of building and also bad effect on quality of project.

The third objective is to determine most serious phase affected by these conducts previous studies shows that this area is one of the major areas in project management that has contributed to ethical issues during the implementation of project and identified the common forms of corruption involved in procurement process as: bid rigging, collusion by bidders, fraudulent bids, fraud in contract performance, and fraud in an audit inquiry, product substitution, defective pricing or parts, falsification/misrepresentation of costs, bribery and acceptance of gratuities, misuse of government funds, travel fraud and theft and embezzlement.

The fourth objective deals with the factor lead to like these conducts the previous study show some factor contribute to unethical behavior like:

- Economic downturn: companies are willing to do anything in order to survive during the recession especially to get a tender or projects from the public sectors.
- National objective: many national policies and objectives that need to be achieved order to be a developed country, a lot of project must be completed at the specific time, increasing of expenditure as funding of building and improvement to infrastructure. All these have caused pressure to the construction players and cause ethical issues in project procurement.
- Leadership: More than half of the respondents of the research conducted felt that leadership is needed as role model to improve the professionalism and show good leadership style.
- Non transparent selection process: One of the main reasons that ethical issues occur in plan procurement is due to the non-transparent selection process. For

example, concession agreements and government procurement lead to sub-optimal outcomes.

- Ineffective evaluation of the process: The open tender process is one of the ways to mitigate the possible conflicts of interest and to promote cost-efficiency in project procurement.

Ineffectiveness of professional ethics and policy in procurement: failure on the part of professional personnel to exercise the degree of care considered reasonable under the circumstances can cause ethical issues to occur in project procurement.

Through the literature review, reveals the complexities of managing ethics in business and identifies a tension between the theory and practice of ethics, many issues related to ethics in construction industry are discussed. In addition, throw exploring various issues that are related to ethics, detrimental effects of unethical behaviors to the construction process have been discussed and clarified, it also highlight the differences in perception of what constitutes ethical behavior, the importance of individual and situational factors including the impact of ethical philosophies, decision ideologies, and organizational factors. All these are helpful in identifying the boundary and scope of the study.

It is noticeable that although the concept of ethics and its importance have been extensively discussed in existing literature, there has been very little empirical evidence on pattern of ethical behaviors. Given that it is a open secret that unethical behavior are ubiquitous in the construction industry, this research intent through methodology of this research, to establish such a pattern of ethical behavior. Through a questionnaire survey, it is expected that a pattern of ethical behavior, causes and preventive action for unethical behavior can be identified.

Table 2.1 illustrates the factors of unethical behavior conducted in construction industry which was collected from the literature review.

Table 2.1 Factors of unethical behavior conducted in construction industry

Variable	source
Part I personal information	
personal information	-
Part two Most prevalent unethical behavior in construction projects in Gaza Strip	
The overall level of unethical	Ameh and Odusami (2010), Ssegawa and Abueng

Continued. Table 2.1 Factors of unethical behavior conducted in construction industry

Variable	source
conduct in construction industry	(N.D)
Professional advises their clients when they believe that the project will not be success.	Mason (2009), Vee and Skitmore (2003), Mason (2011), Jefferies and Kirk (N.D)
professional commit their own business without conflicting with client competences	Hamimah et al. (2011), Pearl et al. (2005), Vee and Skitmore (2003), Ehsan et al. (2009), Millinga (N.D), Jefferies and Kirk (N.D).
Professionals have loyalty to their jobs, bosses and managers	Zarkada et al. (1998), King et al. (2008), Millinga (N.D), Mason (2009), Vee and Skitmore (2003), Pearl et al. (2005), Jefferies and Kirk (N.D)
Temptation to act unethically during professional practices.	Ameh and Odusami (2010), Ray et al. (1999).
Professional keeping the client properties away from missing or steeling.	Alutu and Udhawuve (2009), Mason (2009), Jefferies and Kirk (N.D).
professional intend to build trust and confidence with clients and workers	Tow and Loosemore (2009), Millinga (N.D), Vee and Skitmore (2003), Oyewobi et al. (2011), Zarkada et al. (1998).
Professional deal with the workers fairly and squarely	Hamimah et al. (2011), Pearl et al. (2005), Vee and Skitmore (2003), Hamzah et al. (2010), Zarkada et al. (1998)
Illegal award to contractor Bribery in form of cash inducement, gift, favours, trips and appointments in the construction industry	Hamzah et al. (2010), Hassim et al. (2010), Ehsan et al. (2009), Alutu and Udhawuve (2009), Ssegawa and Abueng (N.D), Oyewobi et al. (2011), Azhar et al. (2011), Ray et al. (1999), King et al. (2008), Zarkada et al. (1998), Olusegun et al. (2011), Jefferies and Kirk (N.D), Ameh and Odusami (2010), Vee and Skitmore (2003), Pearl et al. (2005), Hamimah et al. (2011).
Breach of professional responsibility	Jefferies and Kirk (N.D), Mason (2009), Vee and Skitmore (2003), Pearl et al. (2005), Zarkada et al. (1998), King et al. (2008).
Disclosure of confidential project baseline	Zarkada et al. (1998), Ray et al. (1999), King et al. (2008), Ssegawa and Abueng (N.D), Alutu and Udhawuve (2009), Ehsan et al. (2009).

Continued. Table 2.1 Factors of unethical behavior conducted in construction industry

Variable	source
Fraud like illogical request for time extensions, theft of materials	Ehsan et al. (2009), Alutu and Udhawuve (2009), Ssegawa and Abueng (N.D), Azhar et al. (2011), Hamimah et al. (2011), Pearl et al. (2005), Vee and Skitmore (2003), Hamzah et al. (2010), Oyewobi et al. (2011)
Negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad documentation unfair treatment of contractor	King et al. (2008), Zarkada et al. (1998), Azhar et al. (2011), Alutu and Udhawuve (2009), Ehsan et al. (2009), Hassim et al. (2010), Hamzah et al. (2010).
Dishonesty and unfair behavior	Hamzah et al. (2010), Hassim et al. (2010), Ehsan et al. (2009), Alutu and Udhawuve (2009), Ssegawa and Abueng (N.D), Azhar et al. (2011), Ray et al. (1999), Zarkada et al. (1998).
Overbilling	Azhar et al. (2011), Hassim et al. (2010), Hamzah et al. (2010), FMI/ CMAA (2004).
Under bidding	Hamzah et al. (2010), Hassim et al. (2010), King et al. (2008)
Bid shopping	Ray et al. (1999), Degan and Miller (2003), Azhar et al. (2011), Hassim et al. (2010), Hamzah et al. (2010), Zarkada et al. (1998), May et al. (2001), FMI/CMAA (2004).
Compromise on quality	Ehsan et al. (2009), Alutu and Udhawuve (2009), Mishra and Mittal (2011), Talukhaba et al. (N.D), Pearl et al. (2005),
Bid cutting	Hamzah et al. (2010), Hassim et al. (2010), Ray et al. (1999), May et al. (2001)
Bid rigging	Azhar et al. (2011), Zarkada et al. (1998), King et al. (2008).
Compensation of tendering cost	Ray et al. (1999), Hassim et al. (2010), Hamzah et al. (2010).
Cover price	Zarkada et al. (1998), Ray et al. (1999), Hassim et al. (2010), Hamzah et al. (2010), Oyewobi et al. (2011)

Continued. Table 2.1 Factors of unethical behavior conducted in construction industry

Variable	source
Withdrawal of tender	Hamzah et al. (2010), Hassim et al. (2010), Ray et al. (1999), Zarkada et al. (1998)
Collusive tendering	Vee and Skitmore (2003), Pearl et al. (2005), Zarkada et al. (1998), Oyewobi et al. (2011), King et al. (2008), Hassim et al. (2010), Ray et al. (1999).
Contractors accept money in order not to tender for contract has been invited to tender for	Zarkada et al. (1998).
agree of one contractor to withdraw an offer he has made in exchange for money or other benefits	Zarkada et al. (1998).
Change order games	Hamzah et al. (2010), Hassim et al. (2010), King et al. (2008), Azhar et al. (2011), FMI/CMAA (2004)
Contract office tend to leak vital information on pricing to companies where they have interest	Zarkada et al. (1998), King et al. (2008), Alutu and Udhawuve (2009).
Designers restrict the bid with specific commercial specification that benefit their relatives or friends when planning projects	King et al. (2008).
Engineers/architects tend to include in their drawings, materials or structure not required in the project due to interest in sharing in the excess cost	Alutu and Udhawuve (2009).
contractor's eloping from their duties after delivering the project	Jefferies and Kirk (N.D), Mlinga (N.D), Hamimah et al. (2011).
After the award of contract, the practice of reducing a subcontractor's quote to meet the budget fair and equitable	May et al. (2001)
scarifying the national interest for any person gain	Ehsan et al. (2009)
employers attempting to force their	Vee and Skitmore (2003), Ehsan et al. (2009)

Continued. Table 2.1 Factors of unethical behavior conducted in construction industry

Variable	source
employees to do unethical conduct	
The engineers work on part-time basis without the consent of the employer	Ehsan et al. (2009), King et al. (2008).
The engineers recognize the safety of public when considering personal/organizational benefits	Ehsan et al. (2009), Jefferies and Kirk (N.D).
professionals hold paramount the safety, health and welfare of the labor inside the work site	Zarkada et al. (1998), Talukhaba et al. (N.D).
Contractor's professional disposed waste, in suitable and safe ways which is friendly with the environment.	Ssegawa and Abueng (N.D), Pearl et al. (2005), Vee and Skitmore (2003).
individuals or organizations undertaking work without adequate qualification/ experience/training	Ehsan et al. (2009)
Part three impact of unethical behavior in construction industry and its serious phase affected by this behavior	
Effect of unethical behavior on cost	
Do you think that unethical behavior prevalence in Gaza construction industry?	Azhar et al. (2011).
Do you think there is a positive relationship between ethical behavior and long- term profitability of the company?	Azhar et al. (2011), Hamimah et al. (2011), Mlinga (N.D), CIOB (2006)
Do you think there is a positive relationship between ethical behavior and short- term profitability of the company?	Azhar et al. (2011), Hamimah et al. (2011), Mlinga (N.D), CIOB (2006)
How much you believed these practices cost your company every year as a percent of annual	Azhar et al. (2011).

Continued. Table 2.1 Factors of unethical behavior conducted in construction industry

Variable	source
revenues	
Effect of unethical behavior on quality	
How do you evaluate the quality of construction industry in Gaza Strip?	Hamzah et al. (2010)
Do you think that unethical practices affect the quality and production efficiency in the construction industry?	King et al. (2008), Hamzah et al. (2010), Mishra and Mittal (2011).
Organization ethics	
Do you think that unethical behavior can be gained from the work?	CIOB (2006).
Do you think that "personal ethics" are taking over "business ethics" in construction projects in Gaza Strip?	Moylan (2008)
Have you ever deal with an organization including unethical items in its contracts in Gaza Strip?	Ehsan et al. (2009)
Do you think that improving ethical practice for the professionals could improve ethical performance in construction projects in Gaza Strip?	Moylan (2008)
What level of ethical awareness do the employees in your organization have?	Ehsan et al. (2009), Alutu and Udhawuve (2009), Ssegawa and Abueng (N.D)
What are the difficulties for developing a strong ethical awareness in your organization?	Ehsan et al. (2009), Ssegawa and Abueng (N.D)
Part four Factors lead to unethical practice	
Construction industry Culture	Azhar et al. (2011).
Political systems	Olusegun et al. (2011), Azhar et al. (2011), Hassim et al. (2010).
Poverty	Olusegun et al. (2011).
Excessive love for money (greed)	Olusegun et al. (2011), Alutu and Udhawuve (2009).

Continued. Table 2.1 Factors of unethical behavior conducted in construction industry

Variable	source
Professional indiscipline	Azhar et al. (2011).
Profit maximization by contractor	Olusegun et al. (2011).
Quackery	Olusegun et al. (2011).
Favouritism	Olusegun et al. (2011).
Illegal award to contract	FMI/CMAA (2004).
Under pay most of consultancy fees	Olusegun et al. (2011).
Insecurity of job	Olusegun et al. (2011).
Lack of transparency	Olusegun et al. (2011).
Insufficient education from professional institution	FMI/CMAA (2004).
Economic downturn	Hassim et al. (2010).
Insufficient legislative enforcement	Hassim et al. (2010).
Salaries of workers are delayed	Alutu and Udhawuve (2009), FMI/CMAA (2004).
High cost of obtaining redress in count of law	Olusegun et al. (2011).
Size of project	Azhar et al. (2011).
Project complexity	Azhar et al. (2011).
Competitiveness between contractors	FMI/CMAA (2004).
Overlapping between personal and professional ethics	Hassim et al. (2010).
Discrimination between workers	Azhar et al. (2011).
Lack in raw materials of construction industry.	Alutu and Udhawuve (2009).

Chapter 3: Methodology

This chapter discusses the methodology which is used in this research. The methodology includes review of literature related to unethical practices, information about the research design, population, sample size, data collection, questionnaire design, questionnaire content, instrument validity, pilot study, and the method of processing and analyzing the data. The questionnaire will be the main approach to collect the data and perspectives of the respondents.

The objective of the present study is to investigate the current status of unethical practices in construction industry in the Gaza Strip with more concentrated on unethical conducts of contractors by administering a questionnaire survey, from the feedback of clients how have been dealt with contractors during construction projects implemented in the Gaza Strip .

3.1 Research design

In this research seven steps are followed as illustrated below:

- The first step is to define the problem, establish the objectives of the study and develop research plan.
- The second step literature on unethical conduct among professionals in construction industry was reviewed which lead to a summary about the comprehensive literature review in order to support the survey methodology.
- The third step of the research is to develop the basis of the questionnaire by the literature review.
- The fourth step of the research is a pilot study. Experts, consultant and engineers were contacted. The purpose of the pilot study is to prove that the questionnaire questions are understood clearly that help to achieve the aim of the questionnaire. The questionnaire was modified based on the results of the pilot study.
- The fifth step of the research is data collection. A total of two hundred and twenty questionnaires were distributed to the research target group but one hundred sixty two were received.
- The sixth step of the research is data analysis. Statistical software (SPSS) was used to fulfill the required analysis.

- The final phase of the research included the conclusions and recommendations.

Figure 3.1 shows the methodology flowchart used to achieve the objectives of the research.

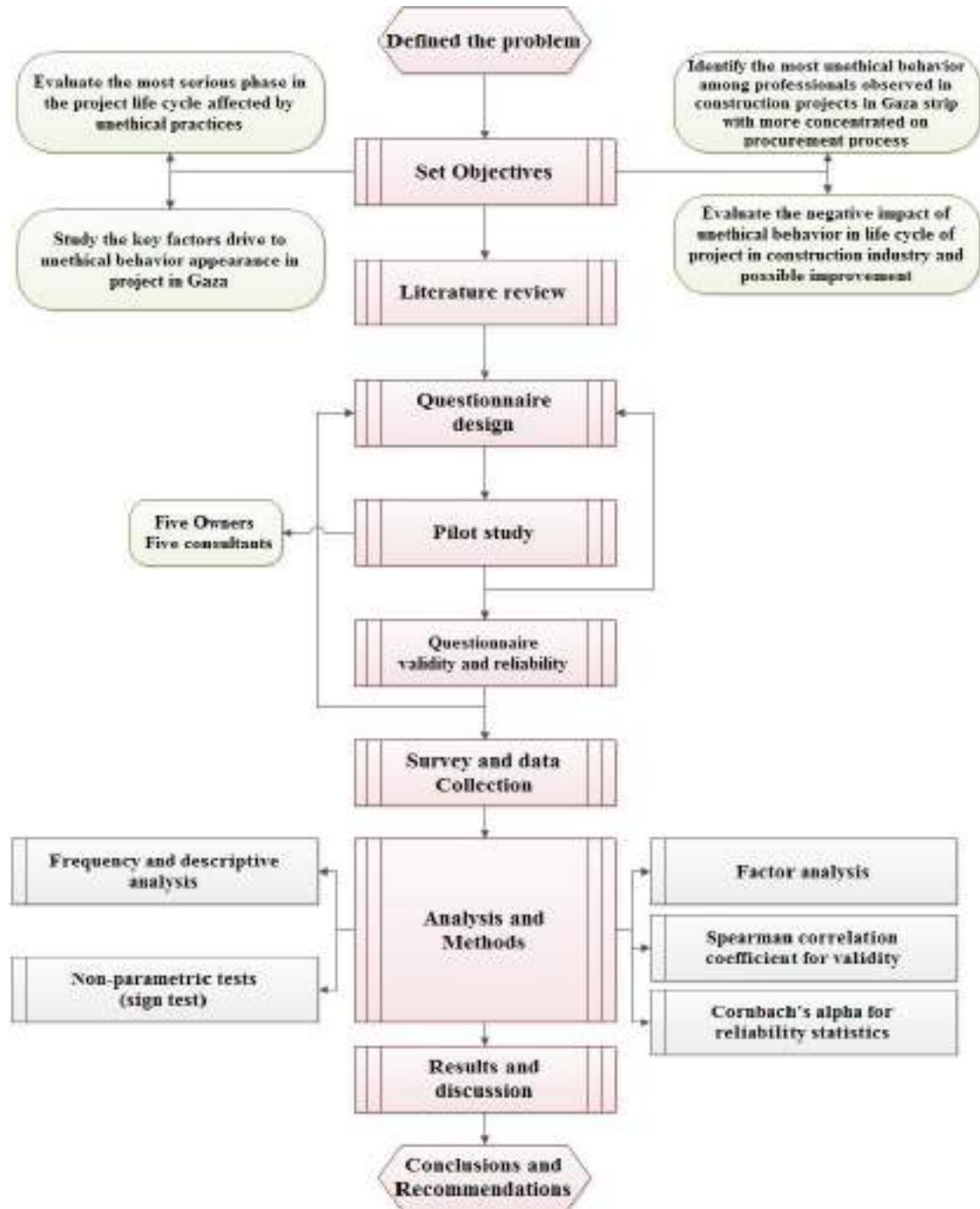


Figure: 3.1 Methodology flowchart

3.2 Research period

The study started on March 2012 after the proposal was approved. The literature review was completed at the end of October 2012. The validity test, pilot study, questionnaire distribution and collection were completed in the beginning of February 2013. The analysis, discussion, conclusions and recommendations were completed in the middle of April 2013.

3.3 Research population

The targeted group consists of 55 governmental agencies, NGO's, UN and INGO's institutions and 59 consultants firms working on construction industry in the Gaza Strip. There is no official number of clients and the clients' representatives in Gaza. Such rareness of the data reflect margin of barrier. To overcome this problem, some help from experts and from other thesis for other researcher total of 55 clients were found and 59 consultants were obtained from the engineering syndicate with total aggregate for the population 114 clients and consultants.

3.4 Research location

The research was carried out in Gaza Strip, which consists of five governorates: The northern governorate, Gaza governorate, the middle governorate, Khanyounus governorate and Rafah governorate.

3.5 Sample characteristics

As the population of the research is limited to 55 (ministries, municipalities, NGO's, UN agencies and INGO's) and 59 consultant firms as illustrated in the table 3.1, all of these institutions are used as the targeted sample.

Table 3.1 Sample categories

#	Type	Number
1	Ministries	5
2	Municipalities	25
3	NGO's, UN agencies and INGO's	25
4	Consultant firms	59
	Total	114

The total number of targeted group was 114 organizations and because it was small group all the population was selected to perform the study, so each one have two or more copies of the questionnaire to give a total distributed number reach 220

questionnaires, the number of distributed questionnaires and the respondent percent for each category of the population was illustrated in the table 3.2. In general the total respondent percent was satisfactory.

Table 3.2 Classification of sample size

#	Type	Number of distributed questionnaires	Number of respondents	% of respondents
1	Ministries	20	19	95
2	Municipalities	50	22	44
3	NGO's, UN agencies and INGO's	50	37	74
4	Consultants firms	100	84	84
	Total	220	162	73.6

3.6 Data collection

As the questionnaire is the most widely used data collection technique for conducting surveys, it is widely used for descriptive and analytical surveys in order to find out facts, opinions and views. It enhances confidentiality, supports internal and external validity, facilitates analysis, and saves resources. Data are collected in a standardized form from samples of the population. The standardized form allows the researcher to carry out statistical inferences on the data, often with the help of computers. The used questionnaire has some limitations such as: it must contain simple questions, no control over respondents and respondents may answer generally (Naoum, 1998).

