

An-Najah National University

Faculty of Graduate Studies

**Construction Contracts in Palestine from Engineering and
Legal Perspectives**

By

Minnat-Allah Salem Saqfelhait

Supervisors

Dr. Riyad Abdel-Karim Awad

Dr. Ali Mohammad Sartawi

**This Thesis is Submitted in Partial Fulfillment of the Requirements for
the Degree of Master of Engineering Management, at Faculty of
Graduate Studies, An-Najah National University, Nablus, Palestine.**

2012

**Construction Contracts in Palestine from Engineering and
Legal Perspectives**

**By
Minnat-Allah Salem Saqfelhait**

This thesis was defended successfully on 26/2/2012 and approved by:

Defense Committee Members

Signature

- | | | |
|----------------------------|----------------------------|-------|
| - Dr. Riyad Awad | (Supervisor) | _____ |
| - Dr. Ali Sartawi | (Co-supervisor) | _____ |
| - Dr. Basem Makhool | (External Examiner) | _____ |
| - Dr. Ayham Jaaron | (Internal Examiner) | _____ |

III
Dedication

*“To my parents, my brothers and sisters, my family
my lecturers, my friends, my colleagues
and to all Muslims”
May Allah give them blessings all*

IV Acknowledgement

First and foremost I am extremely grateful to Almighty, Allah for what I am and for everything I have.

I would like to express my sincere gratitude and appreciation to my supervisor Dr. Riyad A. Awad for his guidance and assistance during all phases of this study. I would like to thank Dr. Ali M. Sartawi for his support and advice.

I would like to give thank and deep appreciation to my defense committee members: Dr. Basem Makhool and Dr. Ayham Jaaron for their time and effort in reviewing this work.

I would like to express my love, sincere thanks, and forever appreciation to my family; my father, my mother, my brothers & sisters, and all my family for their continuous support. Without their love, kindness, patience, encouragement and assistance; this dissertation would not have been possible.

Special thanks go to all official institutes, all contractors and engineers who helped in providing the needed data for my thesis.

Finally, I would like to express my profound thanks to my friends, colleagues and all who supported me to achieve my study successfully. Thank you doesn't seem sufficient but it is said with full appreciation and respect to every one of you.

انا الموقع ادناه مقدم الرسالة التي تحمل عنوان:

Construction Contracts in Palestine from Engineering and Legal Perspectives

أقر بأن ما اشتملت عليه هذه الرسالة انما هو نتاج جهدي الخاص، باستثناء ما تمت الاشارة اليه
حيثما ورد، وأن هذه الرسالة ككل، أو أي جزء منها لم يقدم من قبل لنيل أية درجة علمية أو بحث
علمي أو بحثي لدى أية مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

Student Name:

اسم الطالب:

Signature

التوقيع :

Date:

التاريخ

VI
Table of Contents

NO	Content	Page
	Dedication	III
	Acknowledgement	IV
	Declaration	V
	List of Tables	X
	List of Figures	XII
	Abbreviations	XIII
	Abstract	XIV
	Chapter One: Introduction	1
1.1	Background	1
1.2	General Profile of Palestine	3
1.3	Palestinian Economy	6
1.4	Overview on Construction Industry in Palestine	8
1.5	Construction Contractors in Palestine	9
1.6	Sectors Working in Construction Industry	10
1.6.1	The Private Sector	10
1.6.2	The Public Sector	12
1.7	International Financing of Construction Sector	13
1.8	Research Objectives	13
1.9	Methodology	14
1.10	Limitations	15
1.11	Thesis Outline	15
	Chapter Two: Literature Review	16
2.1	Introduction	16
2.2	Construction Industry	17
2.3	Construction in Palestine	18

2.4	Types of Construction	21
2.5	Construction Contracts	24
2.6	Construction Contracts in Palestine	26
2.7	Parties of Construction Contracts	26
2.8	Construction Contracts' Documents	28
2.9	Types of Construction Contracts	35
2.9.1	Lump-Sum Contracts	36
2.9.2	Unit Price Contracts	38
2.9.3	Cost Plus Contracts	40
2.9.4	Design-Build Contracts	43
2.9.5	Turnkey Contracts	44
2.9.6	Management-Oriented Contracts	44
2.9.7	Construction by Day Labor	45
2.9.8	Target Estimate Contracts	45
2.9.9	Guaranteed Maximum Price Contract	45
2.9.10	Contracts with Quantities	47
2.9.11	Construction Management Contracts	47
2.10	Law for Engineers	48
2.11	Construction Contracts Law	49
2.12	Disputes Resolution in Construction Contracts	50
2.13	Construction Contractors	53
2.14	Construction Contractors in Palestine	54
	Chapter Three: Methodology	56
3.1	Introduction	56
3.2	Research Objectives	57
3.3	Research Strategy	58
3.3.1	Quantitative Research	58

3.3.2	Qualitative Research	59
3.3.3	Triangulation Method	60
3.4	Research Design	61
3.5	Research Population	63
3.6	Research Location	63
3.7	Sample Method	64
3.8	Sample Size	64
3.9	Questionnaire Design	66
3.10	Personal Interviews	67
3.11	Case Study	68
3.12	Data Measurement	68
3.13	Data Analysis	69
3.14	Reliability of the Research	70
3.15	Study Limitations	70
3.16	Study Barriers	70
	Chapter Four: Results and Discussion	72
4.1	Introduction	72
4.2	Profile of Contracting Companies	72
4.3	Facts about Contracting Practices	81
4.4	Specifications of Construction Contracts used in Palestine	97
4.4.1	Construction Contracts in General	98
4.4.2	Specific Types of Construction Contracts	104
4.5	Results Related to Study Hypotheses	110
	Chapter Five: Conclusions and Recommendations	115
5.1	Introduction	115
5.2	Conclusions	116