3.7 Questionnaire design

The questionnaire design was extracted from previous studies related to the subject of this research as (Oyewobi et al. (2011); Ssegawa and Abueng (N.D); Olusegun et al. (2011); Alutu and Udhawuve (2009); Azhar et al. (2011); Vee and Skitmore (2003); Ray et al. (1999); Pearl et al. (2005); Hamimah et al. (2012); Talukhaba et al. (N.D); Ameh and Odusami (2010); Zarkada et al. (1998); Tow and Loosemore (2009); Hamzah et al. (2010); Jefferies and Kirk (N.D); Ssegawa, and Abueng (N.D); Ehsan et al. (2009); King et al. (2008); Hamzah et al. (2010);, Ray et al. (1999)) used questionnaire as a research method. So questionnaire was found the best choice to collect data for this research. All the information that could help in achieving the study objectives, were collected, reviewed and formalized to be suitable for the study

survey. After many stages of searching, consulting, modifying, and reviewing by the supervisor, the research questionnaire was finalized and became ready for distribution.

The questionnaire was designed in the Arabic language and attached in appendix 2, to be more understandable. An English version was attached in appendix 3. Unnecessary personal data, complex and duplicated questions were avoided. The questionnaire was provided with a covering letter which explained the purpose of the study, the way of responding, the aim of the research and the security of the information in order to encourage high response.

The questionnaire design was composed of four sections to accomplish the aim of this research, as follows:

1. The first section contained general information.
2. The second section contained the most prevalent unethical behavior in construction industry included two subsections, these are:
 - At the procurement phase.
 - After tendering stage.
3. The third section is about the impact of unethical practices on construction industry includes five subsections, these are:
 - The effect of unethical behavior on cost.
 - The effect of unethical behavior on project quality.
 - The organization ethics.
 - Ways to improve the ethical conduct.
 - Phases of the project according to appearance of unethical practices.
4. The fourth section explains the factors lead to unethical practices.

A draft questionnaire was discussed with the supervisor who requested a pilot study of the questionnaire to test validity content with the knowledge of experts in construction management in Gaza Strip.

In general, the experts agreed that the questionnaire is suitable to achieve the goals of the study with some modification. Table 3.3 shows the comments and modifications that have been done according the consultation of experts.

Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
Part 2 unethical conduct most prevalent in construction industry			
The commitment of professionals			
1. The overall level of unethical conduct in construction industry.	Ameh and Odusami (2010) and Ssegawa and Abueng (N.D)	selected	The overall level of unethical conduct in construction industry.
2. Professional advises their clients when they believe that the project will not be success.	Vee and Skitmore (2003), Mason (2011), Jefferies and Kirk (N.D) and Mason (2009)	selected	Professional advises their clients when they believe that the project will not be success.
3. Professional commits their own business without conflicting with client competences.	Hamimah et al. (2001), Pearl et al. (2005), Vee and Skitmore (2003), Ehsan et al. (2009), Millinga (N.D) and Jefferies and Kirk (N.D).	selected	Professional commits their own business without conflicting with client competences.
4. Professionals have loyalty to their jobs, bosses and managers.	Zarkada et al. (1998), King et al. (2008), Millinga (N.D), Mason (2009), Vee and Skitmore (2003), Pearl et al. (2005) and Jefferies and Kirk (N.D).	Separated	Professionals have loyalty to their jobs. Professionals have loyalty to their bosses and managers.
5. Temptation to act unethically during professional practices.	Ameh and Odusami (2010) and Ray et al. (1999).	selected	Temptation to act unethically during professional practices.
6. Professional keeping the client properties away from missing or steeling.	Alutu and Udhawuve (2009), Mason (2009) and Jefferies and Kirk (N.D).	selected	Professional keeping the client properties away from missing or steeling.
7. Professionals intend to build trust and confidence with clients and workers.	Tow and Loosemore (2009), Millinga (N.D), Vee and Skitmore (2003), Oyewobi et al. (2011) and Zarkada et al. (1998).	selected	Professional intend to build trust and confidence with clients and workers.
8. Professional deal with the workers fairly and squarely.	Hamimah et al. (2011), Pearl et al. (2005), Vee and Skitmore (2003), Hamzah et al. (2010) and	selected	Professional deal with the workers fairly and squarely.

Cont. Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
	Zarkada et al. (1998)		
Unethical conduct by professionals in construction industry at procurement phase			
9. Illegal award to contractor.	Hamzah et al. (2010), Hassim et al. (2010), Vee and Skitmore (2003), Pearl et al. (2005) and Hamimah et al. (2011).	selected	Illegal award to contractor.
10. Overbilling.	Azhar et al. (2011), Hassim et al. (2010), Hamzah et al. (2010) and FMI/CMAA (2004).	selected	Overbilling.
11. Under bidding.	Hamzah et al. (2010), Hassim et al. (2010) and King et al. (2008)	selected	Under bidding.
12. Bid shopping.	Ray et al. (1999), Degan and Miller (2003), Azhar et al. (2011), Hassim et al. (2010), Hamzah et al. (2010), Zarkada et al. (1998), May et al. (2001), FMI/CMAA (2004).	selected	Bid shopping.
13. Bid rigging	Azhar et al. (2011), Zarkada et al. (1998), King et al. (2008).	selected	Bid rigging
14. Compensation of tendering cost.	Ray et al. (1999), Hassim et al. (2010), Hassim et al. (2010), Hamzah et al. (2010).	Modified	Contractor does not compensate for the costs of the tender in case of a withdrawal of the tender by the owner without justification.
15. Cover price.	Zarkada et al. (1998), Ray et al. (1999), Hassim et al. (2010), Hamzah et al. (2010), Oyewobi et al. (2011)	selected	Cover price.
16. Collusive tendering.	Vee and Skitmore (2003), Pearl et al. (2005), Zarkada et al. (1998), Oyewobi et al. (2011), King et al. (2008), Hassim et al. (2010), Ray et al. (1999).	selected	Collusive tendering.
17. Dishonesty and unfair behavior	Hamzah et al. (2010).	deleted	-

Cont. Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
18. Withdrawal of tender.	Hamzah et al. (2010), Hassim et al. (2010), Ray et al. (1999), Zarkada et al. (1998)	Modified	Unjustified withdrawal of the tender by the contractor.
19. Contractors accept money in order not to tender for contract has been invited to tender for.	Zarkada et al. (1998).	selected	Contractors accept money in order not to tender for contract has been invited to tender for.
20. Agree of one contractor to withdraw an offer he has made in exchange for money or other benefits.	Zarkada et al. (1998).	selected	agree of one contractor to withdraw an offer he has made in exchange for money or other benefits.
21. Change order games.	Hamzah et al. (2010), Hassim et al. (2010), King et al. (2008), Azhar et al. (2011), FMI/CMAA (2004)	selected	Change order games.
22. Contract office tends to leak vital information on pricing to companies where they have interest.	Zarkada et al. (1998), King et al. (2008), Alutu and Udhawuve (2009).	selected	Contract office tends to leak vital information on pricing to companies where they have interest.
23. Designers restrict the bid with specific commercial specification that benefits their relatives or friends when planning projects.	King et al. (2008).	selected	Designers restrict the bid with specific commercial specification that benefits their relatives or friends when planning projects.
24. Engineers/architects tend to include in their drawings, materials or structure not required in the project due to interest in sharing in	Alutu and Udhawuve (2009).	selected	Engineers/architects tend to include in their drawings, materials or structure not required in the project due to interest in sharing in

Cont. Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
the excess cost.			the excess cost.
25. After the award of contract, the practice of reducing a subcontractor's quote to meet the budget fair and equitable.	May et al. (2001)	selected	After the award of contract, the practice of reducing a subcontractor's quote to meet the budget fair and equitable.
26. Individuals or organizations undertaking work without adequate qualification/ experience/training.	Ehsan et al. (2009).	selected	Individuals or organizations undertaking work without adequate qualification/ experience/training.
27.	Pilot study	Added	Failure to follow proper procedures in awarding the tender.
28. .	Pilot study	Added	Advertising bids on a particular category and another exception for private purposes.
29.	Pilot study	Added	Leaking information about the project budget for some contractors.
30.	Pilot study	Added	Retender by the owner to reduce the price of the tender.
Unethical conduct by professionals in construction industry after awarding the tender			
31. Bribery in form of cash inducement, gift, favours, trips and appointments in the construction industry	Hamzah et al. (2010), Hassim et al. (2010), Ehsan et al. (2009), Alutu and Udhawuve (2009), Ssegawa and Abueng (N.D), Oyewobi et al. (2011), Azhar et al. (2011), Ray et al. (1999), King et al. (2008), Zarkada et al. (1998), Olusegun et al. (2011),	selected	Bribery in form of cash inducement, gift, favours, trips and appointments in the construction industry

Cont. Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
	Jefferies and Kirk (N.D), Ameh and Odusami (2010), Vee and Skitmore (2003), Pearl et al. (2005), Hamimah et al. (2011).		
32. Breach of professional responsibility	Jefferies and Kirk (N.D), Mason (2009), Vee and Skitmore (2003), Pearl et al. (2005), Zarkada et al. (1998), King et al. (2008).	selected	Breach of professional responsibility
33. Disclosure of confidential project baseline	Zarkada et al. (1998), Ray et al. (1999), King et al. (2008), Ssegawa and Abueng (N.D), Alutu and Udhawuve (2009), Ehsan et al. (2009).	selected	Disclosure of confidential project baseline
34. Fraud like illogical request for time extensions, theft of materials	Ehsan et al. (2009), Alutu and Udhawuve (2009), Ssegawa and Abueng (N.D), Azhar et al. (2011), Hamimah et al. (2011), Pearl et al. (2005), Vee and Skitmore (2003), Hamzah et al. (2010), Oyewobi et al. (2011)	selected	Fraud like illogical request for time extensions, theft of materials
35. Negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad documentation unfair treatment of contractor.	King et al. (2008), Zarkada et al. (1998), Azhar et al. (2011), Alutu and Udhawuve (2009), Ehsan et al. (2009), Hassim et al. (2010), Hamzah et al. (2010).	selected	Negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad documentation unfair treatment of contractor.
36.	Pilot study	Added	Provide materials without tax invoices.
37.	Pilot study	Added	Tax evasion in the project.
38. Compromise on	Ehsan et al. (2009), Alutu and	Modified	Compromise on quality

Cont. Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
quality.	Udhawuve (2009), Mishra and Mittal (2011), Talukhaba et al. (N.D), Pearl et al. (2005).		or increase the cost.
39. Bid cutting	Hamzah et al. (2010), Hassim et al. (2010), Ray et al. (1999), May et al. (2001)	selected	Bid cutting
40. Contractor's eloping from their duties after delivering the project.	Jefferies and Kirk (N.D), Mlinga (N.D), Hamimah et al. (2011).	selected	Contractor's eloping from their duties after delivering the project.
41.	Pilot study	Added	Fraud in the preparation of the daily report for the purpose of compensating later.
42. .	Pilot study	Added	Fraud in determining the amount of the item in the quantities table for financial purposes.
43. Scarifying the national interest for any person gain.	Ehsan et al. (2009)	selected	Scarifying the national interest for any person gain.
44. Employers attempting to force their employees to do unethical conduct.	Vee and Skitmore (2003), Ehsan et al. (2009)	selected	Employers attempting to force their employees to do unethical conduct.
45. The engineers work on part-time basis without the consent of the employer.	Ehsan et al. (2009), King et al. (2008).	selected	The engineers work on part-time basis without the consent of the employer.
46. The engineers recognize the safety of public when considering personal/organizational benefits.	Ehsan et al. (2009), Jefferies and Kirk (N.D).	Modified	The engineers don't recognize the safety of public when considering personal/organizational benefits.
47. Professionals hold paramount the safety,	Talukhaba et al. (N.D), Zarkada et al. (1998).	Modified	Professionals don't hold paramount the

Cont. Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
health and welfare of the labor inside the work site.			safety, health and welfare of the labor inside the work site.
48. Contractor's professional disposed waste, in suitable and safe ways which is friendly with the environment.	Ssegawa and Abueng (N.D), Pearl et al. (2005), Vee and Skitmore (2003).	Modified	Contractor's professional didn't disposed waste, in suitable and safe ways which is friendly with the environment.
Part 3 impact of unethical behavior on construction industry			
49. Do you think that unethical behavior prevalence in Gaza construction industry.	Azhar et al. (2011).	selected	Do you think that unethical behavior prevalence in Gaza construction industry.
50. Do you think that unethical practice have negative effect on construction projects on Gaza Strip.	CIOB (2006), Azhar et al. (2011), Hamimah et al. (2011), Mlinga (N.D).	Deleted	
51. Do you think there is a positive relationship between ethical behavior and long-term profitability of the company.	CIOB (2006), Azhar et al. (2011), Hamimah et al. (2011), Mlinga (N.D).	selected	Do you think there is a positive relationship between ethical behavior and long-term profitability of the company.
52. Do you think there is a positive relationship between ethical behavior and short-term profitability of the company.	Azhar et al. (2011).	selected	Do you think there is a positive relationship between ethical behavior and short-term profitability of the company.
53. How much you believed these practices cost your company every year as	Azhar et al. (2011)	selected	How much you believed these practices cost your company every year as

Cont. Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
a percent of annual revenues.			a percent of annual revenues.
54. How do you evaluate the quality of construction industry in Gaza Strip.	Hamzah et al. (2010)	selected	How do you evaluate the quality of construction industry in Gaza Strip.
55. Do you think that unethical practices affect the quality and production efficiency in the construction industry.	King et al. (2008), Hamzah et al. (2010), Mishra and Mittal (2011).	selected	Do you think that unethical practices affect the quality and production efficiency in the construction industry.
56. Do you think that unethical behavior can be gained from the work.	CIOB (2006).	selected	Do you think that unethical behavior can be gained from the work.
57. Do you think that "personal ethics" are taking over "business ethics" in construction projects in Gaza Strip.	Moylan (2008).	selected	Do you think that "personal ethics" are taking over "business ethics" in construction projects in Gaza Strip.
58. Have you ever deal with an organization including unethical items in its contracts in Gaza Strip.	Ehsan et al. (2009).	Modified	Have you ever deal with an organization including unethical items against workers in its contracts in Gaza Strip.
59. Do you think that improving ethical practice for the professionals could improve ethical performance in construction projects in Gaza Strip.	Moylan (2008).	selected	Do you think that improving ethical practice for the professionals could improve ethical performance in construction projects in Gaza Strip.
60. What level of ethical	Ehsan et al. (2009), Alutu and	selected	What level of ethical

Cont. Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
awareness do the employees in your organization have.	Udhawuve (2009), Ssegawa and Abueng (N.D).		awareness do the employees in your organization have.
61. What are the difficulties for developing a strong ethical awareness in your organization.	Ssegawa and Abueng (N.D), Ehsan et al. (2009).	selected	What are the difficulties for developing a strong ethical awareness in your organization.
62.	Pilot study	Added	Does your organization adding special items outside the legal requirements for contracting.
63.	Pilot study	Added	Is there a clause in the tender documents or contract provides for the control or prevent unethical behavior to the contractor.
Part 4 factors lead to unethical behavior in construction industry			
64. Personal culture or personal behavior.	Pilot study	Added	
65. Construction industry Culture.	Azhar et al. (2011).	Selected	Construction industry Culture.
66. Political systems.	Olusegun et al. (2011), Azhar et al. (2011), Hassim et al. (2010).	Selected	Political systems.
67. Poverty.	Olusegun et al. (2011).	Selected	Poverty.
68. Excessive love for money (greed).	Alutu and Udhawuve (2009), Olusegun et al. (2011)	Selected	Excessive love for money (greed)
69. Professional indiscipline.	Azhar et al. (2011).	Selected	Professional indiscipline
70. Profit maximization by contractor.	Olusegun et al. (2011).	Selected	Profit maximization by contractor
71. Quackery.	Olusegun et al. (2011).	Deleted	-
72. Favoritism.	Olusegun et al. (2011).	Selected	Favoritism.
73. Illegal award to	FMI/CMAA (2004).	Selected	Illegal award to

Cont. Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
contract.			contract.
74. Under pay most of consultancy fees.	Olusegun et al. (2011).	Selected	Under pay most of consultancy fees.
75. Insecurity of job.	Olusegun et al. (2011).	Selected	Insecurity of job.
76. Lack of transparency.	Olusegun et al. (2011).	Selected	Lack of transparency.
77. Insufficient education from professional institution.	FMI/CMAA (2004).	Selected	Insufficient education from professional institution.
78. Economic downturn.	Hassim et al. (2010).	Selected	Economic downturn.
79. Insufficient legislative enforcement.	Hassim et al. (2010).	Selected	Insufficient legislative enforcement.
80. Prejudice against workers.	Pilot study	Added	
81. Salaries of workers are delayed.	Alutu and Udhawuve (2009), FMI/CMAA (2004).	Selected	Salaries of workers are delayed.
82. High cost of obtaining redress in court of law	Olusegun et al. (2011).	Selected	High cost of obtaining redress in court of law
83. Size of project	Azhar et al. (2011).	Selected	Size of project
84. Project complexity	Azhar et al. (2011).	Selected	Project complexity
85. Competitiveness between contractors.	FMI/CMAA (2004).	Selected	Competitiveness between contractors.
86. Overlapping between personal and professional ethics.	Hassim et al. (2010).	Selected	Overlapping between personal and professional ethics.
87. Discrimination between workers.	Azhar et al. (2011).	Selected	Discrimination between workers.
88. Lack in raw materials of construction industry.	Alutu and Udhawuve (2009).	Modified	Non-availability of raw materials in market freely.
89.	Pilot study	Added	Location of the project (the border area).
90.	Pilot study	Added	The absence of strict contractual laws.
91.	Pilot study	Added	Inability supervision to

Cont. Table 3.3: List of selected factors related to unethical conduct among professional

Identify Factor from literature	Reference	Comment	Final name used for research
			control those behaviors.
92.	Pilot study	Added	Lack of high executive control.

3.8 Pilot study

It is practically known that the questionnaire should be piloted to measure its validity and reliability and test the collected data. The pilot study was conducted by distributing the prepared questionnaire to panels of experts having experience in the same field of the research to have their remarks on the questionnaire.

Ten experts have 10-15 years experience were contacted to assess the questionnaire validity, two experts from the municipality's, three from UN agencies and three experts from consultant firms were asked to verify the validity of the questionnaire issues and its relevance to the research objective.

Two experts in statistics were asked to identify that the instrument used was valid statistically and that the questionnaire was designed well enough to provide relations and tests among variables.

Expert comments and suggestions were collected and evaluated carefully. All the suggested comments and modifications were checked by the supervisor before taking them into consideration. At the end of this process, modifications and additions were introduced to the questions and the final questionnaire was constructed. Some of their modifications are:

Dishonesty and unfair behavior and quackery are deleted because it's not necessary as these factor included in other factors by way.

Do you think that unethical practice have negative effect on construction projects on Gaza Strip are deleted because it's repeated question.

Location of the project (the border area), the absence of strict contractual laws, inability supervision to control those behaviors and lack of high executive control are

added from experts as factors lead to unethical behavior, they mentioned that these factor may affect the existence of unethical behavior.

Withdrawal of tender was modified to unjustified withdrawal of the tender by the contractor because it is not specific, lack in raw materials of construction industry was modified to non availability of raw materials in market freely because of the siege on Gaza Strip non availability more specific to use.

3.9 Data measurement

In order to be able to select the appropriate method of analysis, the level of measurement must be understood. For each type of measurement, there is/are an appropriate method/s that can be applied and not others. In this research, ordinal scales were used. Ordinal scale is a ranking or a rating data that normally uses integers in ascending or descending order. The numbers assigned to the important (1, 2, 3, 4, 5) do not indicate that the interval between scales are equal, nor do they indicate absolute quantities. They are merely numerical labels (Naoum, 1998). Based on Likert scale as shown:

1	Item	(5)	(4)	(3)	(2)	(1)
	Scale	Strongly agree	Agree	Neutral	Disagree	Strongly disagree

2	Item	(5)	(4)	(3)	(2)	(1)
	Scale	Very common	common	Neutral	uncommon	Very uncommon

3.10 Data processing and analysis

The researcher would use data analysis both qualitative and quantitative data analysis methods. The Data analysis will be made utilizing SPSS 20. The researcher would utilize the following statistical tools:

1. Factor Analysis (Type exploratory factor analysis).
2. Spearman correlation coefficient for Validity.
3. Cronbach's Alpha for Reliability Statistics.
4. Frequency and Descriptive analysis.
5. Nonparametric Tests (Sign test).

3.10.1 Factor analysis

Factor Analysis is a data reduction statistical technique which is used to reduce a set of variables to a smaller number of variables or factors. To achieve this aim, SPSS version 20.0 would examine the completeness, consistency and reliability prior to data processing. It is used to reduce a large number of related variables to a more manageable number, prior to using them in other analyses such as correlation or multiple regressions Kaiser (1974).

Kaiser- Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of Sphericity. KMO test is used to predict if data are likely to factor or not. Kaiser (1974) recommended accepting values for KMO test to be greater than 0.5 to use factor analysis.

Bartlett's test of Sphericity tests the null hypothesis that the original correlation matrix is an identity matrix, which would indicate that the factor model is inappropriate. A significant test tells us that the correlation matrix is not an identity matrix; therefore, there are some relationships between the variables we hope to include in the analysis.

3.10.2 Non-parametric test

Non-parametric methods are widely used for studying populations that take on a ranked order. The use of non-parametric methods may be necessary when data have a ranking but no clear numeric interpretation, or for data on ordinal scale non-parametric methods make fewer assumptions; their applicability is much wider than the corresponding parametric methods. In particular, they may be applied in situations where less is known about the application in question. Also, due to the reliance on fewer assumptions, non-parametric methods are more robust.

Another justification for the use of non-parametric methods is simplicity. In certain cases, even when the use of parametric methods is justified, non-parametric methods may be easier to use. Due both to this simplicity and to their greater robustness, non-parametric methods are seen by some statisticians as leaving less room for improper use and misunderstanding.

Sign test:

It is used to determine if the mean of a paragraph is significantly different from a hypothesized value 3 (Middle value of Likert scale). If the P-value (Sig.) is smaller than or equal to the level of significance, then the mean of a paragraph is significantly

different from a hypothesized value 3. The sign of the Test value indicates whether the mean is significantly greater or smaller than hypothesized value 3. On the other hand, if the P-value (Sig.) is greater than the level of significance, then the mean a paragraph is insignificantly different from a hypothesized value 3.

3.11 Validity of Questionnaire

Validity refers to the degree to which an instrument measures what it is supposed to be measuring. Validity has a number of different aspects and assessment approaches. Statistical validity is used to evaluate instrument validity, which include internal validity and structure validity.

3.11.1 Internal Validity

Internal validity of the questionnaire is the first statistical test that used to test the validity of the questionnaire. It is measured by a scouting sample, which consisted of 30 questionnaires through measuring the correlation coefficients between each paragraph in one field and the whole field.

The tables in Appendix 1 clarify the spearman correlation coefficient for the commitment of professionals, unethical behavior at procurement phase, unethical behavior after awarding the tender and factors lead to unethical behavior. The p-values (Sig.) are less than 0.05, so the correlation coefficients of all factors are significant at $\alpha = 0.05$, so it can be said that the paragraphs of the factors are consistent and valid to be measure what it was set for.

3.11.2 Structure Validity of the Questionnaire

Structure validity is the second statistical test that used to test the validity of the questionnaire structure by testing the validity of each field and the validity of the whole questionnaire. It measures the correlation coefficient between one field and all the fields of the questionnaire that have the same level of liker scale.

Table 3.4 Correlation coefficient of each field and the whole of questionnaire

No.	Field	Spearman Correlation Coefficient	P-Value (Sig.)
1.	Commitment of professionals.	0.345	0.000*
2.	Unethical behavior at procurement phase	0.924	0.000*
3.	Unethical behavior after awarding of tender.	0.843	0.000*
4.	Factor lead to unethical conduct.	0.717	0.000*

Table (3.4) clarifies the correlation coefficient for each field and the whole questionnaire. The p-values (Sig.) are less than 0.05, so the correlation coefficients of all the fields are significant at $\alpha = 0.05$, so it can be said that the fields are valid to be measured what it was set for to achieve the main aim of the study.

3.12 Reliability of the Research

The reliability of an instrument is the degree of consistency which measures the attribute; it is supposed to be measuring (Polit & Hunger,1985). The less variation an instrument produces in repeated measurements of an attribute, the higher its reliability. Reliability can be equated with the stability, consistency, or dependability of a measuring tool. The test is repeated to the same sample of people on two occasions and then compared the scores obtained by computing a reliability coefficient (Polit & Hunger, 1985).

3.12.1 Cronbach's Coefficient Alpha

This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's coefficient alpha value between 0.0 and +1.0, and the higher values reflects a higher degree of internal consistency. The Cronbach's coefficient alpha was calculated for each field of the questionnaire.

Table (3.5) shows the values of Cronbach's Alpha for each field of the questionnaire and the entire questionnaire. For the fields, values of Cronbach's Alpha were in the range from 0.667 and 0.933. This range is considered high; the result ensures the reliability of each field of the questionnaire. Cronbach's Alpha equals 0.949 for the entire questionnaire which indicates an excellent reliability of the entire questionnaire.

Table 3.5: Cronbach's Alpha for each field of the questionnaire

No.	Field	Cronbach's Alpha
1.	Professional loyalty	0.762
2.	Prevailing of unethical behavior	0.719
	Commitment of professionals	0.633
3.	Procurement unethical conduct done by contractors professionals	0.887
4.	Procurement unethical conduct done by owners professionals	0.904
5.	Tenderer collusion	0.795
	Unethical behavior at procurement stage	0.924

Cont. Table 3.5: Cronbach's Alpha for each field of the questionnaire

No.	Field	Cronbach's Alpha
6.	Corruption	0.896
7.	Lack of professional commitment	0.882
8.	Inefficient management	0.765
	Unethical behavior after awarding tender	0.933
9.	External factors	0.883
10.	Personal characteristics	0.694
11.	Improper control	0.667
	Factor lead to unethical conduct	0.831
	All paragraphs of the questionnaire	0.949

Thereby, it can be said that the researcher proved that the questionnaire was valid, reliable, and ready for distribution for the population sample.

Chapter 4: Results and discussion

This chapter discusses the results that have been collected from field surveys of one hundred and sixty two questionnaires - nineteen governmental institutions, twenty two municipals, thirty seven NGO's and eighty four consultant firms responded. Section one represents the profiles and all necessary information about the respondents. Section two designed to attain the objectives in this research. These objectives aim to study the unethical behavior prevailing in the Gaza Strip.

4.1 Section one: organizational profiles

This section mainly designed to provide general information about the respondents in terms of type of work, work location, Position, years of experience, years of employed in organization and qualification.

4.1.1 Type of institutions.

The results in table 4.1 show that the institution types were 11.7 % (19), 23% (22), 22.8 % (37) and 51.9% (84) for governmental institution, municipalities, NGO's and consultant firms respectively. Consultant firms where the largest target group among the other target groups.

4.1.2 Position of respondent

Table 4.1 shows that, 13 % (21) of the respondents were general manager, 19.1% (31) of respondents were project managers, 38.3% (62) of respondents were site engineer, 17.9 % (29) of respondents were architects, 4.3% (7) of respondents were surveyor and 7.4% (12) of respondents were others, where more than 50% of the respondents have key positions that insure quality information.

4.1.3 Respondent's year experience with their institutions

Table 4.1 shows that, 25.9% (42) of respondents from the total sample have years of experience less than 5 years. 30.9 % (50) of respondents from the total sample have years of experience between 5-10 years. 33.3 % (54) of respondents from the total sample have years of experience between 11-20 and 9.9 % (16) of respondents from the total sample have years of experience more than 20. It should be noted that almost 75% of the respondent had more than 5 years experience which means that target group had the enough experience.

Table 4.1: Respondents' profile

General information	Frequency	Percentage
Type of institution		
Ministry	19	11.7
Municipalities	22	13.6
NGO's	37	22.8
Consultant firms	84	51.9
Organization "location"		
North area	10	6.2
Gaza	101	62.3
Middle Area	18	11.1
Khan Younes	27	16.7
Rafah	6	3.7
Respondent position		
General manager	21	13.0
Project manager	31	19.1
Site Eng	62	38.3
Architect	29	17.9
Surveyor	7	4.3
Others	12	7.4
Respondent experience		
Less than 5 years	42	25.9
5-10 years	50	30.9
11-20 years	54	33.3
More than 20 years	16	9.9
Years of employed in organization		
Less than 2 years	43	26.5
2-5 years	69	42.6
6-10 years	28	17.3
More than 10 years	22	13.6
Respondent qualification		
Doctor	6	3.7
Master	25	15.4
Bachelor	118	72.8
Others "Diploma"	13	8.0
Respondent age		
25-30	56	34.6
31-35	38	23.5
36-40	22	13.6
Up to 40	46	28.4

4.1.4 Respondent's qualification

Table 4.1 shows that 3.7% (6) of the respondents have PhD, 15.4% (25) of the respondents have master degrees, 72.8% (118) of respondents have bachelors and 8% (13) of respondent have "diploma" or other, that gives an indication that the qualifications of the respondents qualify them to give good opinions.

4.1.5 Organization location

Table 4.1 shows that 6.2% (10) of the respondents exist in northern aria, 62.3% (101) of the respondents in Gaza, 11.1% (18) of respondents in the middle area, 16.7% (27) Khan Younes and 3.7% (6) of respondent in Rafah.

4.1.6 Respondent's years of employed in organization

Table 4.1 shows that 26.5% (43) of the respondents have less than 2 years working with organization, 42.6% (69) of the respondents have 2-5 working years, 17.3% (28) of respondents have 6-10 working years and 13.6% (22) of respondent have more than 10 years of working.

4.1.7 Respondent's age

Table 4.1 shows that 34.6% (56) of the respondents ages are ranges from 25 to 30 years old, 23.5% (38) of the respondents ages are ranges from 31 to 35 years old. 13.6% (22) of the respondents ages are ranges from 36 to 40 years old and 28.4% (46) of the respondents ages up to 40 years old.

4.2 Factor analysis

This section illustrated the results of factor analysis for:

- The commitment of professionals,
- Unethical conduct by professionals in construction industry
- Factors lead to unethical behavior.

A. The commitment of professionals

Questionnaire responses were checked using the statistical package for the social sciences (SPSS) version 20.0. First data suitability was assessed using a measure of sampling adequacy. Table (4.2) shows that the result of $KMO = 0.694$, which fall into the region of being superb; so we would be confident that factor analysis is appropriate for these data. Approx. Chi-Square and df were used to calculate p- value which decided if the factor analysis could be used or not.

For these data, Bartlett's test is highly significant ($P\text{-value} < 0.001$), and therefore exploratory factor analysis is appropriate.

Table 4.2 KMO and Bartlett's Test for commitment of professionals

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.694
Bartlett's Test of Sphericity	Approx. Chi-Square	346.287
	df	36
	P-value	< 0.001

Table (4.3) lists the eigenvalues associated with each linear attribute before extraction, after extraction and after rotation. Before extraction, SPSS has identified 9 linear attributes which listed in table (3.3) within the data set. The eigenvalues

associated with each attribute represent the variance explained by the particular linear attributes and SPSS also displays the eigenvalue in terms of the percentage of the variance explained. Column rotation sums of squared loading represent the percentage of the variance for the factors SPSS which get from decreasing the attributes (so, factor 1 named professionals loyalty explains 32.159% of total variance).

Table 4.3: Total variance for the commitment of professionals

Attribute	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.917	32.406	32.406	2.917	32.406	32.406	2.894	32.159	32.159
2	1.627	18.080	50.486	1.627	18.080	50.486	1.649	18.327	50.486
3	1.116	12.395	62.881						
4	0.912	10.133	73.014						
5	0.752	8.352	81.366						
6	0.549	6.100	87.465						
7	0.391	4.348	91.813						
8	0.371	4.117	95.931						
9	0.366	4.069	100.000						

It is clear that the first few attributes explain relatively large amounts of variance (especially attribute 1) whereas subsequent attributes explain only small amounts of variance. Figure (4.1) shows the scree plot, which leaves us with 2 factors named as *professional loyalty and prevailing of unethical conduct*, because the regression line is severe up to attribute 2 and becomes almost straight line after that. The eigenvalues associated with these factors are again displayed with the percentage of variance explained in the column labeled "*Extraction Sums of Squared Loadings*" In the final part of the table 4.3 (labeled "*Rotation Sums of Squared Loadings*"); the eigenvalues of the factors after rotation are displayed.

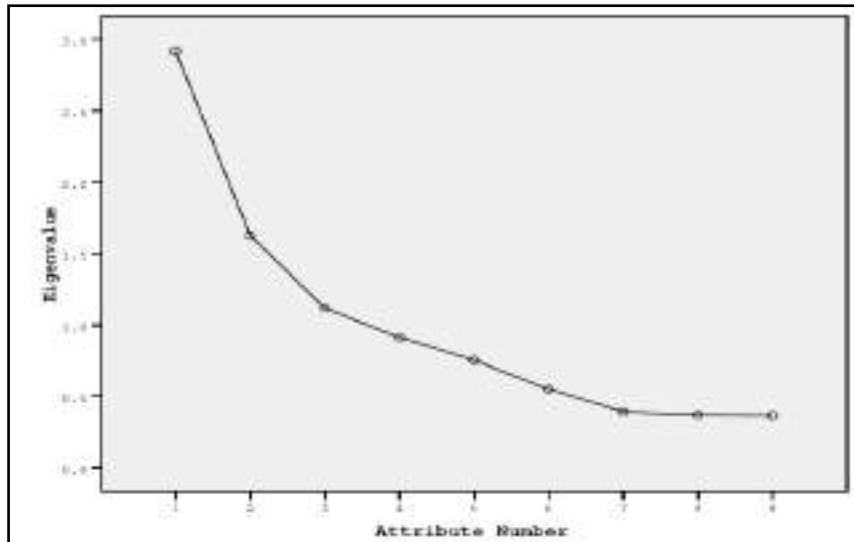


Figure 4.1: Scree plot for the commitment of professionals attributes

Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of the two factors is equalized. After extraction, factor 1 accounts for 32.159% of variance compared to 18.327% for the second factor. A *principal component analysis* was then conducted to reveal the presence of two distinct factors. To obtain interpretable results from these two factors, a *varimax rotation* was also performed as it a method of exploratory factor analysis.

B. Unethical conduct by professionals in construction industry

This section shows the results of factor analysis for subsection of unethical conduct by professionals in construction industry these are:

- procurement phase
- after awarding the tender

Firstly: at procurement phase

In order to minimize the 21 attributes to a small group, SPSS was used to know if factor analysis could be used, KMO and Bartlett's Test of Sphericity were used.

Table (4.4) shows the KMO and Bartlett's Test of Sphericity. For these data, KMO = 0.904, which fall into the region of being superb; so factor analysis is appropriate for these data. Bartlett's test is highly significant (P-value < 0.001), and therefore exploratory factor analysis is appropriate.

Table 4.4: KMO and Bartlett's Test for procurement phase

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.904
Bartlett's Test of Sphericity	Approx. Chi-Square	1833.814
	df	210
	P-value	< 0.001

Table (4.5) lists the eigenvalues associated with each linear attributes before extraction, after extraction and after rotation. Before extraction, SPSS has identified 21 linear attributes shown in table (3.3) within the data set.

Table 4.5: Total variance for unethical conduct at procurement phase

Attribute	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.526	40.600	40.600	8.526	40.600	40.600	5.042	24.011	24.011
2	2.785	13.261	53.861	2.785	13.261	53.861	4.841	23.053	47.064
3	1.353	6.445	60.306	1.353	6.445	60.306	2.781	13.241	60.306
4	1.038	4.944	65.250						
5	0.846	4.026	69.276						
6	0.782	3.722	72.998						
7	0.733	3.488	76.486						
8	0.620	2.951	79.438						
9	0.513	2.441	81.879						
10	0.489	2.330	84.208						
11	0.455	2.167	86.375						
12	0.429	2.041	88.417						
13	0.410	1.954	90.370						
14	0.336	1.601	91.971						
15	0.306	1.455	93.426						
16	0.279	1.327	94.754						
17	0.275	1.310	96.064						
18	0.238	1.133	97.197						
19	0.227	1.080	98.277						
20	0.207	0.988	99.265						
21	0.154	0.735	100.000						

Extraction Method: Principal Component Analysis.

Figure (4.2) shows the scree plot, which leaves us with 3 factors named as *procurement unethical conduct done by contractor professionals*, *procurement unethical conduct done by owner professionals* and *tenderer collusion*, because the regression line is severe up to attribute 3 and becomes almost straight line after that. After extraction, factor 1 (procurement unethical conduct done by contractor professionals) accounts for 24.011% of variance (compared to 23.053% and 13.241% respectively). A *principal component* analysis was then conducted to reveal the presence of three distinct factors. To obtain interpretable results from these three factors, a *varimax rotation* was also performed as a method of exploratory factor analysis.

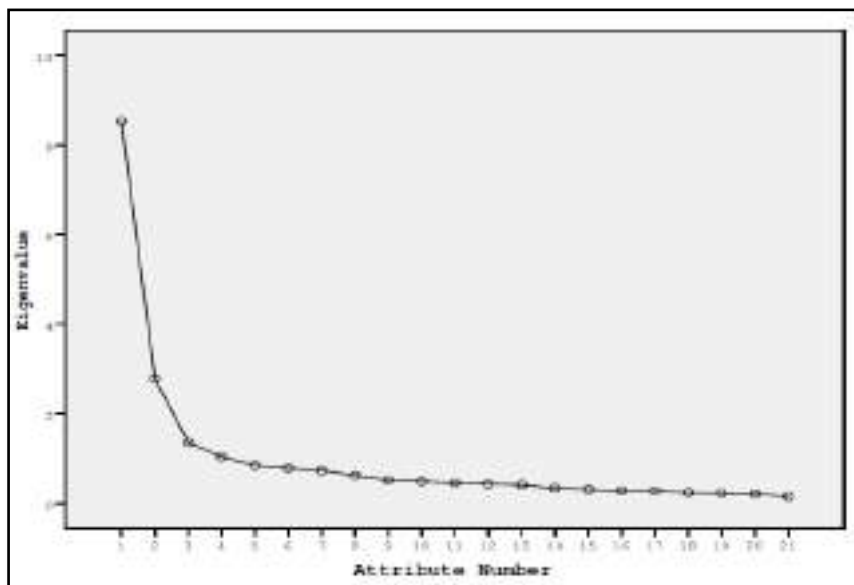


Figure 4.2: Scree plot for procurement phase attributes

Secondly: After awarding the tender

In order to minimize the 18 attributes listed in table 3.3 to a small group SPSS was used, to know if we could use factor analysis, KMO and Bartlett's Test of Sphericity was used.

Table (4.6) shows the KMO and Bartlett's Test of Sphericity. For these data, KMO = .898, which fall into the region of being superb; so we would be confident that factor analysis is appropriate for these data. Bartlett's test is highly significant (P-value < 0.001), and therefore factor analysis is appropriate.

Table 4.6: KMO and Bartlett's Test for after awarding the tender

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.898
Bartlett's Test of Sphericity	Approx. Chi-Square	1723.497
	df	153
	P-value	< 0.001

Table (4.7) lists the eigenvalues associated with each linear attribute before extraction, after extraction and after rotation. Before extraction, SPSS has identified 18 linear attributes within the data set.

Table 4.7: Total variance for unethical conduct after awarding the tender

Attribute	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.508	47.269	47.269	8.508	47.269	47.269	5.077	28.208	28.208
2	1.685	9.361	56.630	1.685	9.361	56.630	3.527	19.592	47.800
3	1.303	7.239	63.869	1.303	7.239	63.869	2.892	16.068	63.869
4	1.047	5.819	69.688						
5	0.801	4.453	74.140						
6	0.658	3.655	77.795						
7	0.593	3.293	81.089						
8	0.542	3.013	84.102						
9	0.462	2.566	86.668						
10	0.416	2.310	88.979						
11	0.367	2.038	91.016						
12	0.358	1.986	93.002						
13	0.304	1.688	94.690						
14	0.251	1.392	96.082						
15	0.221	1.229	97.311						
16	0.203	1.127	98.438						
17	0.168	0.931	99.369						
18	0.114	0.631	100.000						

Extraction Method: Principal Component Analysis.

Figure (4.3) shows the scree plot, which leaves us with 3 factors named as *corruption*, *lack of professionals commitment and inefficient management*, because the regression line is severe up to attribute 3 and becomes almost straight line after that. After extraction, factor 1 named as *corruption* accounts for 28.208% of variance (compared

to 19.592% and 16.068% respectively). A *principal component* analysis was then conducted to reveal the presence of three distinct factors. To obtain interpretable results from these three factors, a *varimax rotation* was also performed.