5.3	Recommendations	119
5.4	Proposed Further Studies	123
	References	124
	Appendices	129
	الملخص	ب

X
List of Tables

No.	Table	Page
3.3	Degrees used in Likert scale and their meanings	69
4.1	Types of executed projects	73
4.2	Number of accomplished projects during the last five years	74
4.3	Value of accomplished projects during the last five years	75
4.4	Types of construction contracts performed	77
4.5	Preferred and non-preferred contracts types	78
4.6	Disputes of owners and contractors	79
4.7	Disputes resolution mechanisms	80
4.8	Contractors categories invited by owners	81
4.9	Contractors categories gaining bids	82
4.10	Contractors categories accomplishing best projects	83
4.11	Best institutes contracts	84
4.12	Responsibility of laws consideration	86
4.13	Contracts documents priorities	87
4.14	Disputes period	88
4.15	Dispute parties	89
4.16	Disputes responsibility	90
4.17	Disputes caused by owner, engineer, contractor, and contract	91
4.18	Description of applied contracts	93

4.19	Contracts problems	94
4.20	Causes of arbitration failure	96
4.21	Contracts specifications in general	99
4.22	Contracts specifications in general	103
4.23	Specifications of lump-sum contracts	105
4.24	Specifications of unit price contracts	107
4.25	Specifications of cost plus contracts	109
4.26	Preferred type of contract	110
4.27	Chi-Square Test (First Hypothesis)	111
4.28	Chi-Square Test (Second Hypothesis)	112
4.29	Chi-Square Test (Third Hypothesis)	113
4.30	Chi-Square Test (Fourth Hypothesis)	114

XII
List of Figures

No.	Figure	Page
1.1	Map of Palestine	5
2.1	Traditional Construction Contract Relationships	27
3.1	Methodology Flow Chart	62
3.2	Respondents Distribution According to Location	65
3.3	Distribution of Sample According to Position of Respondents	65
4.1	Types of executed projects	74
4.2	Preferred and non-preferred contracts types	79
4.3	Best institutes contracts	85
4.4	contracts documents priority	87
4.5	Disputes responsibility	90

XIII
Abbreviations

WBGS	West Bank and Gaza Strip
PLO	Palestinian Liberation Organization
UN	United Nations
GDP	Gross Domestic Product
PCU	Palestinian Contractors Union
PECDAR	Palestinian Economic Council for Development & Reconstruction
US	United States
GC	General Conditions
NGOs	Non Government Organizations
FIDIC	International Federation of Consulting Engineers
PCBS	Palestinian Central Bureau of Statistics
USAID	United States Agency for International Development

Construction Contracts in Palestine from Engineering and Legal Perspectives

By

Minnat-Allah S. Saqfelhait

Supervisors

Dr. Riyad Awad

Dr. Ali Sartawi

Abstract

The construction industry in Palestine is one of the most important industries. It plays a significant role in the development and civilization. Construction contracts are generally the agreements between two parties: owners and contractors containing documents that identify the rights and obligations of these parties.

The purpose of this study was to give a description of the contracts used in Palestine, also to diagnose engineering, legal, and Islamic law problems appear when applying different types of contracts.

In order to achieve the objectives of the study; three methods of data collection were used; a questionnaire was conducted and distributed to 80 contractors, the response rate was (59%). Several interviews were held with experts with law and religion, and also with arbitrators, contractors and owners. In addition, several construction contracts were revised, examined, and analyzed. These contracts were collected from different institutes such as: governmental institutes, municipalities, local private institutes, NGOs, etc.

The main results of the research were that building projects are the major work for the Palestinian contractors. The results also showed that the majority of contractors prefer contracting with unit price contract. Besides, more than half of contractors don't prefer to contract with lump-sum contracts. The results also revealed that more than half of contractors have disputed with owners due to misinterpretation of contracts.

The study recommends that:

- The government is recommended to introduce additional laws, regulations, and polices that manage contracting process.
- Interested institutes are recommended to conduct training programs in order to improve contractors' knowledge and capabilities.
- Contractors are advised to review all contracts documents before signing; they also should take advice from experts in law.
- Owners are recommended to quicken contractors' payments and not delay them.
- All parties are invited to form a specialized body that adopts all issues related to contracting process.

Chapter 1

Introduction

Background

The construction sector plays a strategic role in developed and developing countries. Employing more than (16%) of Palestinian work force, the sector is the largest employer in Palestine. It accounts for (17%) of the value added to the gross national product (Enshassi et al., 2007).

The contract from a legal point of view is "a binding agreement between two or more persons or parties; especially, one legally enforceable" (Merriam Webster Dictionary).

In terms of the legal status, "construction contracts" are service contracts by which the investors entrust to one or several entities such as contractors, the construction of a new or reconstruction of the existing building (Matijevic', 2008).

The aim of this research is to give a description of the contracts used in Palestine, also to diagnose engineering, legal, and Islamic law problems which appear while applying different types of contracts.

This chapter introduces the thesis; it gives a general profile of Palestine, Palestinian economy, and presents the development of construction sector in Palestine. Besides, it presents the objectives of the

thesis, justifications for carrying it out, limitations, and the steps of research methodology are presented with the thesis outline.

Research Questions

The research questions have been designed based on several observations on problems appearing when applying construction contracts.

The research questions were as follows:

- Does the current situation of construction contracts used in Palestine suffer from any problem?
- What are the most important problems appear in construction contracts?
- How can we overcome these problems?
- Are construction contracts used to contract with contractors suitable to be applied to different projects?

Research Hypothesis

- **Hypothesis 1**: There is no relation between company classification in the Palestinian Contracting Union and number of accomplished projects by this company during the last five years.
- **Hypothesis 2**: There is a relation between types of construction contract used and type of institution that uses this contract.