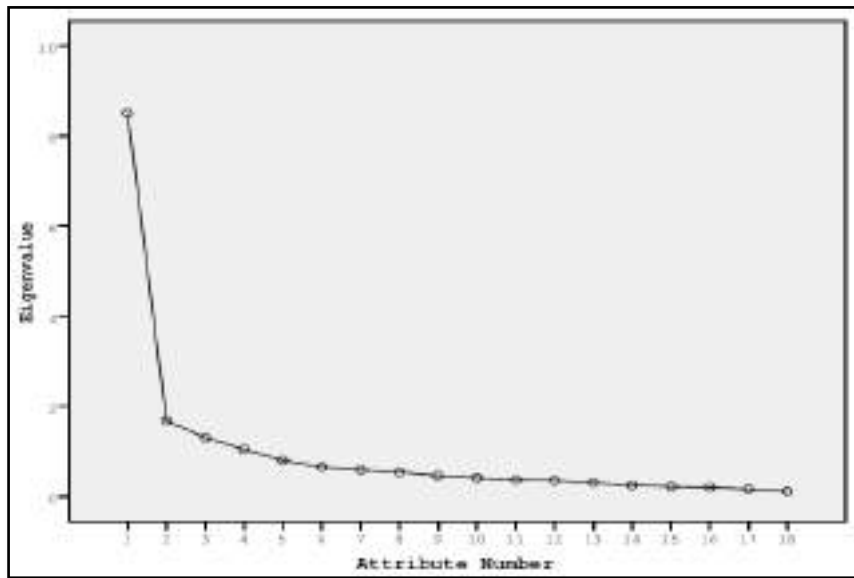


Figure 4.3: Scree plot for after awarding phase attributes

C. Factors lead to unethical behavior

In order to minimize the 28 attributes listed in table 3.3 to a small group SPSS was used, to know if we could use factor analysis, KMO and Bartlett's Test of Sphericity was used.

Table (4.8) shows the KMO and Bartlett's Test of Sphericity. For these data, KMO = .772, which fall into the region of being superb; so we would be confident that factor analysis is appropriate for these data. Bartlett's test is highly significant (P-value < 0.001), and therefore factor analysis is appropriate.

Table 4.8: KMO and Bartlett's Test for factors lead to unethical behavior

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.772
Bartlett's Test of Sphericity	Approx. Chi-Square	1719.548
	df	378
	P-value	< 0.001

Table (4.9) lists the eigenvalues associated with each linear attribute before extraction, after extraction and after rotation. Before extraction, SPSS has identified 28 linear attributes within the data set.

Table 4.9: Total variance for factor lead to unethical behavior

Attribute	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.898	24.635	24.635	6.898	24.635	24.635	6.417	22.918	22.918
2	3.120	11.144	35.779	3.120	11.144	35.779	3.032	10.830	33.748
3	2.211	7.897	43.677	2.211	7.897	43.677	2.780	9.929	43.677
4	1.872	6.687	50.364						
5	1.269	4.533	54.897						
6	1.261	4.505	59.402						
7	1.163	4.155	63.557						
8	0.967	3.454	67.010						
9	0.869	3.103	70.113						
10	0.792	2.827	72.940						
11	0.749	2.675	75.616						
12	0.687	2.453	78.069						
13	0.682	2.435	80.504						
14	0.619	2.210	82.714						
15	0.592	2.114	84.828						
16	0.548	1.958	86.786						
17	0.512	1.829	88.615						
18	0.477	1.702	90.317						
19	0.424	1.513	91.831						
20	0.404	1.444	93.275						
21	0.373	1.332	94.607						
22	0.284	1.013	95.621						
23	0.270	0.963	96.584						
24	0.238	0.851	97.435						
25	0.221	0.789	98.224						
26	0.195	0.698	98.922						
27	0.162	0.579	99.501						
28	0.140	0.499	100.000						

Figure (4.4) shows the scree plot, which leaves us with 3 factors named as *external factors, personal characteristics and improper control*), because the regression line is severe up to attribute 3 and becomes almost straight line after that. After extraction, factor 1 named *corruption* accounts for 22.918% of variance (compared to 10.830%,

and 9.929%, respectively). A *principal component* analysis was then conducted to reveal the presence of three distinct factors. To obtain interpretable results from these three factors, a *varimax rotation* was also performed.

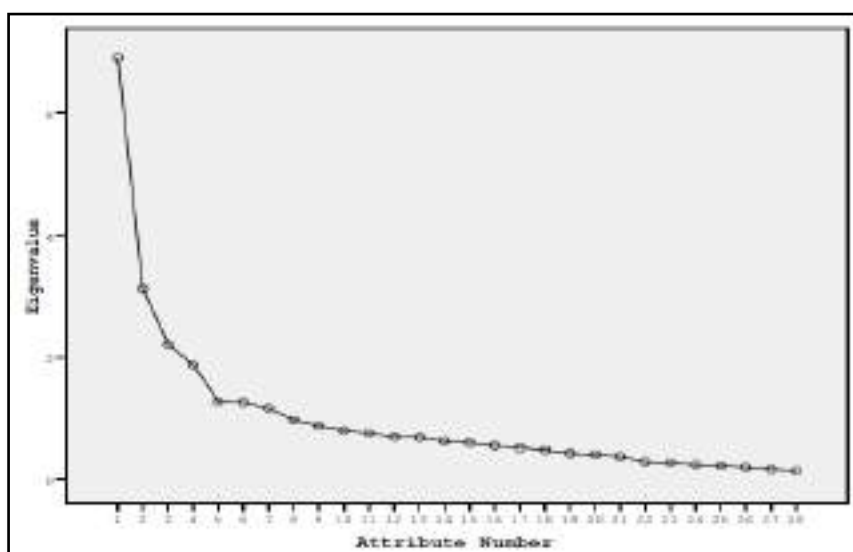


Figure 4.4: Scree plot for factors lead to unethical behavior

Factor interpretation

This section illustrated the interpretation of factor analysis for factors of each group and listed the factors and its attributes results from SPSS.

The commitment of professionals

The two-factor solution these are factor 1: professional loyalty, factor 2: prevailing of unethical conduct accounted for about 50.486% of the total variance. The factors were then examined to identify the number of attributes that were loaded on each factor. The two-factor solution, Factor 1: Professionals loyalty (Variance = 32.159%, Eigenvalue = 2.917; Cronbach's alpha = 0.762), Factor 2: Prevailing of unethical conduct (Variance = 18.327%, Eigenvalue = 1.627; Cronbach's alpha = 0.719) with respective loading scores is presented in Table (4.10).

The results were assessed and numbered in a descending order of the amount of variance to determine the underlying features. Each factor was subjectively labeled in accordance with sets of individuals attributes as shown in table 4.10.

The first factor, professionals loyalty, accounted for 32.159 % of the total variance and comprises 6 attributes indication the respondents' degree of professionals loyalty. The majority of attributes had a relatively high factor loading (≥ 0.561).

The second factor, prevailing of unethical conduct, accounted for 18.327 % of the total variance and comprises 2 attributes indication the respondents' degree of professionals loyalty. The majority of attributes had a relatively high factor loading (≥ 0.852).

Table 4.10: Factor profile for the commitment of professionals

Factor name	Factor loading	% Variance
Factor 1: Professionals loyalty		
Professionals have loyalty to their jobs.	0.778	32.159
Professional keeping the client properties away from missing or stealing.	0.761	
Professional deal with the workers fairly and squarely.	0.668	
Professional intends to build trust and confidence with clients and workers.	0.659	
Professional advises their clients when they believe that the project will not be success.	0.616	
Professionals have loyalty to their bosses and managers.	0.561	
Factor 2: prevailing of unethical conduct		
The overall level of unethical conduct in construction industry.	0.871	18.327
Temptation to act unethically during professional practices.	0.852	

Unethical conduct by professionals in construction industry

Firstly: At procurement phase

The three-factors solution these are factor 1: procurement unethical conduct done by contractor professionals, factor 2: procurement unethical conduct done by owner professionals and factor 3: tenderer collusion accounted for about 60.306% of the total variance. The three-factor solution, factor 1 procurement unethical conduct done by contractor professionals (Variance = 24.011%, Eigenvalue = 8.526; Cronbach's alpha = 0.887), factor 2: procurement unethical conduct done by owner professionals (Variance = 23.053%, Eigenvalue = 2.785; Cronbach's alpha = 0.904) and factor 3: Tenderer collusion (Variance = 13.241%, Eigenvalue = 1.353; Cronbach's alpha = 0.795) with respective loading scores is presented in Table (4.11).

The first factor, procurement unethical conduct done by contractor professionals, accounted for 24.011% of the total variance and comprises 11 attributes indication the respondents' degree of procurement Unethical conduct done by contractor professionals. The majority of attributes had a relatively high factor loading (≥ 0.508).

The second factor, procurement unethical conduct done by owner professionals, accounted for 23.053% of the total variance and comprises 7 attributes indication the

respondents' degree of procurement unethical conduct done by owner professionals. The majority of attributes had a relatively high factor loading (≥ 0.545).

The third factor, Tenderer collusion, accounted for 13.241% of the total variance and comprises 3 attributes indication the respondents' degree of Tenderer collusion. The majority of attributes had a relatively high factor loading (≥ 0.609).

Table 4.11: factor profile for unethical conduct at procurement phase

Factor name	Factor loading	% Variance
Factor 1: procurement Unethical conduct done by contractor professionals		
Bid shopping.	0.787	24.011
Under bidding.	0.782	
Overbilling.	0.734	
Bid rigging.	0.659	
Individuals or organizations undertaking work without adequate qualification/ experience/training.	0.618	
After the award of contract, reducing a subcontractor's quote to meet the budget fair and equitable.	0.589	
Cover price.	0.579	
Retender by the owner to reduce the price of the tender.	0.559	
Change order games.	0.526	
Deny compensation of tendering cost.	0.522	
Withdrawal of tender.	0.508	
Factor 2: procurement unethical conduct done by owner professionals		
Contract office tends to leak vital information on pricing to companies where they have interest.	0.829	23.053
Leaking information about the project budget for some contractors.	0.811	
Designers restrict the bid with specific commercial specification that benefits their relatives or friends when planning projects.	0.800	
Engineers/architects tend to include in their drawings, materials or structure not required in the project due to interest in sharing in the excess cost.	0.770	
Advertising bids on a particular category and another exception for private purposes.	0.752	
Failure to follow proper procedures in awarding the tender.	0.682	
Illegal award to contractor.	0.545	
Factor 3: Tenderer collusion		
Contractors accept money in order not to tender for contract has been invited to tender for.	0.794	13.241
Agree of one contractor to withdraw an offer he has made in exchange for money or other benefits.	0.720	
Collusive tendering.	0.609	

Secondly: After awarding the tender

The three-factor solution these are: factor 1 corruption, factor 2 lack of professional commitment and factor3 inefficient management accounted for about 63.869% of the total variance. The three-factor solution, Factor 1: corruption (Variance = 28.208%, Eigenvalue = 8.508; Cronbach's alpha = 0.896), Factor 2: Lack of professionals commitment (Variance = 19.592%, Eigenvalue = 1.685; Cronbach's alpha = 0.882)

and Factor 3: Inefficient management (Variance = 16.068%, Eigenvalue = 1.303; Cronbach's alpha = 0.765) with respective loading scores is presented in Table (4.12).

The first factor, corruption, accounted for 28.208% of the total variance and comprises 7 attributes indication the respondents' degree of corruption. The majority of attributes had a relatively high factor loading (≥ 0.576).

The second factor, lack of professional commitment, accounted for 19.592% of the total variance and comprises 7 attributes indication the respondents' degree of lack of professional commitment. The majority of attributes had a relatively high factor loading (≥ 0.559).

The third factor, inefficient management, accounted for 16.068% of the total variance and comprises 3 attributes indication the respondents' degree of inefficient management. The majority of attributes had a relatively high factor loading (≥ 0.546).

Table 4.12: factor profile for unethical conduct after awarding the tender

Factor name	Factor loading	% Variance
Factor 1: corruption		
Fraud like illogical request for time extensions, theft of materials.	0.797	28.208
Fraud in the preparation of the daily report for the purpose of compensating later.	0.700	
Negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad documentation unfair treatment of contractor.	0.698	
Fraud in determining the amount of the item in the table of quantities for financial purposes.	0.697	
Disclosure of confidential project baseline.	0.690	
Bribery in form of cash inducement, gift, favors, trips and appointments in the construction industry.	0.662	
Scarifying the national interest for any person gain.	0.576	
Factor 2: Lack of professionals commitment		
Employers attempting to force their employees to do unethical conduct.	0.787	19.592
The engineers don't recognize the safety of public when considering personal/ organizational benefits.	0.732	
Tax evasion in the project.	0.680	
Provide materials without tax invoices.	0.626	
Compromise on quality or increase the cost.	0.610	
Bid cutting.	0.570	
Breach of professional responsibility.	0.559	
Factor 3: Inefficient management		
Contractor's professional don't disposed waste, in suitable and safe ways which is friendly with the environment.	0.792	16.068
Professionals don't hold paramount the safety, health and welfare of the labor inside the work site.	0.790	
The engineers work on part-time basis without the consent of the employer.	0.578	
Contractor's eloping from their duties after delivering the project.	0.546	

Factor lead to unethical behavior

The three-factor solution these are: factor 1 external factors, factor 2 personal characteristics and improper control accounted for about 43.677% of the total variance. The three-factor solution, Factor 1: External factors (Variance = 24.011%, Eigenvalue = 8.526; Cronbach's alpha = 0.883), Factor 2: Personal characteristics (Variance = 23.053%, Eigenvalue = 2.785; Cronbach's alpha = 0.694) and Factor 3: Improper control (Variance = 13.241%, Eigenvalue = 1.353; Cronbach's alpha = 0.667) with respective loading scores is presented in Table (4.13).

The first factor, External factors, accounted for 22.918% of the total variance and comprises 12 attributes indication the respondents' degree of external factor lead to unethical behavior. The majority of attributes had a relatively high factor loading (≥ 0.536).

The second factor, Personal characteristics, accounted for 10.830% of the total variance and comprises 6 attributes indication the respondents' degree of Personal characteristics. The majority of attributes had a relatively high factor loading (≥ 0.511).

The third factor, improper control, accounted for 9.929% of the total variance and comprises 4 attributes indication the respondents' degree of improper control. The majority of attributes had a relatively high factor loading (≥ 0.541).

Table 4.13: Factor profile for factor lead to unethical behavior

Factor name	Factor loading	% Variance
Factor 1: External factors		
Under pay most of consultancy fees.	0.726	24.011
The absence of strict contractual laws.	0.718	
Lack of high executive control.	0.712	
Insufficient legislative enforcement.	0.697	
Inability supervision to control those behaviors.	0.695	
Project complexity.	0.670	
Economic downturn.	0.668	
Size of project.	0.637	
Illegal award to contract.	0.628	
Political systems.	0.562	
Insufficient education from professional institution.	0.558	
Location of the project (the border area).	0.536	
Factor 2: Personal characteristics		
Excessive love for money (greed).	0.722	23.053
Personal culture or personal behavior.	0.619	
Profit maximization by contractor.	0.616	
Prejudice against workers.	0.571	

Cont. Table 4.13: Factor profile for factor lead to unethical behavior

Factor name	Factor loading	% Variance
Poverty.	0.544	
Professional indiscipline.	0.511	
Factor 3: Improper control		
Discrimination between workers.	0.751	13.241
Non-availability of raw materials in market freely.	0.716	
Overlapping between personal and professional ethics.	0.580	
Salaries of workers are delayed.	0.541	

4.3 Section two: Most prevailing unethical behavior in construction industry.

Research objective: To identify the most unethical behavior among professionals in construction projects in Gaza Strip with more concentrated on procurement process.

This part consists of results and discussion of unethical behavior prevailing among professionals in Gaza Strip, these behaviors were divided to three groups, the first group is related to professional commitment and overall level of unethical conduct in construction industry, the second group about unethical conducted by professionals at procurement stage, the third group about unethical conducted by professionals after awarding tender.

Part one : the commitment of professionals

Table (4.14) shows the relative important index and the ranks of factors, the most two important factors and the least important factors will be discussed in each group related to the research objectives and research questionnaire.

The first factor named professionals loyalty has mean equals 3.18 (63.67%), Test-value = 2.28, and P-value = 0.011 which is smaller than the level of significance. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. This factor compromise six attributes; this result reflects the satisfaction of respondents about the professionals' loyalty and gives a good indication about professional commitment in Gaza Strip.

From table 4.14 the results shows that *'keeping the client properties away from missing or steeling'* was ranked at first place and *'Professionals have loyalty to their bosses and managers'* was ranked in the second place of this group which interpreted that professionals have good commitment to their client and bosses and gave all their loyalty to them as mentioned in Zarkada et al. (1998), King et al. (2008) and mason

(2009) that it is the basic principle of the code of conduct which could control the interrelationships and decrease the disputes. *'Professional deal with the workers fairly and squarely'* ranked in the last place which reflect that workers don't have their rights on their jobs as Vee and Skitmore (2003) who talked about fairness on dealing of workers and the top five components which must apply to decrease the unethical behavior which improve the reputation of the industry.

Dealing with worker fairly is one of basic principle which must spread on construction industry as it strengthen the relationships inside the organization and between another organizations this arise good behavior among all parties, the result give good indication about this attribute although this result from researcher viewpoints didn't reflect the actual it could be because of respondent afraid to lose their jobs or any inherent reason.

The second factor named prevailing of unethical behavior has the mean equals 3.17 (63.40%), Test-value = 2.71, and P-value=0.003 which is smaller than the level of significance. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. This results reflect that respondents agree that there is prevailing of unethical conduct on construction industry.

'The overall level of unethical conduct in construction industry' ranked at first place in this group, the respondents refer that the level of unethical conduct is very prevailing in the industry, which compatible with Ameh and Odusami (2010), Ssegawa and Abueng (N.D), Alutu and Udhawuve (2009), Hassim et al. (2010), Azhar et al. (2011), FMI/CMAA (2004), Olusegun et al. (2011), Ehsan et al. (2009) and Moylan (2008) results, as unethical issues are wide spread all over the world, actions must be taken to reduce this behavior and give rules to follow to improve working in this industry, 'temptation to act unethically during professional practices' ranked in the second place. The prevailing of unethical behavior have the first rank all overall the world which showed by all researchers around the world. This prevailing of like unethical behaviors in Gaza Strip increased after the Siege, rare of projects and raw material and increase of Unemployment give reasons to act unethically, this result assessed the researcher viewpoints and should be handled strictly.

Table 4.14: Means and test values for commitment of professionals

Item	Mean	RII (%)	Test value	P-value (Sig.)	Rank
Professional intends to build trust and confidence with clients and workers.	3.44	68.77	6.10	0.000*	1
Professionals have loyalty to their bosses and managers.	3.35	67.08	5.31	0.000*	2
Professionals have loyalty to their jobs.	3.28	65.68	3.78	0.000*	3
Professional advises their clients when they believe that the project will not be success.	3.23	64.57	3.27	0.001*	4
Professional keeping the client properties away from missing or stealing.	2.97	59.38	-0.38	0.353	5
Professional deal with the workers fairly and squarely.	2.83	56.54	-2.67	0.004*	6
Professionals loyalty	3.18	63.67	2.28	0.011*	
The overall level of unethical conduct in construction industry.	3.23	64.57	4.23	0.000*	1
Temptation to act unethically during professional practices.	3.11	62.24	1.76	0.039*	2
Prevailing of unethical behavior	3.17	63.40	2.71	0.003*	
All paragraphs of the field	3.18	63.60	2.46	0.007*	

Part two: professionals unethical conduct at procurement phase

This part is divided into three factors and its attributes. Table (4.15) shows the mean of the first factor procurement unethical conducted done by contractor professionals equals 3.16 (63.26%), Test-value = 2.00, and P-value = 0.023 which is smaller than the level of significance. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. This factor consists of eleven attributes, table (4.15) shows that *'after the award of contract, reducing a subcontractor's quote to meet the budget fair and equitable'* ranked in the first place, this result agree with May et al. (2001) and Zarkada et al. (1998) who's mentioned that reducing a subcontractor's quote is unethical behavior from subcontractors' viewpoint which has negative impact on them. This behavior made pressure on subcontractors and could have negative impact on quality and time of the project.

'Bid shopping' ranked in the second place which compatible with Hassim et al. (2010), Hamzah et al. (2010) and Ray et al. (1999), bid shopping have negative impact on projects as it could affect cost and also quality of project, because the subcontractor would less estimate the price so he forced to cheat in materials or steel it, it encourage another unethical conduct.

'Change order games' ranked in the third place. These attributes are the major unethical conduct at procurement phase appears in the study could make different problems in the industry and rise disputes between parties of work. *'Withdrawal of tender'* ranked in the last place indicate that it isn't common Phenomenon in Gaza Strip in contrary with Hamzah et al. (2010) which ranked in the first five common issues in Malaysia and agreed with May et al. (2001) as it is rare issues. It's clear that result indicated that owner's professionals accused the contractors of all faults in this sector but researcher thinks that also the owner's professionals responsible about unethical conduct in the industry.

It is clear that after Al-Aqsa intifada and siege the chance for contractors to have a job is very low, according to this most of them fight even if they will use illegal ways to have a project. Main contractor considered the reducing a subcontractor's quote is an acceptable practice, because if this subcontractor refused to work like this someone else will agree.

Second factor procurement unethical conduct done by owner professionals the results shows the mean of factor equals 2.82 (56.38%), Test-value = -1.78, and P-value = 0.038 which is smaller than the level of significance. The sign of the test is negative, so the mean of this field is significantly smaller than the hypothesized value 3. It is concluded that the respondents disagreed to this factor.