- **Hypothesis 3**: There shouldn't be any relation between type of construction contract used in one project and the priority of contracts documents used when a conflict exists between contract documents.
- **Hypothesis 4**: There should be a relation between types of construction contracts and reasons for contracts disputes.

General Profile of Palestine

Palestine is yet to find its place on the world's map as an independent state after long years of conflict and military occupation that forced around (60%) of the population to seek refuge in other countries. In 1948, thousands of Palestinians were forced to flee to neighboring Arab countries following the establishment of Israel and the war that ensued. After the 1967 war, Israel occupied the West Bank and the Gaza Strip (WBGs) and annexed Arab Jerusalem to its territories. The Israeli-Palestinian conflict developed a new dimension in 1987 upon the outbreak of the first Palestinian intifada, which paved the way for the 1991 Middle East Peace Conference, for the decision of the two sides to resolve the conflict through negotiations. This commitment to peace was translated in September 1993 upon the signing of the "Declaration of Principles on Interim Self - Government Arrangements between Israel and the PLO, representing the Palestinian People" (UN, 2001).

The new arrangement engendered high expectations of improvement for the Palestinian areas. Self-government was envisaged as setting free the

WBGs from the harsh conditions of the Israeli occupation, and creating a new environment conducive to the expansion of production and trade. However, fourteen years of limited self-rule have not lived up to these high expectations. The reversion to the old habits of daily clashes between the Israeli forces and the Palestinians protesting Israeli practices has led to a deterioration of economic conditions and prevented any serious movement toward reconstruction and development of the Palestinian economy. This untenable situation precipitated the eruption of the Al-Aqsa Intifada on September 2000, culminating at the end of March 2002 with the Israeli Army reinvading most of the West Bank (MAS, 2008).

The location of Palestine is excellent geographically, forming an economical and cultural platform and point of contact between three continents – Europe, Asia and Africa. The combined area of the West Bank and the Gaza Strip (WBGs) is 6,020 km². The West Bank covers 5,655 km², is 130 km long and ranges between 40 and 65 km in width. The land area of the Gaza Strip is equal to 365 km², and is 40 km long and 5-12 km wide (PASSIA, 2008; cited in MAS, 2008). See figure 1.1.

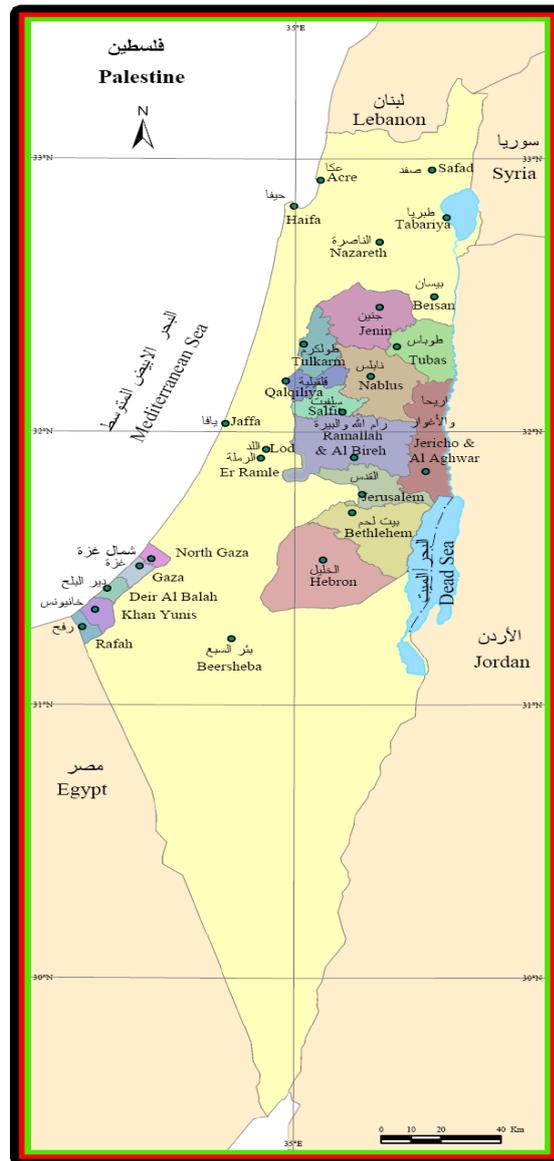


Figure 1.1: Map of Palestine (Source: PCBS).

Most of the population of Palestine is young, with about (57%) below the age of 20 and (65%) below the age of 25. This offers a golden opportunity for growth in the next two decades. It is estimated that about 500,000 persons will join the labor force during the next five years (MAS, 2008).

The WBGS has an abundant labor supply with a high level of education and skills. The services sector makes the highest individual contribution to employment with a rate of (36.4%), followed by commerce, restaurants, and hotels (19.7%), agriculture and fishing (15.3%), and mining, quarrying and manufacturing (12.3%) (MAS, 2008).

Palestinian Economy

Palestine has witnessed rapid economic growth in the period between the years (1994-1999), with an increase in the rate of growth in the Palestinian gross domestic product (GDP) of more than (10%) per year. However, growth in GDP has decreased significantly during the peak of the second intifada (2000 - 2002), but growth resumed in 2003, approaching its previous levels before beginning of the second intifada in September 2000. This indicates that a real growth opportunity exists in Palestine during the normal stable political and economic conditions. The figures of the macroeconomic framework, which emerged in December 2007, expected further growth in GDP by (15%) by 2010 if the political situation is somewhat stable. Unfortunately, this did not happen due to continued political uncertainty and restraints imposed by Israel on the Palestinian economy (PFI, 2009).

The services sector plays a leading role in the Palestinian economy. This sector includes financial, insurance, real estate, engineering designs, accounting, legal, transportation, communications, information, domestic

wholesale and retail operations, public administration, personal services (tourism), and health and education services (MAS, 2008). During the first quarter of 2012, this sector contributed (23.8%) of GDP (PCBS, 2012).

The industrial sector contribution in total GDP has increased from (8%) in the mid-eighties to (17%) in the late-nineties, then dropped down during the first years of the intifada and approached nearly (16%). During 2007, the industrial sector has employed an average of 81586 workers, an average of (13%) total work force. This sector includes: stone and marble, textiles and garments, food processing, engineering and metallurgical industries, chemical industries, pharmaceuticals and veterinary, construction industries, handicrafts, paper and printing, furniture, leather and shoes, and plastics (PFI, 2009). This sector contribution to GDP in the fourth quarter of 2011 was (9.1%), this percentage decreased in the first quarter of 2012 and reached (8.8%) (PCBS, 2012).

The construction sector contributed around (2.5%) of GDP and (11.6%) of total workforce in 2007 (PFI, 2009). In the first quarter of 2012 it contributed (14.6%) of GDP (PCBS, 2012). This sector is susceptible to the political situation and to the trends of international donations. It is featured by highly intermittent temporary employment rates (PFI, 2009).

Agriculture contribution in 2006 was about (8%) of GDP, (10%) of the total exports, and (16%) of the total workforce (PFI, 2009). But in the fourth quarter of 2011 it contributed with (5.3%) of GDP, and in the first quarter of 2012 its contribution to GDP was (4.7%) (PCBS, 2012).

Overview on Construction Industry in Palestine

The construction industry in Palestine was one of the leading sectors that achieved high rates of economic growth in the 1970s and up to the mid-1980s. During that period of time, the contribution of this sector has increased in terms of providing job opportunities for the Palestinian labor force. Since then, this sector has been subjected to many setbacks which have decreased its role in building up the Palestinian economy in contrast with its counterparts in many developing and neighboring countries (Enshassi et al., 2006).

The construction sector is one of Palestine's most important industries although it is significantly affected by changes in the political environment. Besides private firms, three major nongovernmental organizations play integral roles in this industry, namely the Palestinian Contractor's Union, the Syndicate of Engineers and the Palestinian Construction Industries Union. High population growth and a decline in construction activity mean that there is an increasing demand for additional affordable housing. Due to the linkages with other parts of the economy a vibrant housing sector has the potential to stimulate and revive the Palestinian economy (Palestine Investment Conference, 2008).

The construction sector is currently expanding, contributing around (2.5%) of GDP and (11.6%) of employment in the Palestinian Territory in the third quarter of 2007 (MAS, 2008). And in the first quarter of 2012 its contribution to GDP was around (14.6%) (PCBS, 2012). This sector is very

important for growth as it carries significant forward and backward linkages, ranging from simple manufacturing plants to major construction materials and processing industries. In addition, the construction sector has also provided an impetus for local investment, and has contributed to the consolidation of the Palestinian economic base (MAS, 2008).

Despite the substantial success achieved by the construction industry in the Palestinian territories, in terms of economic growth, its contribution to the local output, employment and meeting partially the local needs of the Palestinian society, this industry suffers from a number of problems that have prevented it from resuming its big role in the Palestinian economy (Enshassi et al., 2006).

Construction Contractors in Palestine

The contractor is the individual or company operating in the construction sector and who shall be registered and classified at the Palestinian Contractor's Union (PCU). According to PCU by-law, the contractor is any natural or legal person who shall have the right to practice construction contracting profession in accordance with operative laws and regulations. Such contractor shall be registered at the PCU (PCU, 2003).

According to PCU (2003), contractors classified according to their specialties are divided into five categories each of which shall be subcategorized into several specialties and every category may have a grade from (1 -5) where 1 is highest. These categories are:

1. Building contractors.
2. Road Construction contractors.
3. Water and sewer contractors.
4. Electro-mechanics contractors.
5. Public works and maintenance contractors.

Sectors Working in Construction Industry

Sectors working in construction industry in Palestine are classified to (According to PCU, 2003):

1.6.1 The Private Sector

This sector involves the construction contracting sector, engineering sector, testing laboratories, private project owners such as investors and private sector corporation, manufacturing construction materials and service sector.

1.6.1.1 Construction Contracting Sector

According to PCU by-law, construction contracting is any work pertaining to the construction of buildings, roads, installations, various engineering projects in addition to the operation and maintenance of such construction projects. The contractor is any natural or legal person who

shall have the right to practice construction contracting profession in accordance with operative laws and regulations.

1.6.1.2 Engineering Sector and Testing Laboratories

The engineer operating in the construction sector shall be specialist in the planning and construction project management. Such an engineer shall rely upon relevant science and technology in order to verify and prove facts. The engineer shall also rely upon engineering principles, methodologies and theories to apply them in practice. Further, the engineer shall be responsible for designing and supervising construction projects on the ground. In addition, engineering sector is represented by individual engineers, engineering advisory offices registered at the Engineers' Syndicate and testing laboratories. On the other side, there are many testing labs for construction materials. They belong to private sector, academic institutions, and syndicate of engineers.

1.6.1.3 Private Project Owners

Owners of private projects are individuals or private companies who manage private projects, such as road construction, water, sewer, buildings and installations, etc.

1.6.1.4 Subsidiary Construction Industries Sector

These industries play a complementary role to the contractor's task. Such industries are an indispensable part of construction. In order for

construction industries to attain international standards, construction factories must play a distinguished role in order to attain required levels.

1.6.1.5 Service Sector

Service sector constitutes transportation companies, importing firms and insurance corporations. This sector efficiently complements construction works, and also contributes to the development of the construction sector.