This factor consists of seven attribute, table (4.15) shows *'Engineers/architects tend to include in their drawings, materials or structure which are not required in the project to benefit from sharing in the excess cost'* ranked at the first place, this factor agreed with the results of Alutu and Udhawuve (2009), this spread of conduct could lead to financial problems and negative impact on the project and completion of works at results this attribute has a negative sign (-0.09) but it is small value this mean it has neutral respondent, the second attribute ranked is *'Leaking information about the project budget for some contractors'*, in third place *'supervised office leak vital information on pricing to the interested companies'* and *'Designers restrict the bid with specific commercial specifications that benefits their relatives or friends when planning projects.'* Which in line with King et al. (2008) and Alutu and Udhawuve (2009), leaking information about the prices or budget of the project led to unfair contract also affect the quality of the projects as the tender award to whom doesn't

deserved. The negative sign indicates disagreement or neutral of respondent, this attribute against owner professionals which interpreted this result.

Third factor is tenderer collusion, the result shows the mean of tenderer collusion equals 2.89 (57.88%), Test-value = -1.93, and P-value = 0.027 which is smaller than the level of significance. The sign of the test is negative, so the mean of this field is significantly smaller than the hypothesized value 3. It is concluded that the respondents disagreed with this factor which consists of three attribute. Table (4.14) shows that '*Collusive tendering*' ranked at the first attribute in this factor which is agree with the result of Oyewobi et al. (2011), King et al. (2008) and Hassim et al. (2010) which described that collusive tendering was ranked in the major five unethical conducts, collusive tendering positioned at top in Gaza, it is common in the developing countries results which could be as a culture on these countries. That brings a lot of problems to the industry.

'*Contractors accept money in order not to tender for specific tender*' is ranked at the second place which agreed with the result of Zarkada et al. (1998), this behavior could be a result of poverty or bad situation in Gaza Strip or because the contractor think that there is no fairness on tendering all of these lead to behave unethically.

Table 4.15: Means and test values for professionals' unethical conduct at procurement phase

Item	Mean	RII (%)	Test value	P-value (Sig.)	Rank
After the award of contract, reducing a subcontractor's quote to meet the budget fair and equitable.	3.54	70.86	6.70	0.000*	1
Bid shopping.	3.52	70.37	5.73	0.000*	2
Change order games.	3.22	64.44	2.90	0.002*	3
Under bidding	3.22	64.32	2.30	0.011*	4
Retender by the owner to reduce the price of the tender.	3.22	64.32	2.50	0.006*	4
Individuals or organizations undertaking work without adequate qualification/ experience/training.	3.19	63.70	1.85	0.032*	6
Overbilling.	3.17	63.38	1.86	0.031*	7
Bid rigging.	3.14	62.84	1.15	0.125	8
Cover price.	3.04	60.74	0.40	0.345	9
Deny compensation of tendering cost.	2.96	59.25	-0.48	0.315	10
Withdrawal of tender.	2.58	51.60	-4.25	0.000*	11

Table 4.15: Means and test values for professionals' unethical conduct at procurement phase

Item	Mean	RII (%)	Test value	P-value (Sig.)	Rank
procurement Unethical conduct done by contractor professionals	3.16	63.26	2.00	0.023*	
Engineers/architects tend to include in their drawings, materials or structure not required in the project due to interest in sharing in the excess cost.	2.96	59.14	-0.28	0.388	1
Leaking information about the project budget for some contractors.	2.94	58.77	0.00	0.500	2
Contract office tends to leak vital information on pricing to companies where they have interest.	2.92	58.40	0.00	0.500	3
Designers restrict the bid with specific commercial specification that benefits their relatives or friends when planning projects.	2.92	58.40	-0.09	0.464	3
Advertising bids on a particular category and another exception for private purposes.	2.90	58.02	-0.57	0.285	5
Failure to follow proper procedures in awarding the tender.	2.69	53.83	-2.82	0.002*	6
Illegal award to contractor.	2.39	47.88	-5.95	0.000*	7
procurement unethical conduct done by owner professionals	2.82	56.38	-1.78	0.038*	
Collusive tendering.	3.22	64.38	2.28	0.011*	1
Contractors accept money in order not to tender for contract has been invited to tender for.	2.76	55.13	-2.32	0.010*	2
Agree of one contractor to withdraw an offer he has made in exchange for money or other benefits.	2.70	54.00	-3.25	0.001*	3
Tenderer collusion	2.89	57.88	-1.93	0.027*	
All paragraphs of the field	3.01	60.19	0.56	0.289	

Part three: professionals unethical conduct after awarding the tender

This part discusses three factors, table (4.16) shows that the first factor named corruption has mean equals 3.17 (63.40%), Test-value = 3.28, and P-value = 0.001 which is smaller than the level of significance. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It's concluded that the respondents agreed to the factor corruption. It has seven attribute which is ranked according to relative important index, table (4.16) shows that '*Scarifying the*

national interest for any personal benefits' ranked first which is agree with Ehsan et al. (2009) result, love of money and greed and lack of applicable rules cause the person carless about the national interest, this lead to negative impact on society.

'Negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad documentation and unfair treatment of contractor' ranked in the second place which agree with King et al. (2008), Azhar et al. (2011) and Hassim et al. (2010) results who described negligence as spread issues in their countries. *'Bribery in form of cash inducement, gift, favors, trips and appointments in the construction industry'* listed in the last place in this group this contrary with Vee and Skitmore (2003), King et al. (2008), Hamzah et al. (2010), Hassim et al. (2010) and Ray et al. (1999) that bribery ranked as major behavior spread in developed and developing countries with its negative impact on persons, society and project execution.

Second factor named Lack of professional's commitment, table (4.16) shows that mean of lack of professional's commitment equals 2.92 (58.35%), Test-value = -1.70, and P-value = 0.044 which is smaller than the level of significance. The sign of the test is negative, so the mean of this field is significantly smaller than the hypothesized value 3. It's concluded that the respondents disagreed to the factor or little agreement on it. Table (4.16) shows that *'Provide materials without tax invoices'* ranked as the first issue faced construction industry, this attribute is added by experts of construction field which causes big problem with the government and the absence of strict rules is the cause of prevailing this issue. *'Compromise on quality or increase the cost'* ranked as second issue which agreed with Mishra and Mittal (2011) results which has an effect on the quality of the project and cause project failure. *'Employers attempting to force their employees to do unethical conduct'* ranked as the last issue in this group, it is on line with Zarkada et al. (1998).

Third factor named inefficient management, table (4.16) shows that the mean of this factor equals 3.42 (68.38%), Test-value = 6.63, and P-value = 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It's referred that the respondents agreed with this factor. This factor divided into four attributes. Table (4.15) shows that *'Contractor's professional don't disposed waste, in suitable and safe ways which is friendly with the environment'* ranked as the first issue

prevailed in construction, this issue has very bad impact on environment and health of public is consistent with Pearl et al. (2005) result, which described the most unethical conduct that has bad impact on society. Society culture and personal characteristics are major factors which lead to such action. *'The engineers work on part-time basis without the consent of the employer'* ranked as the last issue and not widely spread in Gaza this contrary with King et al. (2008) who represented it as one of top three important issues faced the industry.

Table 4.16: Means and test values for professionals unethical conduct after awarding the tender

Item	Mean	RII (%)	Test value	P-value (Sig.)	Rank
Scarifying the national interest for any person gain.	3.45	69.01	5.77	0.000*	1
Negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad documentation unfair treatment of contractor.	3.38	67.67	4.34	0.000*	2
Fraud in the preparation of the daily report for the purpose of compensating later.	3.24	64.81	2.96	0.002*	3
Fraud in determining the amount of the item in the table of quantities for financial purposes.	3.24	64.81	2.63	0.004*	3
Fraud like illogical request for time extensions, theft of materials	3.12	62.36	2.18	0.015*	5
Disclosure of confidential project baseline.	2.93	58.52	-0.09	0.462	6
Bribery in form of cash inducement, gift, favors, trips and appointments in the construction industry.	2.83	56.67	-1.21	0.114	7
Corruption	3.17	63.40	3.28	0.001*	
Provide materials without tax invoices.	3.05	60.99	0.61	0.271	1
Compromise on quality or increase the cost.	3.04	60.88	0.71	0.240	2
Tax evasion in the project.	2.99	59.88	0.00	0.500	3
Bid cutting	2.94	58.89	-0.10	0.462	4
The engineers don't recognize the safety of public when considering personal/ organizational benefits.	2.93	58.64	-0.28	0.390	5
Breach of professional responsibility	2.81	56.17	-2.04	0.021*	6
Employers attempting to force their employees to do unethical conduct.	2.66	53.21	-3.75	0.000*	7
lack of professionals commitment	2.92	58.35	-1.70	0.044*	
Contractor's professional don't disposed waste, in suitable and safe ways which is friendly with the environment.	3.78	75.53	8.22	0.000*	1
Professionals don't hold paramount the safety, health and welfare of the labor inside the work site.	3.57	71.38	6.34	0.000*	2
Contractor's eloping from their duties after delivering the project	3.31	66.21	3.87	0.000*	3
The engineers work on part-time basis without the consent of the employer.	3.04	60.75	1.15	0.126	4
Inefficient management	3.42	68.38	6.63	0.000*	
All paragraphs of the field	3.13	62.53	2.39	0.008*	

4.4 Section three: Impact of unethical behavior on construction industry.

Research objective:

- Evaluate the negative impact of unethical behavior in life cycle of project in construction industry and possible improvement.
- Evaluate the most serious phase in the project life cycle affected by unethical practices.

4.4.1 Impact of unethical behavior on cost

Table 4.17 shows that, 67.3% (109) of respondents from the total sample agreed that there is a positive relationship between ethical behavior and long- term profitability of the company and 64.2% (104) of respondents also agree for the short term this result consistent with Azhar et al. (2011), Hamimah et al. (2011), Mlinga (N.D), CIOB (2006) result, this lead to that enhancing ethical behavior will improve profitability.

Table 4.17: Impact of unethical behavior on cost

	Yes		No	
	Frequency	Percent	Frequency	Percent
Do you think there is a positive relationship between ethical behavior and long- term profitability of the company.	109	67.3	53	32.7
Do you think there is a positive relationship between ethical behavior and short- term profitability of the company.	104	64.2	58	35.8

Table 4.18 illustrated that unethical behavior cost the company from 3 to 5 percent of annual revenues according to 38.9% (63) of the respondent and from 1 to 2 percent according to 34.6% (56) of respondent.

Table 4.18: Annual revenues loss due to unethical behavior

How much you believed these practices cost your company every year as a percent of annual revenues	Frequency	Percent
1-2 %	56	34.6
3-5 %	63	38.9
6-7%	23	14.2
8-10%	20	12.3
Total	162	100.0

The result compatible with Hamimah et al. (2011), Mlinga (N.D), CIOB (2006) results which give an indication that unethical behavior affects negatively the cost of the projects.

4.4.2 Impact of unethical behavior on project quality

Table 4.19 shows that 52.5% (85) of respondents evaluated the quality of construction industry in Gaza Strip as moderate and 23.5% (38) as low. The result agreed with Hamzah et al. (2010) results. The quality of projects is very important aspect, by improving it the projects will enhance and unethical behavior decrease the quality this is an indication to give priority to improve unethical behavior to arise with quality of projects.

Table 4.19: Evaluation of Gaza Strip projects quality

How do you evaluate the quality of construction industry in Gaza Strip	Frequency	Percent
Very low	12	7.4
Low	38	23.5
moderate	85	52.5
High	25	15.4
very high	2	1.2
Total	162	100.0

Table 4.20 illustrate that unethical practices highly affect the quality and production efficiency according to 49.4% (80) of respondents.

Table 4.20: Effect of unethical practices on the quality and production efficiency

Do you think that unethical practices affect the quality and production efficiency in the construction industry	Frequency	Percent
Very low	-	-
Low	12	7.4
moderate	46	28.4
High	80	49.4
very high	24	14.8
Total	162	100.0

King et al. (2008), Hamzah et al. (2010) and Mishra and Mittal (2011) pointed that issue of professionals ethics plays an important role in quality related problems in construction projects which consistent with the previous results.

4.4.3 Organization ethics

Table 4.21 demonstrated organization ethics, where 58.6% (95) of respondents agreed that unethical behavior gained from work, 85.8% (139) indicated that personal ethics are taking over business ethics but 67.9% (110) of respondents haven't deal with an

organization including unethical items these result consistent with FIM (2004) and CIOB (2006) survey. 92% of respondents think that improve ethical practice for the professionals could improve ethical performance in construction projects in Gaza Strip, this agree with Moylan (2008) result. 68.5% (111) of respondents mentioned that the organization didn't add special items outside the legal requirements for contracting, 53.1% (86) of respondents said that there is no a clause in the tender documents or contract providers for the control or prevent unethical behavior with the contractor, these results in the same line with Ehsan et al. (2009) results.

Table 4.21: Organization ethics

	Yes		No	
	Frequency	Percent	Frequency	Percent
Do you think that unethical behavior can be gained from the work.	95	58.6	67	41.4
Do you think that "personal ethics" are taking over "business ethics" in construction projects in Gaza Strip.	139	85.8	23	14.2
Have you ever deal with an organization including unethical items in its contracts in Gaza Strip.	52	32.1	110	67.9
Do you think that improving ethical practice for the professionals could improve ethical performance in construction projects in Gaza Strip.	149	92.0	13	8.0
Does your organization adding special items outside the legal requirements for contracting.	51	31.5	111	68.5
Is there a clause in the tender documents or contract provides for the control or prevent unethical behavior to the contractor.	76	46.9	86	53.1

The majority of opinion indicated that unethical behavior is a personality trait rather than gained from work environment.

Table 4.22 shows that 42.6% (69) of respondents evaluated the level of employees' ethical awareness as moderate and 27.8% (45) described it as high, which give positive vision to enhance the ethical behavior to acceptable levels. This result is compatible with Ssegawa and Abueng (N.D) result.

Table 4.22: Level of ethical awareness

What level of ethical awareness do the employees in your organization have	Frequency	Percent
Very low	10	6.2
Low	25	15.4
moderate	69	42.6
High	45	27.8
very high	13	8.0
Total	162	100.0

Table 4.23 shows that 35.4% (56) of respondents described that the major difficulty to develop strong ethical awareness that unethical behavior is prevailing trend within the industry, and 32.3% (51) because it has negative effect on short-term profit this consistent with Ehsan et al. (2009) findings.

Table 4.23: What are the difficulties for developing a strong ethical awareness in your organization

What are the difficulties for developing a strong ethical awareness in your organization	Frequency	Percent
Lack of support from management.	43	27.2
Negative effect on short-term profit.	51	32.3
Customs and traditions that restrict such an approach.	43	27.2
Poor personal motivation.	39	24.7
Prevailing trend within the industry.	56	35.4
Negative effect on personal relationship.	44	27.8
Else.	11	7.0

The results represented that personal treats have negative impact on spreading ethical awareness through organizations; so each and every professional body should work together to solve these problems. Unless the professionals have the initiative to reduce and avoid the unethical practice themselves, the application of the strict rules and regulation will be useless.

4.4.4 Ways to improve ethical behavior

Table 4.24 illustrated that 53.1% (86) of respondents have an ethical code of conduct, 93% (80) of respondents organization applied this code, this is contrary with Ehsan et al. (2009), but consistent with Ssegawa and Abueng (N.D), 93.2 % (151) think that existence of ethical code can improve construction industry in Gaza Strip this is compatible with Ssegawa and Abueng (N.D), Olusegun et al. (2011), Azhar et al. (2011), Hassim et al. (2010), Mishra and Mittal (2011) and FIM (2004) and CIOB (2006).

Table 4.24: Improve ethical behavior

	Yes		No	
	Frequency	Percent	Frequency	Percent
Do you have an ethical code of conduct in your organization.	86	53.1	76	46.9
If yes, Does this code applied.	80	93.0	6	7.0
Do you think existence of ethical code can improve construction industry in Gaza Strip.	151	93.2	11	6.8
Do you think existence of ethical code can improve construction industry in Gaza Strip.	115	71.0	47	29.0

Table (4.25) show that 68.1% (32) of respondents attributed the difficulty of applying code of conduct to changing in Political and Economical conditions and 36.2% (17) attributed to Weak System (Personalities being more powerful than system). This is compatible with Ssegawa and Abueng (N.D), Olusegun et al. (2011), Azhar et al. (2011), Hassim et al. (2010), Mishra and Mittal (2011) and FIM (2004) and CIOB (2006).

Table 4.25: Reason for the difficulty of applying code of conduct

If the answer of the above question is No, Because of	Frequency	Percent
Strict rules.	4	8.5
Weak System (Personalities being more powerful than system).	17	36.2
Inflexible governmental rules.	8	17.0
Changing in Political and Economical conditions.	32	68.1
Other	4	8.5

Table 4.26 reflected that 65.4 % (106) of the respondents will try to correct the unethical behavior and 30.2 % (49) will report to top management.

Table 4.26: Action taken toward unethical behavior

What will you do if you witness unethical behavior	Frequency	Percent
Keep silent	9	5.6
Try to correct it	106	65.4
Report to top management	49	30.2
Report to judiciary bodies	8	4.9

Table 4.27 shows that 53.3% (81) of respondents convinced that the best way to enhance ethics is to apply heavier penalties and 45.4% (69) with ethical awareness dissemination. The results incompatible with Hamzah et al. (2010) findings. Although there are various methods and ways to solve the unethical conducts among the professionals, the best ways is to make sure that the professionals are not being forced by the code and let them have the freedom to practice good ethics. Besides that, the

involvement by the professionals on the concept and ways in reducing the problems will be essential and this will guarantee the success of the methods.

Table 4.27: How do you think we could improve ethical issues in construction in Gaza

How do you think we could improve ethical issues in construction in Gaza	Frequency	Percent
Ethical awareness.	69	45.4
Compulsory for training.	54	35.5
Leaders serving as role models.	52	34.2
Setting standard of code ethics.	61	40.1
Heavier penalties.	81	53.3

Table 4.28 demonstrated that 66% (107) of respondents agreed that the most serious phase in the construction project life cycle affected by unethical behavior is construction phase and 29.6%(48) with bid evaluation. The result incompatible with Mlinga (N.D), FMI/CMAA (2004), Hassim et al. (2010) findings whose described that the most serious phase affected by unethical behavior is procurement phase.

Table 4.28: The most serious phase affected by unethical behavior

Which do you think is the most dangerous stage in the construction project life cycle may cause by unethical practices	Frequency	Percent
Project planning.	7	4.3
Design.	7	4.3
A warding contract.	17	10.5
Bid auditing.	27	16.7
Bid evaluation.	48	29.6
Implementation stage.	10	6.2
Construction.	107	66.0
Primary handing over.	21	13.0
Operation and maintenance.	14	8.6
Closing.	21	13.0

4.5 Section four: Factors lead to unethical behavior.

Research objective: Study the key factors lead to unethical behavior appearance in the projects in Gaza.

This part discusses three factors, first factor named external factors, table (4.29) shows that the mean of the external factors equals 3.17 (63.39%), Test-value = 3.83, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is concluded that the respondents agreed with external factor. *'Lack of high executive control'* ranked as first cause of external factors lead to unethical behavior, *'The absence of strict contractual laws'* ranked as second cause

of external factors , ‘ *Location of the project (the border area)* ’ ranked as third cause in this group. That indicated that legal enforcement through legislative laws is needed to enhance unethical behavior situation. The top three attributes chosen by respondent was added by the experts through the pilot study which keep in touch with most common factors lead to unethical behavior in Gaza Strip.

Second factor named personal characteristics, table (4.29) shows that the mean of the personal characteristics equals 4.10 (82.02%), Test-value = 12.13, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is mentioned that the respondents agreed with personal characteristics. ‘ *Excessive love for money (greed)* ’ ranked first in personal characteristics group, this result consistent with Olusegun et al. (2011), Alutu and Udhawuve (2009), Hamzah et al. (2010) and FMI/CMAA (2004) as greed is the major cause of behave unethically in construction industry, ‘ *Personal culture or personal behavior* ’ ranked as second in leading to unethical behavior, ‘ *Poverty* ’ ranked at last, this result illustrated that person religion and faith play essential role in decreasing such behaviors.

Third factor named improper control, table (4.29) shows that the mean of the improper control equals 3.80 (75.93%), Test-value = 10.42, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this field is significantly greater than the hypothesized value 3. It is referred that the respondents agreed with improper control. ‘ *Salaries of workers are delayed* ’ ranked first in the group which consistent with Alutu and Udhawuve (2009), FMI/CMAA (2004) who found that delay of workers’ salaries ranked from the first five important factors cause unethical behavior, ‘ *Discrimination between workers* ’ ranked as second attribute in this group which contrary with Azhar et al. (2011). The result gives an indication that proper management can handle this problem.