1.6.2 The Public Sector

The public sector is the governmental institutions that owns or manages public projects, such as road construction, water and sewer, buildings and installations, etc. The construction sector is directly connected with governmental institutions; they may be the owner of a construction project, or they may control and supervise the construction sector in accordance with the Law. The governmental institutions directly related to construction sector are the Ministry of Public Works and Housing, Ministry of Labor and Palestinian Standards Institute. On the other hand, governmental institutions indirectly contributing to construction sector are: Ministry of National Economy, Ministry of Planning and International Cooperation, Palestinian Water Authority, Palestinian Energy Authority, Ministry of Health, Ministry of Higher Education, Ministry of Local Government, Ministry of Finance, Ministry of

Transportation and Communications, PECDAR as well as other official institutions and ministries.

International Financing of Construction Sector

To secure financing necessary for the construction sector; to give Palestinian contractors the priority to carry out large-scale projects; to entrust local contractors; to ensure that contractors actually acquire the skills and capacities required for more productivity and to support and assist them are the bases of the development of construction sector and building the Palestinian contractor's capacities. International bodies and organizations are the major donors of construction projects in Palestine. These bodies and organizations offering grants to the construction sector are the Islamic Development Bank (IDB), the United Nations Relief and Work Agency (UNRWA), World Bank (WB), the U. S. Agency for International Development (USAID), United Nations Development Program (UNDP), the European Union (EU), German and Japanese institutions (PCU, 2003).

Research Objectives

The aim of studying construction contracts in Palestine is to achieve the following five objectives:

- (1) To recognize all types of contracts used in Palestine.

(2) To assess and clarify all aspects related to contracts used in Palestine from engineering, legal and Islamic law perspectives.

(3) To examine, review, and evaluate practices related to contracts.

(4) To present recommendations that hoped to be used by intended parties.

Methodology

The methodology used in this study can be summarized as:

- Desk research: which is based on library related books, scientific journals, and periodicals. Also to review all contracts studies and reports recently completed.
- Internet research: web based search, and databases, to review existing related literature.
- A series of meetings and interviews with engineers, contractors, project managers, lawyers, arbitrators, and general directors of several organizations and institutes.
- Developing a proper questionnaire.
- As a contract analysis, different contracts used by contractors are selected, reviewed, and evaluated. This will give feedback to further development of the future contract forms.

Limitations

This research is concerned to study contracts in West Bank-Palestine with contractors who are registered in the Palestinian Contractors Union at the year 2010-2011.

Thesis Structure

This thesis is consisted of five chapters. The first chapter was the introductory chapter which outlines of the thesis. Chapter 2 will provide the thesis with a review on related literature on construction contracts and other related topics. Chapter 3 will represent the selected methodology. Chapter 4 will analyze and discuss results. Chapter 5 will give the conclusions and recommendations for the study.

Chapter 2

Literature Review

2.1 Introduction

“From architects’ and engineers’ dreams to the final coat of paint, construction is responsible for many of our noblest works. Designers and constructors from history left us the Egyptian pyramids, the Gothic cathedrals, the Great Wall of China, and quite literally; the physical as well as the technological foundations upon which many of our modern structures are built. The scope of construction industry today is immense: from suburban homes to skyscrapers; from city sidewalks to dams and tunnels for irrigation and hydroelectric power; from recreational marinas to complete harbors and even structures in the deep open sea; from bicycle shops to aircraft factories; thermal power plants, petroleum refineries, and mining developments; bridges, highways, and rapid transit systems that not only span physical spaces, but bring people together in their social, political and economic endeavors. One can find that the constructed environment is among the most ubiquitous and pervasive factors in our lives” (Barrie & Paulson, 1992).

The construction industry has unique characteristics that sharply distinguish it from other sectors of the economy. It is fragmented, very sensitive to the economic cycles and political environment. Throughout the world, the relative ease of entry to this industry gives rise to a large number

of contracting firms competing fiercely in the market exposing many of them to business failure (Enshassi et al., 2006).

2.2 Construction Industry

The construction industry is a conglomeration of diverse fields and participants that have been loosely lumped together as a sector of the economy. The construction industry plays a central role in national welfare, including the development of residential housing, office buildings and industrial plants, and the restoration of the nation's infrastructure and other public facilities. The importance of this industry lies in the function of its products which provide the foundation for industrial production (Hendrickson, 2008).

Construction has many features common to both manufacturing and service industry as it does not accumulate significant amounts of capital when compared with industries such as steel, transportation, and petroleum (Enshassi & Kaka, 1997).

Construction refers to all types of activities usually associated with the erection and repair of immobile facilities. Contract construction consists of a large number of firms that perform construction work for others, and is estimated to be approximately (85%) of all construction activities. The remaining (15%) of construction is performed by owners of the facilities, and is referred to as force-account construction. Although the number of contractors in the United States exceeds a million, over (60%) of

all contractor construction is performed by the top 400 contractors. Construction is a significant factor in the Gross National Product although its importance has been declining in recent years. Not to be ignored is the fact that as the nation's constructed facilities become older, the total expenditure on rehabilitation and maintenance may increase relative to the value of new construction (Hendrickson, 2008).

Enshassi and Kaka (1997) comment that in order to complete a construction project on time, at the right budget, and high quality, local construction companies need to improve their organizational and management structure, increase social, economic, and environmental constraints, and improve the interrelationships between all individuals involved in the project.

2.3 Construction in Palestine

The construction sector is one of the key economic sectors and is the main force motivating the Palestinian national economy. Upon the establishment of the Palestinian National Authority and the assumption of its powers over the Palestinian territories in 1994, the construction sector has witnessed noticeable expansion and activities. This has resulted in the recovery of the construction contracting profession and subsidiary industries, encouraged the investment of the Palestinian expatriates' capital in the local construction sector, and contributed to the creation of jobs for thousands of Palestinians. Therefore, the construction sector has occupied

the foremost position among the rest of sectors, mainly in the attraction of investments and creation of new jobs (PCU, 2003).

The construction sector in Palestine was one of the leading sectors that achieved high rates of economic growth in the 1970s and up to the mid-1980s. During that period of time, the contribution of this sector has increased in terms of providing job opportunities for the Palestinian labor force and the generation of local production. Since then, this sector has been subjected to many setbacks which have decreased its role in building up the Palestinian economy in contrast with its counterparts in many developing and neighboring countries. In addition to its social role in providing homes, public facilities and infrastructure for economic enterprises, the construction and housing industry is a driving force and a vital contributor to the Palestinian economy (Enshassi et al., 2006).

The construction sector's share of GDP increased from under (10%) in 1972 to over (17%) in mid 80's. During that period the contribution of sector had fluctuated in an upward long run trend bounded by (9%) and (19%) during 70's and by (15.2%) and (23%) during 80's. Several factors had contributed to the growth of the sector during that period, most important is the high growth of income experienced by Palestinians due to the integration of the Palestinian Economy into the larger and wealthier Israeli economy, and also to the oil boom which enabled Palestinians in the Gulf to increase their Capital inflows into Palestine, most of which were invested in construction and housing. Following 1985 and till 1991 the

sector was exposed to many external shocks which affected not only construction but also the whole economic and social conditions in Palestine. Economic Slowdown in related economies, high inflation rates, devaluation of the Jordanian Dinar and the Intifada had exerted a passive effect on the performance of the sector and the economy as a whole. Despite these facts, it seems that the construction activity was less affected than the total economy; its average share of GDP during the period (87-91) was around (21%) as compared to (17.2%) during the period (80-86). The special particularities of the Palestinian economy had buffered the construction sector and protected it from serious and strong shocks that affected the whole economy. Post 1991 construction share had reached an unprecedented level. The share of construction and housing in 1994 was (25%) (PCBS figure) of GDP the advent of the peace process had leveled off the adverse impact of the Gulf war and has promoted construction activity in the WBGS as a result of the positive environment prevailed due to the Oslo agreement (PECDAR, 1997).

However, it appears that in 2004 the construction sector's contribution to the GDP was reduced to (9%) due to the second Intifada in Palestine (World Bank, 2004; PCBS, 2004 cited in Enshassi et al, 2007). Recently, and accurately in the years 2010 and 2011, the figures show a bit increase in the construction sector's contribution to GDP to reach (9.2%) at 2010, and more increasing at the first two quarters of 2011 to reach (9.9%) and (11.5%) at the first and second quarters of 2011, respectively (MAS, PCBS, & PMA, 2011).

2.4 Types of Construction

The construction industry is a conglomeration of quite diverse segments and products. Some owners may procure a constructed facility only once in a long while and tend to look for short term advantages. However, many owners require periodic acquisition of new facilities and/or rehabilitation of existing facilities. It is to their advantage to keep the construction industry healthy and productive. In planning for various types of construction, the methods of procuring professional services, awarding construction contracts, and financing the constructed facility can be quite different (Hendrickson, 2008).

According to Hendrickson (2008), the broad spectrum of constructed facilities may be classified into four major categories, each with its own characteristics. These categories are:

1. Residential Housing Construction

Residential housing construction includes single-family houses, multi-family dwellings, and high-rise apartments. During the development and construction of such projects, the developers or sponsors who are familiar with the construction industry usually serve as surrogate owners and take charge, making necessary contractual agreements for design and construction, and arranging the financing and sale of the completed structures. Residential housing designs are usually performed by architects and engineers, and the construction executed by contractors who hire

subcontractors for the structural, mechanical, electrical and other specialty work.

The residential housing market is heavily affected by general economic conditions, tax laws, and the monetary and fiscal policies of the government. Often, a slight increase in total demand will cause a substantial investment in construction, since many housing projects can be started at different locations by different individuals and developers at the same time. Because of the relative ease of entry, at least at the lower end of the market, many new builders are attracted to the residential housing construction. Hence, this market is highly competitive, with potentially high risks as well as high rewards.

2. Institutional and Commercial Building Construction

Institutional and commercial building construction encompasses a great variety of project types and sizes, such as schools and universities, medical clinics and hospitals, recreational facilities and sports stadiums, retail chain stores and large shopping centers, warehouses and light manufacturing plants, and skyscrapers for offices and hotels. The owners of such buildings may or may not be familiar with construction industry practices, but they usually are able to select competent professional consultants and arrange the financing of the constructed facilities themselves. Specialty architects and engineers are often engaged for designing a specific type of building, while the general contractors

undertaking such projects may also be specialized in only that type of building.

Because of the higher costs and greater sophistication of institutional and commercial buildings in comparison with residential housing, this market segment is shared by fewer competitors. Since the construction of some of these buildings is a long process which once started will take some time to proceed until completion, the demand is less sensitive to general economic conditions than that for speculative housing. Consequently, the owners may confront an oligopoly of general contractors who compete in the same market. In an oligopoly situation, only a limited number of competitors exist, and a firm's price for services may be based in part on its competitive strategies in the local market.

3. Specialized Industrial Construction

Specialized industrial construction usually involves very large scale projects with a high degree of technological complexity, such as oil refineries, steel mills, chemical processing plants and coal-fired or nuclear power plants. The owners usually are deeply involved in the development of a project, and prefer to work with designers-builders such that the total time for the completion of the project can be shortened. They also want to pick a team of designers and builders with whom the owner has developed good working relations over the years.

Although the initiation of such projects is also affected by the state of the economy, long range demand forecasting is the most important factor since such projects are capitals intensive and require considerable amount of planning and construction time.

4. Infrastructure and Heavy Construction

Infrastructure and heavy construction includes projects such as highways, mass transit systems, tunnels, bridges, pipelines, drainage systems and sewage treatment plants. Most of these projects are publicly owned and therefore financed either through bonds or taxes. This category of construction is characterized by a high degree of mechanization, which has gradually replaced some labor intensive operations.