Table 4.29: Means and test values for factors lead to unethical behavior

Item	Mean	RII (%)	Test value	P-value (Sig.)	Rank
Lack of high executive control.	3.49	69.81	4.87	0.000*	1
The absence of strict contractual laws.	3.41	68.10	4.55	0.000*	2
Inability supervision to control those behaviors.	3.40	68.07	4.64	0.000*	3
Insufficient legislative enforcement.	3.26	65.28	2.79	0.003*	4
Insufficient education from professional institution.	3.22	64.35	2.00	0.023*	5
Political systems.	3.11	62.13	0.29	0.385	6

Cont. Table 4.29: Means and test values for factors lead to unethical behavior

Item	Mean	RII (%)	Test value	P-value (Sig.)	Rank
Illegal award to contract.	3.11	62.11	0.58	0.281	7
Under pay most of consultancy fees.	3.09	61.74	1.34	0.090	8
Size of project.	3.08	61.63	0.00	0.500	9
Project complexity.	3.00	60.00	0.28	0.388	10
Economic downturn.	2.96	59.24	-0.28	0.389	11
Location of the project (the border area).	2.89	57.85	-2.22	0.013*	12
External factors	3.17	63.39	3.83	0.000*	
Excessive love for money (greed).	4.44	88.82	11.63	0.000*	1
Personal culture or personal behavior.	4.43	88.64	12.25	0.000*	2
Profit maximization by contractor.	4.30	85.96	11.25	0.000*	3
Prejudice against workers.	3.98	79.63	10.26	0.000*	4
Professional indiscipline.	3.71	74.29	8.45	0.000*	5
Poverty.	3.71	74.16	7.40	0.000*	6
Personal characteristics	4.10	82.02	12.13	0.000*	
Salaries of workers are delayed.	4.04	80.89	9.51	0.000*	1
Discrimination between workers.	3.73	74.53	8.15	0.000*	2
Non-availability of raw materials in market freely.	3.72	74.38	6.91	0.000*	3
Overlapping between personal and professional ethics.	3.71	74.29	8.26	0.000*	4
Improper control.	3.80	75.93	10.42	0.000*	
All paragraphs of the field.	3.55	70.91	10.01	0.000*	

* The mean is significantly different from 3

4.6 Comparisons between clients and consultants regarding to unethical behavior among professionals in construction industry

According to the statistical analysis when Sig. value is smaller than 0.05 that's mean there is a significant variance between parties opinion about the factor.

Table (4.30) shows that the p-value (Sig.) is smaller than the level of significance $\alpha = 0.05$ for the fields “prevailing of unethical conduct, procurement unethical conduct done by owner, tenderer and professionals. Unethical conduct at procurement phase occurs because of corruption, lack of professionals’ commitment and inefficient management. Professional’s unethical conduct after awarding the tender occurs because of external factors, improper control and factors lead to unethical behavior, there is significant difference among the respondents regarding to these fields due to type of work. It is concluded that the respondents’ type of work has significant effect on their opinion related to these fields. Consultant firms have completely different opinion about this attributes from other types of work.

Table (4.30) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for the other fields, then there is insignificant difference among the respondents regarding to these fields due to type of work. We conclude that the respondents' type of work has no effect on these fields. It is clear that, "Professionals loyalty", "professionals commitment", "personal characteristics" were identified as the three factors which consultants and owners agreed on.

Table 4.30: One- way analysis of variance (ANOVA) of the fields and their P-values for type of work

No.	Field	Test Value	Sig.	Means			
				Ministries	Municipalities	NGO's	Consultant firms
1.	Professional's loyalty.	6.202	0.102	101.08	65.32	78.34	82.70
2.	Prevailing of unethical conduct.	24.937	0.000*	41.34	71.82	74.22	96.33
	Professional's commitment.	6.678	0.083	83.95	60.50	77.01	88.42
3.	Procurement Unethical conduct done by contractor professionals.	8.793	0.032*	78.26	54.98	84.86	87.70
4.	Procurement unethical conduct done by owner professionals.	27.950	0.000*	57.58	67.11	60.15	100.08
5.	Tenderer collusion.	8.347	0.039*	58.74	69.89	82.11	89.42
	Professionals unethical conduct at procurement phase.	15.648	0.001*	65.26	57.09	74.53	94.64
6.	Corruption.	17.907	0.000*	61.11	75.93	62.57	95.91
7.	Lack of professional's commitment.	11.000	0.012*	72.18	59.55	74.49	92.45
8.	Inefficient management.	8.966	0.030*	75.16	96.20	63.89	86.84
	Professionals unethical conduct after awarding the tender.	12.259	0.007*	68.45	71.48	66.15	93.84
9.	External factors.	17.031	0.001*	73.37	45.75	93.99	86.39
10.	Personal characteristics.	5.932	0.115	59.13	76.70	89.12	84.46
11.	Improper control.	14.281	0.003*	54.11	84.23	67.57	91.99
	Factors lead to unethical behavior.	16.980	0.001*	66.37	48.41	92.50	88.74

* Means differences are significant at $\alpha = 0.05$

Chapter 5: Conclusions and recommendations

5.1 Introduction

The main objective of this study is to investigate the current unethical practices prevailing among professionals in construction industry in Gaza Strip. This chapter includes the conclusions and recommendations to enhance methods to solve these problems appearing in industry.

This research had four primary objectives, which were achieved through the data collection using survey techniques and the detail analysis of the survey results. The first objective was to identify the most unethical behavior among professionals observed in construction projects in Gaza Strip with more concentrated on procurement process, the second objective was to evaluate the negative impact of unethical behavior in life cycle of project in construction industry and possible improvement and the third objective was to evaluate the most serious phase in the project life cycle affected by unethical practices and the last objective was to Study the key factors drive to unethical behavior appearance in project in Gaza.

5.2 Conclusions

Results of questionnaire found that construction industry in Gaza Strip suffer from ethical problems, and unethical practices is really existence in the field of industry in addition, clients see that the ethical issues are important to the industry. To that end significant attention has been directed to the development of codes of ethics as the tool to develop an ethical culture within the industry and to improve the performance.

From the study, it can be concluded the following:

Objectives one: the most unethical behavior among professionals observed in construction projects in Gaza Strip.

From the results it's clear that the level of unethical behavior is high in construction industry.

The result divided the behaviors occurred according to the project phases.

At procurement phase:

Based on factor analysis approach, 21 factors were categorized into three groups, (1) procurement unethical conducted done by contractor professionals, (2) procurement unethical conduct done by owner professionals, (3) tenderer collusion.

It is concluded that for the *first group* ‘after the award of contract reducing a subcontractor’s quote to meet the budget fair and equitable’, ‘bid shopping’ and ‘change order games’. The *second group* ‘engineers/architects tend to include in their drawings, materials or structure not required in the project due to interest in sharing in the excess cost’, ‘leaking information about the project budget for some contractors’, ‘designers restrict the bid with specific commercial specification that benefits their relatives or friends when planning projects’ and ‘contract office tends to leak vital information on pricing to companies where they have interest’. The *third group* ‘collusive tendering’ and contractors accept money in order not to tender for contract has been invited to tender for’, are the most abundant factors exist at this phase.

After awarding the tender:

Based on factor analysis approach, 18 factors were categorized into three groups, (1) corruption, (2) lack of professional’s commitment, (3) inefficient management.

It is concluded that for the *first group*, ‘scarifying the national interest for any person gain’, ‘negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad documentation unfair treatment of contractor’, ‘fraud in the preparation of the daily report for the purpose of compensating later’. For the *second group*, ‘provide materials without tax invoices’, ‘compromise on quality or increase the cost’, ‘tax evasion in the project’. For the *third group*, ‘contractor’s professional don’t disposed waste, in suitable and safe ways which is friendly with the environment’, ‘professionals don’t hold paramount the safety, health and welfare of the labor inside the work site’, ‘contractor’s eloping from their duties after delivering the project’, are the most abundant factors exist at this phase.

These behaviors have high score of respondent agree with its occurrence, which means that these practices and others resulted unethical practices from the study survey need to be take in consideration and developed by the Stakeholders such as the government and the Palestinian contractors union, to get better performance of construction projects that achieve the satisfaction of all construction industry participants. At the same way unethical practices need to be manipulated and healed, and factors leading to these unethical practices need more study and analysis to improve the construction industry in Gaza Strip. Besides that, a complete investigation and research need to be done to find the causes of ethics problems from the root, not just at the surface only. Each professionals should be able to identify

which and how each elements been categorized as unethical and try to avoid them as they can.

Objectives two: evaluate the negative impact of unethical behavior in life cycle of project in construction industry and possible improvement.

From the research it's clearly that unethical conducts have too negative impact firstly on cost as it is affect the profitability of the organization and cause loss for these organizations every year, secondly on projects quality as its noticed that Gaza Strip projects quality ranges from moderate to low, so in order to enhance Gaza projects quality ethics awareness must be improved, as suggestion from respondent heavier penalties, setting code of ethics, ethical awareness considered the best ways to monitor these unethical behaviors occurred in construction industry.

Objectives three: evaluate the most serious phase in the project life cycle affected by unethical practices.

One of the research objectives was to know the most serious phase in the project life cycle effected by unethical practices, and its founded that project's construction phase is the most dangerous and critical phase.

Objectives four: study the key factors drive to unethical behavior appearance in project in Gaza.

Based on factor analysis approach, 28 factors were categorized into three groups, (1) external factors, (2) personal characteristics, (3) improper control.

It is concluded that for the *first group*, 'inability supervision to control those behaviors', 'the absence of strict contractual laws', 'lack of high executive control'. For *second group*, 'Excessive love for money (greed)', 'Profit maximization by contractor', 'Personal culture or personal behavior'. For the *third group*, 'salaries of workers are delayed', 'discrimination between workers', 'non-availability of raw materials in market freely', are the most factors lead to the unethical behaviors.

As a concluding remarks of this research are that the clients saw that it could be create an ethical code of conduct in the construction sector in the Gaza Strip, where the existence of such an ethical code of conduct, can without any doubt will limit and prevent such unethical practices and contributes significantly in improving the industry and its development. Moreover, building appositve culture within the industry, but to keep in mind that the disparate nature of the industry makes it difficult

to monitor behavior on an individual level it seems that codes of practice are the most feasible way to attempt to change behavior. Characteristic and responsibility that professionals should have is important in order to perform their work. With a good character and full set of responsibilities in hand, professional will always knows what to do when facing problem and will try their best to avoid any unethical conduct. A self building training and motivation to comprehend the professional about the responsibility and character as an ethical professional should be conducted from time to time. Of themselves they cannot change practices, but further research may improve their effectiveness.

5.3 Recommendations

Ethics is a very important issue of the constructing profession. The recommendations arising from the current research study are presented in sub-sections; the following recommendations are the most important ones that can be deduced by this research.

Recommendation to reduce the prevailing of unethical behavior

- The best recommendation in this situation is to create an ethical code for construction industry in Gaza Strip. This code of ethics will reflect fairness to the contractor, client and to all construction process, to help communicate this message and ensure a successful experience throughout the entire project for all future.
- A standard of measuring the level of ethics among the professionals should be achieved for all professionals. This is to make sure that each professional is using the same method or system in their ethical conducts and by doing this, not only the professionals but also the public will be aware of the ethical conducts by the professionals.
- Each professional's bodies such as Palestinian Contractors Union, Engineering Syndicate and many more should work together with the government to solve this ethics crisis. With more parties involve seriously handling this matter; the unethical conduct by the professionals can be reduced.
- Ombudsmen system in all departments should be enforced to receive complaints in the construction Industry. The same may then be addressed at Palestinian contractor's union forum.

Recommendation to achieve success of project

- Indigenous quality assurance group should be part of every project team to ensure quality along with ethical practices. Their performance should be monitored by Palestinian contractor union.
- Indigenous construction materials/ products of international standards and quality can be controlled by government to manage the construction materials effectively and keep it away from the effect of unethical practices

Recommendation to reduce factors lead to unethical behaviors

- A program to make sure the professionals are always equipped with the required characteristics, responsibilities, traits and behavior as ethical professionals should be done. Motivation and training are some examples that can be used to ensure that the professionals are always be aware of the ethics conducts in their practices.
- Effective punishments such as penalties or even cancellation of license on repetitive violations may be introduced.
- Media's role in promoting ethical society is more relevant today. It can play a very important role in overcoming ethical dilemmas and formation of an ethical society by debating on these issues publicly. In this regard, their training and awareness is of paramount importance.

Recommendation for Further Study

For the further study, it is recommended that:

- This research handled owner's professionals so it is recommended to focus on contractors professionals. By doing this, more wide range of data can be collected and it will represent more bodies that involved in construction.
- To use more methods in collected the data. For this study, only questionnaire survey is used. By using several methods the results will be more flexible and precise data. Method such as interview, comparing data and many more should be adopted.

Finally, Research and development should be organized in private sector and the government to take on this important issue to effectively address the matter.

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Appendix1: Correlation coefficient

Table 1: Correlation coefficient of each paragraph of “Commitment of professionals” and the total of this field

No.	Paragraph	Spearman Correlation Coefficient	P-Value (Sig.)
Professionals loyalty			
1.	Professionals have loyalty to their jobs.	0.758	0.000*
2.	Professional keeping the client properties away from missing or stealing.	0.778	0.000*
3.	Professional deal with the workers fairly and squarely.	0.674	0.000*
4.	Professional intends to build trust and confidence with clients and workers.	0.604	0.000*
5.	Professional advises their clients when they believe that the project will not be success.	0.619	0.000*
6.	Professionals have loyalty to their bosses and managers.	0.521	0.000*
prevailing of unethical conduct			
1.	The overall level of unethical conduct in construction industry.	0.852	0.000*
2.	Temptation to act unethically during professional practices.	0.919	0.000*

Table 2: Correlation coefficient of each paragraph of “Unethical behavior at procurement stage” and the total of this field

No.	Paragraph	Spearman Correlation Coefficient	P-Value (Sig.)
Procurement Unethical conduct done by contractor professionals.			
1.	Bid shopping.	0.647	0.000*
2.	Under bidding.	0.708	0.000*
3.	Overbilling.	0.746	0.000*
4.	Bid rigging.	0.724	0.000*
5.	Individuals or organizations undertaking work without adequate qualification/ experience/training.	0.693	0.000*
6.	After the award of contract, reducing a subcontractor’s quote to meet the budget fair and equitable.	0.699	0.000*

Cont. Table 2: Correlation coefficient of each paragraph of “Unethical behavior at procurement stage” and the total of this field

No.	Paragraph	Spearman Correlation Coefficient	P-Value (Sig.)
7.	Cover price.	0.745	0.000*
8.	Retender by the owner to reduce the price of the tender.	0.678	0.000*
9.	Change order games.	0.702	0.000*
10.	Deny compensation of tendering cost.	0.629	0.000*
11.	Withdrawal of tender.	0.606	0.000*
Procurement unethical conduct done by owner professionals.			
1.	Contract office tends to leak vital information on pricing to companies where they have interest.	0.843	0.000*
2.	Leaking information about the project budget for some contractors.	0.845	0.000*
3.	Designers restrict the bid with specific commercial specification that benefits their relatives or friends when planning projects.	0.815	0.000*
4.	Engineers/architects tend to include in their drawings, materials or structure not required in the project due to interest in sharing in the excess cost.	0.744	0.000*
5.	Advertising bids on a particular category and another exception for private purposes.	0.799	0.000*
6.	Failure to follow proper procedures in awarding the tender.	0.753	0.000*
7.	Illegal award to contractor.	0.687	0.000*
Tenderer collusion			
1.	Contractors accept money in order not to tender for contract has been invited to tender for.	0.850	0.000*
2.	Agree of one contractor to withdraw an offer he has made in exchange for money or other benefits.	0.848	0.000*
3.	Collusive tendering.	0.792	0.000*

* Correlation is significant at the 0.05 level

Table 3: Correlation coefficient of each paragraph of “Unethical behavior after awarding tender” and the total of this field

No.	Paragraph	Spearman Correlation Coefficient	P-Value (Sig.)
Corruption			
1.	Fraud like illogical request for time extensions, theft of materials.	0.808	0.000*
2.	Fraud in the preparation of the daily report for the purpose of compensating later.	0.753	0.000*
3.	Negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad documentation unfair treatment of contractor.	0.793	0.000*
4.	Fraud in determining the amount of the item in the table of quantities for financial purposes.	0.769	0.000*
5.	Disclosure of confidential project baseline.	0.809	0.000*
6.	Bribery in form of cash inducement, gift, favors, trips and appointments in the construction industry.	0.729	0.000*
7.	Scarifying the national interest for any person gain.	0.717	0.000*
Lake of professionals commitment			
1.	Employers attempting to force their employees to do unethical conduct.	0.674	0.000*
2.	The engineers don't recognize the safety of public when considering personal/ organizational benefits.	0.649	0.000*
3.	Tax evasion in the project.	0.833	0.000*
4.	Provide materials without tax invoices.	0.802	0.000*
5.	Compromise on quality or increase the cost.	0.808	0.000*
6.	Bid cutting.	0.746	0.000*
7.	Breach of professional responsibility.	0.719	0.000*
Inefficient management			
1.	Contractor's professional don't disposed waste, in suitable and safe ways which is friendly with the environment.	0.763	0.000*
2.	Professionals don't hold paramount the safety, health and welfare of the labor inside the work site.	0.760	0.000*

Table 3: Correlation coefficient of each paragraph of “Unethical behavior after awarding tender” and the total of this field

No.	Paragraph	Spearman Correlation Coefficient	P-Value (Sig.)
3.	The engineers work on part-time basis without the consent of the employer.	0.711	0.000*
4.	Contractor’s eloping from their duties after delivering the project.	0.708	0.000*

* Correlation is significant at the 0.05 level

Table 4: Correlation coefficient of each paragraph of " Factor lead to unethical conduct " and the total of this field

No.	Paragraph	Spearman Correlation Coefficient	P-Value (Sig.)
External factors			
1.	Under pay most of consultancy fees.	0.663	0.000*
2.	The absence of strict contractual laws.	0.730	0.000*
3.	Lack of high executive control.	0.673	0.000*
4.	Insufficient legislative enforcement.	0.722	0.000*
5.	Inability supervision to control those behaviors.	0.676	0.000*
6.	Project complexity.	0.667	0.000*
7.	Economic downturn.	0.660	0.000*
8.	Size of project.	0.655	0.000*
9.	Illegal award to contract.	0.619	0.000*
10.	Political systems.	0.618	0.000*
11.	Insufficient education from professional institution.	0.583	0.000*
12.	Location of the project (the border area).	0.605	0.000*
Personal characteristics			
1.	Excessive love for money (greed).	0.681	0.000*
2.	Personal culture or personal behavior.	0.595	0.000*
3.	Profit maximization by contractor.	0.632	0.000*
4.	Prejudice against workers.	0.541	0.000*

Cont. Table 4: Correlation coefficient of each paragraph of " Factor lead to unethical conduct " and the total of this field

No.	Paragraph	Spearman Correlation Coefficient	P-Value (Sig.)
5.	Poverty.	0.703	0.000*
6.	Professional indiscipline.	0.628	0.000*
Improper control			
1.	Discrimination between workers.	0.759	0.000*
2.	Non-availability of raw materials in market freely.	0.743	0.000*
3.	Overlapping between personal and professional ethics.	0.592	0.000*
4.	Salaries of workers are delayed.	0.664	0.000*

* Correlation is significant at the 0.05 level

Appendix2: questionnaire Arabic version

The Islamic university- Gaza

Higher Education Deanship

Faculty of Engineering- Civil Engineering

Construction Project Management



الجامعة الاسلامية – غزة

عمادة الدراسات العليا

كلية الهندسة – قسم الهندسة المدنية

إدارة مشاريع هندسية

استبانة حول الممارسات اللاأخلاقية بين المهنيين في مجال التشييد والبناء
في قطاع غزة

**Unethical behavior among professionals in construction
industry in Gaza-Strip**

إعداد:

م. آيات يوسف السويطي

إشراف:

أ.د عدنان إنشاصي

ديسمبر 2102

استبيانات لرسالة بعنوان الممارسات اللاأخلاقية بين المهنيين في مجال البناء والتشييد بقطاع غزة

دراسة الممارسات الأخلاقية بين المهنيين في مجال بناء تشييد البناء

الزملاء الكرام...

إنه لمن دواعي سروري أن يتم اختياركم للاسهام في التعرف على الممارسات الأخلاقية الموجودة في قطاع غزة، ومحاولة إيجاد طرق للحد من هذه التصرفات بناء على آرائكم ومساهماتكم في توضيح معرفتكم بهذه المشكلة.