The engineers and contractors engaged in infrastructure construction are usually highly specialized since each segment of the market requires different types of skills. However, demands for different segments of infrastructure and heavy construction may shift with saturation in some segments. For example, as the available highway construction projects are declining, some heavy construction contractors quickly move their work force and equipment into the field of mining where jobs are available.

2.5 Construction Contracts

Bockrath (2000) defines the contract as the entire agreement between the parties, mainly including the form of contract of agreement together with the specification, the advertisement, the information for bidders, the

contractor's proposal, the contract drawings, and conditions of the contract both general and supplementary.

A contract is a document that spells out the rights and obligations of parties and the administration of this interaction while protecting the parties against the risks that emanate from various relationships, actions and production. Although the legal systems in countries are very specific to each country, there are important aspects that need to form part of any construction contract in any country to insure harmony, the parties' understanding of duties and the effective administration of obligations. The general terms that should be included in the construction contract include (Verster, 2005):

- Objectives: Offer acceptance and performance.
- Preparation: Documents, design responsibility, agents, site representation, regulations, works risk, indemnities, insurances, securities, guarantees, etc.
- Execution: Preparation, access to the works, contracts instructions of variations, setting out the works, assignment, nominated and selected subcontractors, direct contractors.
- Completion: Practical works and final completion, defects liability periods, sectional completion, revision of dates, penalties.
- Payment: Interim payments to the contractor, adjustments, recoveries, final accounts.

- Cancellation: By the owner or contractor and the rights related to default and disaster.
- Disputes: Litigation, arbitration, adjudication, and mediation.

2.6 Construction Contracts in Palestine

The selection of the contract type in Palestine depends on several factors such as: agency type, project type, and sponsor identity. Sometimes the local agencies are enforced to use the sponsor country contract for projects financed by that sponsor. Also the agency may use more than one type of contracts according to the project type. Most of the agencies presume the special conditions in order to overcome some of the general conditions provisions that are not suitable to the agency (Enshassi & Abu Rass, 2008).

2.7 Parties of Construction Contracts

1. The Owner

Also called the employer, he is the party that owns and finances the project, either from his own resources or from sources of external financing (Clough, 1981). He has rights to land, initiate construction, employ engineers and contractors, and pay for the construction work; which is his first obligation in the contract (Collier, 1994). Owners may be either public or private. Public projects are paid for by appropriations, bonds, tax levies and other forms of financing and are constructed to meet some defined public need. Private owners may be individuals, partnerships, or

corporations. Most of them have the structure constructed for their own use (Clough, 1981).

2. The Contractor

Bockrath (2000) defines the contractor to be the party who undertakes to supply goods or to perform a construction job or other project for the owner. He does not only control the work of construction, but also acts as intermediary between the engineer and the artisans. See figure 2.1.

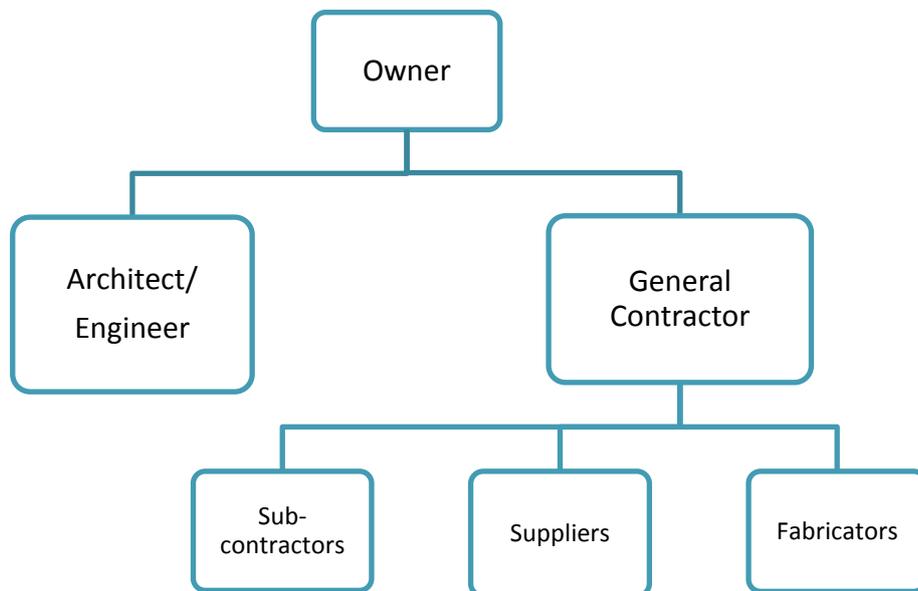


Figure 2.1: Traditional Construction Contract Relationships. (Fisk & Reynolds, 2006)

3. Other Parties of Construction Contracts

In addition to the parties of the contract, there are several other persons involved, who may include the architect or engineer, the quantity surveyor, and other consultants. Although they are not parties, they may

materially affect the legal relationship between the contractor and the owner (May, 1995).

- **The Engineer**

Bockrath (2000) defines the engineer as the architect or the engineer or both of them who acts for the owner in the transaction.

- **The Subcontractor**

The contractor frequently subcontracts, or sublets, much of the work to subcontractors (May, 1995).

2.8 Construction Contracts' Documents

Contracts documents are very important pieces of information that make a binding obligation between two or more parties, thus being evidence that a contract exists. These contracts documents usually take the form of an agreement, some general conditions, drawings, specifications, all sufficient information to show the extent and nature of the contract they represent. These documents are used by architects, engineers and contractors to convey technical and legal messages and ideas to various parties of the contract. Due to these reasons, it is desirable that a uniform approach to the production and interpretation of contract documents be fostered throughout the construction industry (Gofhamodimo).