أهداف البحث

- يهدف هذا الاستبيان إلى دراسة ومعرفة الممارسات الأخلاقية بين المهنيين في مجال البناء والتشييد والتعرف على أكثر هذه الممارسات انتشاراً، ومدى تأثير هذه الممارسات على سير المشاريع الهندسية. وسوف تركز الدراسة على جانب الممارسات الأخلاقية التي تظهر خلال مرحلة المشتريات (procurement).
- كما وتهدف الدراسة إلى تقييم التأثيرات السلبية التي تنشأ من هذه التصرفات على دورة حياة المشروع، وأثرها على كل من التكلفة والجودة والتعرف على أفضل الوسائل لعلاج هذه المشاكل.
- وسوف تتطرق الدراسة أيضاً لأهم العوامل التي تؤدي إلى حدوث هذه التصرفات الأخلاقية.

الفئة المستهدفة

جميع الخبءاء في مجال التشييد والبناء العاملين لدى القطاع العام والمؤسسات العامة وشبه العامة غير الربحية والمنظمات غير الحكومية والاستشاريون الذين ساهموا في هذا المجال.

تعبئة الإستمبيان

أرجو الاجابة على جميع الأسئلة المرفقة مع إمكانية إضافة أي معايير أخرى أو تعليقات تجد أنها ضرورية في المكان المناسب لها.

تعريفات

المهنيين Professionals : هم الفئة الحاصلة على درجة تعليمية في مجال البناء و التشييد الذين اختاروا العمل ضمن هذا المجال بإرادتهم ويتقاضون راتباً من خلاله، حيث يواجهون تحديات العمل بشكل ثقافي ومبدع مثل: مدير عام، مدير مشروع، مهندس مدني (مكتب او موقع)، مهندس معماري، مساح وغيرهم من العاملين بهذا المجال من المتعلمين.

مرحلة المشتريات Procurement phase: هذه المرحلة تبدأ من نشوء فكرة المشروع مروراً إلى طرح مناقصة للمهندسين المعماريين والمصممين من ثم التصميم ثم طرح العطاء للمقاولين من ثم المراحل المتعلقة بعرض السعر والتقييم وانتهاءً بارساء العطاء على احد المقاوليين.

تنتطق الدراسة من زاوية الحاجة للتعرف على السلوكيات الغير مرغوب بها والعمل على ايجاد حلول لها، وتحسين صورة هذا المجال ليسير ويرقى للأفضل في قطاع غزة.

ملاحظة: آرائكم ستكون لهدف الدراسة العلمية البحتة الهادفة للتطوير.

بيانات عامة	الجزء الأول
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1. اسم المالك / الإستشاري (إختياري)				
طبيعة المؤسسة	<input type="checkbox"/> مؤسسة حكومية	<input type="checkbox"/> بلديات	<input type="checkbox"/> مؤسسات غير حكومية	<input type="checkbox"/> مكاتب إستشارية
3. موقع المؤسسة	<input type="checkbox"/> المنطقة الشمالية <input type="checkbox"/> غزة <input type="checkbox"/> المنطقة الوسطى <input type="checkbox"/> خان يونس <input type="checkbox"/> رفح			
4. وظيفة معبئ الاستبيان	<input type="checkbox"/> مدير عام <input type="checkbox"/> مدير مشروع <input type="checkbox"/> مهندس مدني <input type="checkbox"/> مهندس معماري <input type="checkbox"/> مساح <input type="checkbox"/> غير ذلك			
5. عدد سنوات الخبرة	<input type="checkbox"/> أقل من 5 سنوات	<input type="checkbox"/> 5-10 سنوات	<input type="checkbox"/> 11-20 سنة	<input type="checkbox"/> أكثر من 20 سنة
6. عدد سنوات العمل مع المؤسسة	<input type="checkbox"/> أقل من عامين	<input type="checkbox"/> من 2-5 سنوات	<input type="checkbox"/> من 6-10 سنوات	<input type="checkbox"/> أكثر من 10 سنوات
7. المؤهل العلمي	<input type="checkbox"/> دكتوراة	<input type="checkbox"/> ماجستير	<input type="checkbox"/> بكالوريوس	<input type="checkbox"/> أخرى
8. عمر معبئ الاستبيان	<input type="checkbox"/> 30-25	<input type="checkbox"/> 31-35	<input type="checkbox"/> 36-40	<input type="checkbox"/> فوق 40 سنة

الممارسات والأخلاقية الأكثر انتشارا في مجال البناء والتشييد	الجزء الثاني
--------------------------------------------------------------------	---------------------

درجة التواجد					طبيعة العمل اللااخلاقي
قليل جدا	قليل	متوسط	عالي	عالي جدا	
ما هو رأيك بخصوص التزام المهنيين بكل مما يلي					
					1. المستوى العام للتصرفات الأخلاقية في مجال البناء والتشييد.
					2. يعمل المهنيون على نصح المالك عندما يتوقعون فشل المشروع.
					3. يقوم المهنيون بتنفيذ أعمالهم الخاصة دون التعارض مع مصلحة المالك.
					4. يشعر المهنيون بالولاء لعملهم.
					5. يشعر المهنيون بالولاء لرؤسائهم ومدرائهم.
					6. هناك توجه للعمل غير الأخلاقي سائد خلال ممارسة المهنة.
					7. يحافظ المهنيون على ممتلكات المالك من فقدان او السرقة.
					8. يعمل المهنيون على بناء الثقة بينهم وبين المالك والعمال.
					9. يتعامل المهنيون مع العمال بإنصاف وصرامة.
هل تعتقد أن أي من هذه التصرفات واردة خلال العمل من قبل المهنيين في مجال التشييد والبناء					

درجة التواجد					طبيعة العمل اللاخلاقى
قليل جدا	قليل	متوسط	عالي	عالي جدا	
أولاً: في مرحلة المشتريات (procurement)					
					10. إرساء عطاء غير قانوني.
					11. رفع سعر الوحدة للنشاطات المجدولة في بداية المشروع لضمان زيادة التدفق المالى في فترة مبكرة من المشروع overbilling .
					12. تخفيض سعر العطاء بشكل كبير من قبل المقاول بالرغم من عدم مناسبة الأسعار under bidding
					13. قيام المقاول الرئيسي بالحصول على تسعير مقاول باطن ومن ثم عرضه على مقاول باطن اخر للحصول على سعر أقل bid shopping .
					14. رفع سعر العطاء من قبل مجموعه من المقاولين ليتقاسمو الفائدة فيما بعد bid rigging .
					15. عدم تعويض المقاول لتكاليف العطاء في حالة سحب العطاء من قبل المالك بدون مبرر
					16. تقديم عرض سعر من قبل مقاول بالرغم من عدم رغبته بالحصول على العطاء وذلك بطلب تسعير واقعي من احد المنافسين cover price وذلك للمشاركة الوهمية بالعطاء لنوايا خفية لدى المقاول.
					17. تواطؤ بين مجموعة من المقاولين لإرساء العطاء على أحد منهم.
					18. انسحاب غير مبرر من العطاء من قبل المقاول.
					19. قبول أحد المقاولين مبلغ من المال لعدم المشاركة في مناقصة قد تمت دعوتها لها.
					20. موافقة من أحد المقاوليين لسحب عطائه مقابل مبلغ مالي أو أي فوائد أخرى.
					21. تسليم سعر منخفض للفوز بالمشروع ومن ثم زيادة الربح عن طريق طلب أمر تغيير change order games
					22. تسريب معلومات بأسعار العطاءات عند كون الجهة المشرفة متواطئة مع احد المقاولين لترسية العطاء عليه.
					23. تقييد العطاء بمواصفات معينة من قبل المصمم خلال التصميم للمشروع ليعود بالفائدة على أحد أقاربه أو أصدقائه .
					24. إدراج مواد أو منشآت غير ضرورية بالمشروع في المخططات بدافع أخذ التكلفة الزائدة لهذه الزيادات.
					25. قيام المقاول الرئيسي بتقليل سعر المقاول الباطن بعد إرساء العطاء لتتوافق مع ميزانيته وزيادة مستوى ربحه.
					26. إرساء المشاريع على شركات أو أشخاص لا يملكون المؤهلات أو الخبرة أو التدريبات اللازمة .

درجة التواجد					طبيعة العمل اللاخلاقى
قليل جدا	قليل	متوسط	عالي	عالي جدا	
					27. عدم إتباع المؤسسة الإجراءات السليمة في ترسية العطاء.
					28. اعلان العطاءات على فئة معينة واستثناء اخرى لأغراض خاصة.
					29. تسريب معلومات عن ميزانية المشروع لبعض المقاولين.
					30. اعادة طرح العطاء من قبل المالك لخفض سعر العطاء . retender .
ثانيا: في مرحلة ما بعد ارساء العطاء					
					31. رشوة على شكل حوافز مادية، هدايا، محاباة، رحلات، تعيينات في قطاع البناء والتشييد.
					32. خروقات في تأدية المسؤوليات المفوضة.
					33. الكشف عن معلومات سرية للمشروع.
					34. التحايل مثل الطلب غير المنطقي لتمديد الوقت او سرقة المواد.
					35. الإهمال مثل تأخير أو تقليل الدفعات، مشروع قليل الجودة، معلومات غير كافية، نقص الاشراف، ضعف في إجراءات الأمان، ضعف التوثيق، معاملة غير منصفة من قبل المقاول.
					36. تقديم مواد بدون فواتير ضريبية.
					37. التهرب الضريبي في المشروع.
					38. المساومة على جودة المشروع أو زيادة السعر.
					39. ايقاف العمل في اي مرحلة من مراحل المشروع بنية التفاوض على أسعار أو غيره من الأمور . bid cutting .
					40. تهرب المقاول من واجباته المتفق عليها بعد تسليم المشروع.
					41. التحايل في اعداد التقرير اليومي عن طريق المهندس المشرف لغرض تعويض لاحق.
					42. تحايل في تحديد كمية البند في جدول الكميات لأغراض مادية.
					43. التغاضي عن المصلحة العامة في سبيل المصلحة الخاصة .
					44. إرغام العاملين من قبل أصحاب العمل على القيام بسلوك غير أخلاقي.
					45. عمل المهندسون بدوام جزئي بدون علم من صاحب العمل .

درجة التواجد					طبيعة العمل الاخلاقي
قليل جدا	قليل	متوسط	عالي	عالي جدا	
					46. لا يأخذ المهندسون بعين الإعتبار سلامة العامة.
					47. لا يحافظ المهنيون بشكل أساسي على سلامة و صحة ورفاهية العمال في موقع العمل.
					48. لا يتم التخلص من النفايات بشكل مناسب وأمن مع البيئة.

الجزء الثالث الآثار المترتبة على الممارسات الأخلاقية على مجال البناء والتشييد

تأثير الممارسات الاخلاقية على الناحية المادية

1. هل تعتقد ان هناك علاقة ايجابية بين التصرف الاخلاقي و العوائد الربحية للشركة على المدى الطويل
 نعم لا

2. هل تعتقد ان هناك علاقة ايجابية بين التصرف الاخلاقي و العوائد الربحية للشركة على المدى القصير
 نعم لا

3. كم باعتقادك ان هذه التصرفات الاخلاقية تكلف شركتك كل عام كنسبة من العوائد السنوية
 2-1% 3-5% 6-7% 8-10%

تأثير الممارسات الاخلاقية على جودة المشروع

4. كيف تقيم جودة المشاريع (quality) في قطاع غزة
 منخفضة جدا منخفضة متوسطة عالية عالية جدا

5. ماهو مدى تأثير الممارسات الاخلاقية في الجودة والكفاءة الانتاجية في المشاريع الهندسية
 منخفضة جدا منخفضة متوسطة عالية عالية جدا

أخلاقيات المنظمة

6. هل تعتقد أن التصرفات غير أخلاقية تكتسب من بيئة العمل	<input type="checkbox"/> نعم	<input type="checkbox"/> لا
7. هل تعتقد أن الأخلاق الشخصية للفرد تطغو على أخلاقيات المهنة في قطاع الإنشاءات في قطاع غزة	<input type="checkbox"/> نعم	<input type="checkbox"/> لا
8. هل تعاملت مع منظمات يحتوي عقدها على بنود مجحفة بحق العاملين في قطاع غزة	<input type="checkbox"/> نعم	<input type="checkbox"/> لا
9. هل تعتقد ان تحسين الممارسات الأخلاقية للمهنيين من الممكن أن يحسن الأداء الأخلاقي في مجال البناء والتشييد في قطاع غزة	<input type="checkbox"/> نعم	<input type="checkbox"/> لا
10. هل تقوم المنظمة بإضافة بنود خاصة خارج الشروط القانونية للتعاقد.	<input type="checkbox"/> نعم	<input type="checkbox"/> لا
11. هل هناك بند في مستندات العطاء أو العقد ينص على ضبط أو منع التصرفات غير الأخلاقية للمقاول.	<input type="checkbox"/> نعم	<input type="checkbox"/> لا
إذا كانت الإجابة بنعم ماهو هذا البند		
12. باعتقادك ماهي درجة الوعي الأخلاقي بين العاملين في منطمتك	<input type="checkbox"/> منخفضة جدا	<input type="checkbox"/> منخفضة <input type="checkbox"/> متوسطة <input type="checkbox"/> عالية <input type="checkbox"/> عالية جدا
13. ماهي المشاكل والمصاعب التي تواجه تطوير وعي أخلاقي في منطمتك	<input type="checkbox"/> ضعف الدعم من قبل الإدارة	<input type="checkbox"/> التوجه السائد في صناعة الإنشاءات
<input type="checkbox"/> التأثير السلبي على الربح على المدى القصير	<input type="checkbox"/> العادات والتقاليد تقيد مثل هذا التوجه	<input type="checkbox"/> التأثير السلبي على العلاقات الشخصية
<input type="checkbox"/> ضعف الدافع الشخصي	<input type="checkbox"/> غير ذلك	<input type="checkbox"/>

طرق تحسين السلوك الأخلاقي

14. هل تمتلك منطمتك نظام للسلوك الأخلاقي (code of conduct)	<input type="checkbox"/> نعم	<input type="checkbox"/> لا
15. إذا كانت إجابة السؤال السابق بنعم فهل يتم تطبيق هذا النظام.	<input type="checkbox"/> نعم	<input type="checkbox"/> لا
16. هل تعتقد أن وجود نظام أخلاقي من الممكن أن يضيفي تحسن على مجال البناء والتشييد	<input type="checkbox"/> نعم	<input type="checkbox"/> لا
17. هل تعتقد أن تطبيق نظام يحكم الأخلاقيات ممكن في قطاع غزة	<input type="checkbox"/> نعم	<input type="checkbox"/> لا

18. إذا كان الجواب بلا إذن باعتقادك ماهو السبب

- القواعد الصارمة.
 ضعف النظام (الاشخاص لديهم السلطة اكثر من النظام).
 القوانين الحكومية المتعنتة.
 التغير في الظروف السياسية والاقتصادية.
 غير ذلك مثل

19. ماهو تصرفك لو شهدت تصرف لا أخلاقي في شركتك

- تلتزم الصمت تحاول تصليح الخطأ تبلغ الإدارة تبلغ اشخاص بالسلطة القضائية

20. باعتقادك كيف بإمكاننا أن نحسن المشاكل الأخلاقية في مجال البناء والتشييد في قطاع غزة

- نشر توعية أخلاقية
 برامج تدريبية إجبارية .
 أن يمثل القادة القدوة الحسنة.
 وضع نظام اخلاقي ثابت.
 عقوبات مشددة.

مراحل المشروع حسب ظهور الممارسات الأخلاقية

21. باعتقادك ماهي أكثر مرحلة من مراحل المشروع تتصف بظهور الممارسات الاخلاقية بكثرة

- مرحلة تخطيط المشروع .
 مرحلة التصميم
 مرحلة طرح العطاء.
 مراجعة العطاءات (التدقيق)
 تقييم العطاءات
 مرحلة بداية المشروع
 مرحلة التشييد
 مرحلة التسليم الإبتدائي للمشروع
 التشغيل والصيانة
 التسليم النهائي للمشروع

الجزء الرابع العوامل المؤدية للممارسات للأخلاقية

درجة الموافقة					العوامل المؤدية للسلوك الأخلاقي
لاوافق بشدة	لاوافق	معتدل	أوافق	أوافق بشدة	
هل توافق على إعتبار هذا العامل مؤثراً على السلوك الأخلاقي					

درجة الموافقة				العوامل المؤدية للسلوك اللاأخلاقي
لاوافق بشدة	لاوافق	معتدل	أوافق	
				1. الثقافة الشخصية أو السلوك الشخصي
				2. الثقافة السائدة في صناعة التشييد والبناء
				3. النظام السياسي
				4. الفقر
				5. الحب المفرط للمال (الجشع)
				6. عدم التزام المهنيين بالأنظمة
				7. الرغبة في زيادة الربح من قبل المقاول
				8. مكان المشروع (منطقة حدودية مثلا)
				9. المحاباة تمييز الاقارب والأصدقاء
				10. إرساء عطاء غير قانوني
				11. عدم وجود قوانين تعاقدية رادعة
				12. عدم قدرة الإشراف على ضبط مثل تلك السلوكيات
				13. عدم وجود رقابة تنفيذية عالية
				14. دفع معظم التكاليف الاستشارية
				15. عدم السرية بالعمل
				16. انعدام الشفافية
				17. عدم كفاءة التعليم من المؤسسات المهنية
				18. الانهيار الإقتصادي
				19. عدم كفاءة القوانين
				20. الإجحاف في حقوق العمال
				21. تأخير أجور العمال
				22. ارتفاع تكلفة الحصول على تعويض بالقانون
				23. حجم المشروع
				24. تعقيد المشروع
				25. المناقسة بين المقاولين
				26. الخلط بين الأخلاقيات الشخصية وأخلاقيات العمل
				27. التمييز بين العاملين
				28. عدم توفر المواد الخام في السوق بحرية

Appendix3: questionnaire English version

Part 1	General information
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Client's /Consultant name (optional)				
2. type of institution	<input type="checkbox"/> Ministry	<input type="checkbox"/> Municipalities	<input type="checkbox"/> NGO's	<input type="checkbox"/> Consultant firms
3. Institution "location"	<input type="checkbox"/> North area	<input type="checkbox"/> Gaza	<input type="checkbox"/> Middle area	<input type="checkbox"/> South Area
4. Position of Respondent	<input type="checkbox"/> General manager <input type="checkbox"/> Project manager <input type="checkbox"/> Site Eng. <input type="checkbox"/> Architect <input type="checkbox"/> Surveyor <input type="checkbox"/> others			
5. years of experience	<input type="checkbox"/> Less than 5 years	<input type="checkbox"/> 5-10 years	<input type="checkbox"/> 11-20 years	<input type="checkbox"/> More than 20 years
6. years of employed in organization	<input type="checkbox"/> Less than 2 years	<input type="checkbox"/> 2-5 years	<input type="checkbox"/> 6-10 years	<input type="checkbox"/> More than 10 years
7. Qualification	<input type="checkbox"/> Doctor	<input type="checkbox"/> Master	<input type="checkbox"/> Bachelor	<input type="checkbox"/> Else.....
8. Age	<input type="checkbox"/> 25-30	<input type="checkbox"/> 31-35	<input type="checkbox"/> 36-40	<input type="checkbox"/> Up to 40

Part 2	Most prevalence unethical behavior in construction industry
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Type of unethical practice	Level of Existence				
	Very high	high	moderate	low	Very low
a. What is your opinion about the commitment of professionals on the following					
a1. The overall level of unethical conduct in construction industry.					
a2. Professional advises their clients when they believe that the project will not be success.					
a3. Professionals commit their own business without conflicting with client competences.					

Type of unethical practice	Level of Existence				
	Very high	high	moderate	low	Very low
a4. Professionals have loyalty to their jobs.					
a5. Professionals have loyalty to their bosses and managers.					
a6. Temptation to act unethically during professional practices.					
a7. Professional keeping the client properties away from missing or stealing.					
a8. Professional intends to build trust and confidence with clients and workers.					
a9. Professional deal with the workers fairly and squarely.					
Do you think that any of the following actions contained by professionals in construction industry					
b1.Firstly: At procurement phase					
b1.10. Illegal award to contractor.					
b1.11. Overbilling.					
b1.12. Under bidding					
b1.13. Bid shopping.					
b1.14. Bid rigging.					
b1.15. Deny compensation of tendering cost.					
b1.16. Cover price.					
b1.17. Collusive tendering.					
b1.18. Withdrawal of tender.					
b1.19. Contractors accept money in order not to tender for contract has been invited to tender for.					
b1.20. Agree of one contractor to withdraw an offer he has made in exchange for money or other benefits.					
b1.21. Change order games.					
b1.22. Contract office tends to leak vital information on pricing to companies where they					

Type of unethical practice	Level of Existence				
	Very high	high	moderate	low	Very low
have interest.					
b1.23. Designers restrict the bid with specific commercial specification that benefits their relatives or friends when planning projects.					
b1.24. Engineers/architects tend to include in their drawings, materials or structure not required in the project due to interest in sharing in the excess cost.					
b1.25. After the award of contract, reducing a subcontractor's quote to meet the budget fair and equitable.					
b1.26. Individuals or organizations undertaking work without adequate qualification/experience/training.					
b1.27. Failure to follow proper procedures in awarding the tender.					
b1.28. Advertising bids on a particular category and another exception for private purposes.					
b1.29. Leaking information about the project budget for some contractors.					
b1.30. Retender by the owner to reduce the price of the tender.					
b2.Secondly: After awarding the tender					
b2.31. Bribery in form of cash inducement, gift, favors, trips and appointments in the construction industry.					
b2.32. Breach of professional responsibility.					
b2.33. Disclosure of confidential project baseline.					
b2.34. Fraud like illogical request for time extensions, theft of materials.					
b2.35. Negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad					

Type of unethical practice	Level of Existence				
	Very high	high	moderate	low	Very low
documentation unfair treatment of contractor.					
b2.36. Provide materials without tax invoices.					
b2.37. Tax evasion in the project.					
b2.38. Compromise on quality or increase the cost.					
b2.39. Bid cutting.					
b2.40. Contractor's eloping from their duties after delivering the project.					
b2.41. Fraud in the preparation of the daily report for the purpose of compensating later.					
b2.42. Fraud in determining the amount of the item in the table of quantities for financial purposes.					
b2.43. Scarifying the national interest for any person gain.					
b2.44. Employers attempting to force their employees to do unethical conduct.					
b2.45. The engineers work on part-time basis without the consent of the employer.					
b2.46. The engineers don't recognize the safety of public when considering personal/organizational benefits.					
b2.47. Professionals don't hold paramount the safety, health and welfare of the labor inside the work site.					
b2.48. Contractor's professional don't disposed waste, in suitable and safe ways which is friendly with the environment.					

Part 3	Impact of unethical behavior on construction industry
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Impact of unethical behavior on cost

1. Do you think there is a positive relationship between ethical behavior and long- term profitability of the company

Yes No

2. Do you think there is a positive relationship between ethical behavior and short- term profitability of the company

Yes No

3. How much you believed these practices cost your company every year as a percent of annual revenues

1-2% 3-5% 6-7% 8-10%

Impact of unethical behavior on project quality

4. How do you evaluate the quality of construction industry in Gaza Strip

very low low moderate high very high

5. Do you think that unethical practices affect the quality and production efficiency in the construction industry

very low low moderate high very high

Organization ethics

6. Do you think that unethical behavior can be gained from the work

Yes No

7. Do you think that "personal ethics" are taking over "business ethics" in construction projects in Gaza Strip

Yes No

8. Have you ever deal with an organization including unethical items in its contracts in Gaza Strip

Yes No

9. Do you think that improving ethical practice for the professionals could improve ethical performance in construction projects in Gaza Strip

Yes No

10. Does your organization adding special items outside the legal requirements for contracting
<input type="checkbox"/> Yes <input type="checkbox"/> No
11. Is there a clause in the tender documents or contract provides for the control or prevent unethical behavior to the contractor
<input type="checkbox"/> Yes <input type="checkbox"/> No
12. What level of ethical awareness do the employees in your organization have
<input type="checkbox"/> Very low <input type="checkbox"/> Low <input type="checkbox"/> moderate <input type="checkbox"/> high <input type="checkbox"/> very high
13. What are the difficulties for developing a strong ethical awareness in your organization
<input type="checkbox"/> Lack of support from management <input type="checkbox"/> Prevailing trend within the industry
<input type="checkbox"/> Negative effect on short-term profit <input type="checkbox"/> Negative effect on personal relationship
<input type="checkbox"/> Poor personal motivation <input type="checkbox"/> Else
<input type="checkbox"/> Customs and traditions that restrict such an approach

Ways to improve ethical behavior

14. Do you have an ethical code of conduct in your Organization
<input type="checkbox"/> Yes <input type="checkbox"/> No
15. If yes, Does this code applied
<input type="checkbox"/> Yes <input type="checkbox"/> No
16. Do you think existence of ethical code can improve construction industry in Gaza Strip
<input type="checkbox"/> Yes <input type="checkbox"/> No
17. Do you think existence of ethical code can improve construction industry in Gaza Strip
<input type="checkbox"/> Yes <input type="checkbox"/> No
18. If the answer of the above question is No, Because of
<input type="checkbox"/> Strict rules.
<input type="checkbox"/> Weak System (Personalities being more powerful than system).
<input type="checkbox"/> Inflexible governmental rules.
<input type="checkbox"/> Changing in Political and Economical conditions.
<input type="checkbox"/> Other, (like).....

19. What will you do if you witness unethical behavior

- Keep silent Try to correct it Report to top management Report to judiciary bodies

20. How do you think we could improve ethical issues in construction in Gaza

- Ethical awareness.
 Compulsory for training.
 Leaders serving as role models.
 Setting standard of code ethics.
 Heavier penalties.

Phases of construction according to appearance of unethical behavior

21. Which do you think is the most dangerous stage in the construction project life cycle may cause by unethical practices.

- Project planning.
 Design.
 A warding contract.
 Bid auditing.
 Bid evaluation.
 Implementation stage.
 Construction.
 Primary handing over.
 Operation and maintenance.
 Closing.

Part 4 Factors lead to unethical behavior.

Factors lead to behave unethically	Agreement level				
	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
d. Do you agree to consider this factor affect ethical behavior					
d 1. Personal culture or personal behavior.					
d 2. Construction industry Culture.					
d 3. Political systems.					

Factors lead to behave unethically	Agreement level				
	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
d 4. Poverty.					
d 5. Excessive love for money (greed).					
d 6. Professional indiscipline.					
d 7. Profit maximization by contractor.					
d 8. Location of the project (the border area).					
d 9. Favoritism.					
d 10. Illegal award to contract.					
d 11. The absence of strict contractual laws.					
d 12. Inability supervision to control those behaviors.					
d 13. Lack of high executive control.					
d 14. Under pay most of consultancy fees.					
d 15. Insecurity of job.					
d 16. Lack of transparency.					
d 17. Insufficient education from professional institution.					
d 18. Economic downturn.					
d 19. Insufficient legislative enforcement.					
d 20. Prejudice against workers.					
d 21. Salaries of workers are delayed.					
d 22. High cost of obtaining redress in count of law.					
d 23. Size of project.					
d 24. Project complexity.					
d 25. Competitiveness between contractors.					
d 26. Overlapping between personal and professional ethics.					
d 27. Discrimination between workers.					
d 28. Non-availability of raw materials in market freely.					

Appendix 4: Ranking of attributes RII and factor analysis

Ranking of attributes			Factor analysis- attribute extracted		
Attributes	%RII	Rank	Factor name	Factor loading	% Variance
d5 Excessive love for money (greed).	88.82	1	Factor 1: Professionals loyalty		
d1 Personal culture or personal behavior.	88.64	2	a4 Professionals have loyalty to their jobs.	0.778	32.159
d7 Profit maximization by contractor.	85.96	3	a7 Professional keeping the client properties away from missing or stealing.	0.761	
d21 Salaries of workers are delayed.	80.89	4	a9 Professional deal with the workers fairly and squarely.	0.668	
d20 Prejudice against workers.	79.63	5	a8 Professional intends to build trust and confidence with clients and workers.	0.659	
b2.48 Contractor's professional don't disposed waste, in suitable and safe ways which is friendly with the environment.	75.53	6	a2 Professional advises their clients when they believe that the project will not be success.	0.616	
d27 Discrimination between workers.	74.53	7	a5 Professionals have loyalty to their bosses and managers.	0.561	
d28 Non-availability of raw materials in market freely.	74.38	8	Factor 2: prevailing of unethical conduct		
D6 Professional indiscipline	74.29	9	a1 The overall level of unethical conduct in construction industry.	0.871	18.327
d26 Overlapping between personal and professional ethics.	74.29	10	a6 Temptation to act unethically during professional practices.	0.852	
d4 Poverty.	74.16	11	Factor 3: procurement Unethical conduct done by contractor professionals		
b2.47 Professionals don't hold paramount the safety, health and welfare of the labor inside the work site.	71.38	12	b1.13 Bid shopping.	0.787	24.011
b1.25 After the award of contract, reducing a subcontractor's quote to meet the budget fair and equitable.	70.86	13	b1.12 Under bidding.	0.782	
b1.13 Bid shopping.	70.37	14	b1.11 Overbilling.	0.734	
d14 Bid rigging	69.81	15	b1.14 Bid rigging.	0.659	
b2.43 Scarifying the national interest for any person gain.	69.01	16	b1.26 Individuals or organizations undertaking work without adequate qualification/ experience/training.	0.618	
a8 Professional intends to build trust and confidence with clients and workers.	68.77	17	b1.25 After the award of contract, reducing a subcontractor's quote to meet the budget fair and equitable.	0.589	
d11 The absence of strict contractual laws.	68.10	18	b1.16 Cover price.	0.579	
d12 Inability supervision to control those behaviors.	68.07	19	b1.30 Retender by the owner to reduce the price of the tender.	0.559	
b2.35 Negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad documentation unfair treatment of contractor.	67.67	20	b1.21 Change order games.	0.526	
a5 Professionals have loyalty to their bosses and managers	67.08	21	b1.15 Deny compensation of tendering cost.	0.522	
b2.40 Contractor's eloping from their duties after delivering the project.	66.21	22	b1.18 Withdrawal of tender.	0.508	
a4 Professionals have loyalty to their jobs.	65.68	23	Factor 4: procurement unethical conduct done by owner professionals		
D19 Insufficient legislative enforcement.	65.28	24	b1.22Contract office tends to leak vital information on pricing to companies where they have interest.	0.829	23.053
b2.41 Fraud in the preparation of the daily report for the purpose of compensating later.	64.81	25	b1.29 Leaking information about the project budget for some contractors.	0.811	
b2.42 Fraud in determining the amount of the item in the table of quantities for financial purposes.	64.81	26	b1.23 Designers restrict the bid with specific commercial specification that benefits their relatives or friends when planning projects.	0.800	

Ranking of attributes			Factor analysis- attribute extracted		
Attributes	%RII	Rank	Factor name	Factor loading	% Variance
a2 Professional advises their clients when they believe that the project will not be success.	64.57	27	b1.24 Engineers/architects tend to include in their drawings, materials or structure not required in the project due to interest in sharing in the excess cost.	0.770	
a1 The overall level of unethical conduct in construction industry.	64.57	28	b1.28 Advertising bids on a particular category and another exception for private purposes.	0.752	
b1.21 Change order games.	64.44	29	b1.27 Failure to follow proper procedures in awarding the tender.	0.682	
b1.17 Collusive tendering.	64.38	30	b1.10 Illegal award to contractor.	0.545	
d17 Insufficient education from professional institution.	64.35	31	Factor 5: Tenderer collusion		
b1.12 Under bidding	64.32	32	b1.19 Contractors accept money in order not to tender for contract has been invited to tender for.	0.794	13.241
b1.30 Retender by the owner to reduce the price of the tender.	64.32	33	b1.20 Agree of one contractor to withdraw an offer he has made in exchange for money or other benefits.	0.720	
b1.26 Individuals or organizations undertaking work without adequate qualification/ experience/training.	63.70	34	b1.17 Collusive tendering.	0.609	
b1.11 Overbilling.	63.38	35	Factor 6: corruption		
b1.14 Bid rigging.	62.84	36	b2.34 Fraud like illogical request for time extensions, theft of materials.	0.797	28.208
b2.34 Fraud like illogical request for time extensions, theft of materials.	62.36	37	b2.41 Fraud in the preparation of the daily report for the purpose of compensating later.	0.700	
a6 Temptation to act unethically during professional practices.	62.24	38	b2.35 Negligence like late and short payments, poor quality and inadequate information, lack of supervision, lack of safety ethics, bad documentation unfair treatment of contractor.	0.698	
d3 Political systems.	62.13	39	b2.42 Fraud in determining the amount of the item in the table of quantities for financial purposes.	0.697	
d10 Illegal award to contract.	62.11	40	b2.33 Disclosure of confidential project baseline.	0.690	
d14 Under pay most of consultancy fees.	61.74	41	b2.31 Bribery in form of cash inducement, gift, favors, trips and appointments in the construction industry.	0.662	
d23 Size of project.	61.63	42	b2.43 Scarifying the national interest for any person gain.	0.576	
b2.36 Provide materials without tax invoices.	60.99	43	Factor 7: Lack of professionals commitment		
b2.38 Compromise on quality or increase the cost.	60.88	44	b2.44 Employers attempting to force their employees to do unethical conduct.	0.787	19.592
b2.45 The engineers work on part-time basis without the consent of the employer.	60.75	45	b2.46 The engineers don't recognize the safety of public when considering personal/ organizational benefits.	0.732	
b1.16 Cover price.	60.74	46	b2.37 Tax evasion in the project.	0.680	
d24 Project complexity.	60.00	47	b2.36 Provide materials without tax invoices.	0.626	
b2.37 Tax evasion in the project.	59.88	48	b2.38 Compromise on quality or increase the cost.	0.610	
a7 Professional keeping the client properties away from missing or steeling.	59.38	49	b2.39 Bid cutting.	0.570	
b1.15 Deny compensation of tendering cost.	59.25	50	b2.32 Breach of professional responsibility.	0.559	
d18 Economic downturn.	59.24	51	Factor 8: Inefficient management		
b1.24 Engineers/architects tend to include in their drawings, materials or structure not required in the project due to interest in sharing in the excess cost.	59.14	52	b2.48 Contractor's professional don't disposed waste, in suitable and safe ways which is friendly with the environment.	0.792	16.068

Ranking of attributes			Factor analysis- attribute extracted			
Attributes	%RII	Rank	Factor name	Factor loading	% Variance	
b2.39 Bid cutting.	58.89	53	b2.47 Professionals don't hold paramount the safety, health and welfare of the labor inside the work site.	0.790		
b1.29 Leaking information about the project budget for some contractors.	58.77	54	b2.45 The engineers work on part-time basis without the consent of the employer.	0.578		
b2.46 The engineers don't recognize the safety of public when considering personal/organizational benefits.	58.64	55	b2.40 Contractor's eloping from their duties after delivering the project.	0.546		
b2.33 Disclosure of confidential project baseline.	58.52	56	Factor 9: External factors			
b1.22 Contract office tends to leak vital information on pricing to companies where they have interest.	58.40	57	d14 Under pay most of consultancy fees.	0.726	24.011	
b1.23 Designers restrict the bid with specific commercial specification that benefits their relatives or friends when planning projects.	58.40	58	d11The absence of strict contractual laws.	0.718		
b1.28 Advertising bids on a particular category and another exception for private purposes.	58.02	59	d13 Lack of high executive control.	0.712		
d8 Location of the project (the border area).	57.85	60	d19 Insufficient legislative enforcement.	0.697		
b2.31 Bribery in form of cash inducement, gift, favors, trips and appointments in the construction industry.	56.67	61	d12 Inability supervision to control those behaviors.	0.695		
9 Professional deal with the workers fairly and squarely.	56.54	62	d24 Project complexity.	0.670		
b2.32 Breach of professional responsibility.	56.17	63	d18 Economic downturn.	0.668		
b1.19 Contractors accept money in order not to tender for contract has been invited to tender for.	55.13	64	d23 Size of project.	0.637		
b1.20 Agree of one contractor to withdraw an offer he has made in exchange for money or other benefits.	54.00	65	d10 Illegal award to contract.	0.628		
b1.27 Failure to follow proper procedures in awarding the tender.	53.83	66	d3 Political systems.	0.562		
b2.44 Employers attempting to force their employees to do unethical conduct.	53.21	67	d17 Insufficient education from professional institution.	0.558		
b1.18 Withdrawal of tender.	51.60	68	d8 Location of the project (the border area).	0.536		
b1.10 Illegal award to contractor.	47.88	69	Factor 10: Personal characteristics			
			d5 Excessive love for money (greed).	0.722	23.053	
			d1 Personal culture or personal behavior.	0.619		
			d7 Profit maximization by contractor.	0.616		
			d20Prejudice against workers.	0.571		
			d4 Poverty.	0.544		
			d6 Professional indiscipline.	0.511		
			Factor11: Improper control			
			d27 Discrimination between workers.	0.751	13.241	
			d28 Non-availability of raw materials in market freely.	0.716		
			d26 Overlapping between personal and professional ethics.	0.580		
			d21 Salaries of workers are delayed.	0.541		

Note: Numbers of factors are the same with English questionnaire in appendix 3

Appendix 5: Definitions

Definitions

Bribery	الرشوة أو الأرتشاء وهي عبارة عن أي عرض أو اعطاء أي شئ ذا قيمة للتأثير على تصرفات الشخص المسؤول عن واجب قانوني.
Fraud	النصب والإحتيال أو تزوير وهو خداع متعمد بنية الحصول على ربح غير شريف أو الحصول على ميزة غير عادلة.
Extortion	الإبتزاز وهو تهديد من قبل أحد الأطراف على طرف آخر ويكون لها نتائج سلبية عليه مالم يلبي مطالب الطرف الأول.
Embezzlement	إختلاس أموال من الأموال العامة أو الشركات وهو نوع من انواع الإحتيال.
Kickbacks	مكافآت لقرارات مواتية نوع من انواع الرشوة ولكنها تأتي بصورة هدايا او علاوة أو توظيف وغيره.
Bid Rigging	مؤامرة من قبل المتناقصين لزيادة سعر العطاء
Overbilling	تكديس التدفقات المالية في بداية المشروع عن طريق رفع سعر الوحدة للنشاطات التي تحدث في بداية المشروع
Change Order Games	تسليم عطاء بسعر منخفض ليرسي العطاء على المتناقص ومن ثم يغطي الربح بالاوامر التغييرية
Claim Games	كسب ربح اضافي عن طريق ادعاءات كاذبة
Money Laundering	غسيل أموال
conflict of interest	تضارب في المصالح وفيها تقوم المؤسسة أو الشخص حسب منافعه الشخصية بغض النظر عن ان كانت قانونية أو لا ويترك مصالح العامة
Forgery	التزوير الذي يتم في المستندات
Cover pricing	تسليم عطاء بسعر وهمي ولا يوجد نية للمتناقص بالفوز بالعطاء
Employment of Illegitimate Workers	توظيف عمال غير شرعيين
Corruption	التواطؤ بأشكاله ان كان تواطؤ المقاولين فيما بينهم أو تواطؤ بين أحد المهنيين ومقاول معين أو جهة مشرفة مع مقاول وغير ذلك.

Cont. Definitions

negligence	الإهمال أو الفشل في ممارسة درجة الرعاية من قبل جهه معينه يتم من خلاله ضرر غير مقصود لجهه اخرى مع امكانية تفادي هذا الضرر بقليل من الإهتمام.
Bid cutting	إيقاف العمل في أي مرحلة من مراحل المشروع بدون مبرر.
Under bidding	تخفيض سعر العطاء بشكل كبير من قبل المقاول بالرغم من عدم مناسبة الاسعار.
Collusive tendering	تواطؤ مجموعة من المقاولين لارساء العطاء على أحدهم
Cover pricing	تقديم عرض سعر من قبل المقاول بالرغم من عدم رغبته بالحصول على العطاء
Frontloading	تكديس التدفقات المالية في الأنشطة المبكرة للمشروع
Bid shopping	قيام المقاول الرئيسي بالحصول على تسعير مقاول باطن ومن ثم عرضه على مقاول باطن اخر للحصول على سعر أقل
Withdrawal of tender	الانسحاب غير المبرر من العطاء من قبل المقاول
Payment game	التلاعب في الدفعات من قبل المالك
Unfair conduct	التصرفات غير المنصفة أو المجحفة من قبل اي طرف بخصوص ان يكون العطاء غير منصف أو منافسة غير عادلة مثلا ان تطغو محاباة أحد ما على حساب الآخرين المعاملة غير العادلة بخصوص العمال مثلا تأخير الأجر و اخيرا الممارسات غير العادلة في العمل مثلا تغيير الحقائق بالعمل أو ظلم.
Breach of confidence	الممارسات التي يتم من خلالها خرق الثقة بين المهنيين واصحاب العمل
Deceit and trickery	تحايل أو خداع
Bid rigging	هي عملية يقوم من خلالها المتناقضين برفع سعر العطاء الفائز ومنها الزيادة باريح للفائز بالعطاء
Fraud in an audit inquiry	التحايل في التدقيق من قبل المدققين
Defective pricing or parts	خلل في التسعير أو في بعض أجزاء المشروع
Compensation of tendering costs	التعويض عن سعر العطاء