The phrase contract document is used to describe the entire scope of a construction contract. In fact, the contract documents form the contract

and are the sole declaration of agreement between the parties involved. Contract documents normally consist of agreement, general conditions, supplementary conditions, bills of quantities, specifications, drawings, addenda, bonds, insurance, contractor's bid or proposal, notice of award, and notice to proceed. In some cases supplements such as the invitation to bid, instructions to bidders, shop drawings, written interpretations, or clarifications are part of the contract documents (PHD center, 2010).

Following are the main contract documents with some details:

1. The Agreement

It is the main document used to signify and formalize the construction contract between the Owner and Contractor (PHD center, 2010). It sets out the date; the parties; the intended works and the consideration (May, 1995). A good agreement is divided into sections called articles numbered consecutively; these articles define the terms of the agreement and establish the contractual obligations for each party. Standard articles define the work, the engineer/architect, the contract time, monetary damages for delayed work completion, and contractor's price as defined in the bid, payment procedures, and the contract documents (PHD center, 2010).

2. General Conditions

The legal aspects of the contract documents are outlined in the general conditions (GC's) (PHD center, 2010). These conditions are made

part of the contract and attempt to provide for the various problems which can arise during and after the execution of the works (May, 1995). The GC's are the legal standards that have been established to promote fair and objective contractual stipulations between all parties involved in construction projects. There are several types of them available for inclusion in contract documents, and a comparison should be made by the end-user to determine which GC's are best suited for the project and type of work involved. A primary benefit of using standardized GC's is that the document has been prepared with the advice of legal counsel and experienced professionals. The articles contained in the GS's describe the legal rights, responsibilities and contractual requirements of the owner, contractor, and engineer (PHD center, 2010).

3. Supplementary Conditions

Whenever a modification to the general conditions is desired, the supplementary conditions can be utilized. Generally, the GC's should not be amended within itself. The supplementary conditions are the part of the contract documents where an engineer or owner can amend, modify, or supplement the articles of the standardized GC's (PHD center, 2010).

4. Bills of Quantities

Bills of quantities quantify the works in detail and are ordinarily prepared in accordance with an agreed standard method of measurement (May, 1995). May (1995) adds that bills of quantities may not form part of

the contract although submitted to the contractor for tender, and it generally requires express words in the articles of agreement to make them a contract document.

5. Specifications

They are the documents which describe the work to be done and the goods to be supplied. There is no standard or customary method for the preparation of a specification and its meaning must be considered in each contract (May, 1995).

The various specifications outline to the contractor the type of material, pertinent material data, and performance requirements of the material placed in construction. The engineer may also stipulate construction sequencing depending upon the needs of the owner or as required by existing conditions affecting the project (PHD center, 2010).

6. Drawings

Drawings created by the design professional constitute the basis for the construction of the project. They are inherently part of the contract documents but should be specifically stated as such in the agreement (PHD center, 2010).

7. Addenda

An addendum is a formal written document issued to modify, add or delete any part of the contract documents prior to submission of the bids.

Addenda are important documents and will often facilitate adjustment to a contractor's bid. For this reason diligence should be used to ensure that all contractors providing bids for a given project receive addenda and acknowledge receipt thereof either in the bid or prior to submission of bids (PHD center, 2010).

8. Bonds:

Bonds are provided by a surety company and are the legal documents that guarantee to an owner that the project will be completed, is constructed properly, and all labor, materials and equipment will be paid for in the event the contractor defaults on the original contract (PHD center, 2010).

Bonds include bid, performance, payment, maintenance and other instruments of security. Blank or sample bond forms are provided with the contract documents prior to the bid (PHD center, 2010).

These are different types of bonds in some details (PHD center, 2010):

- **Bid Bond:** submitted with the bid by the contractor. It is security to the owner that the successful bidder will enter into an agreement for the work and not withdraw or nullify its bid after submission. Typical bid bonds are for (5%) of the amount of the contractor's proposal. In the event a contractor desires to withdraw or nullify its bid, the owner has the right to enforce its receipt of (5%) of the bid price.

- **Performance Bond:** included with signed contract documents. This bond guarantees the owner that the project will be completed for the contract price in the event the original contractor fails to perform the work.
- **Payment (or Statutory) Bond:** included with signed contract documents. This bond guarantees the owner that all labor, equipment, and materials will be completely paid for in the event the original contractor fails to perform the work.
- **Maintenance Bond:** included with signed contract documents. This bond guarantees the owner that any defects found after the work has been completed will be corrected by the original contractor or other agent of the surety company. The maintenance bond is effective for a predetermined amount of time past the date when the work is satisfactorily complete. Typical maintenance periods range from one to three years, and the bond amount is also predetermined and typically ranges from (50%) to (100%) of the original contract value.

9. Insurance

Any good set of contract documents should include clauses requiring the contractor, and in some cases the owner, to carry insurance to protect the public, property affected by or adjacent to the work, and financial interests of the parties involved in the project. These clauses are usually located in the general conditions and amended as necessary in the supplementary conditions. The types of coverage and policy amounts can differ by project or owner (PHD center, 2010).

10. Contractor's Bid (Proposal)

A bid is the price proposed by a contractor to complete the work described in a set of contract documents. It becomes the money amount of the agreement between an owner and contractor. The value of the contract can only be modified by a change order as agreed to by all parties (PHD center, 2010).

11. Notice of Award

The notice of award is the written notice by the owner to the apparent successful bidder stating that upon compliance by the bidder with the conditions presented in the notice the owner will sign the agreement. The notice can be as simple as a letter drafted by an authorized representative of the owner or a formal standardized document created for the stated purpose (PHD center, 2010).

12. Notice to Proceed

The notice to proceed is a written notice from the owner to the contractor that establishes the date on which the contractor shall begin performing its duties and obligations as outlined in the contract documents. This notice can be as simple as a letter drafted by an authorized representative of the owner, or a formal standardized document created for the stated purpose (PHD center, 2010).

13. Supplemental Documents

Some owners and engineers prefer to reference in the agreement the invitation to bid, the instructions to bidders, shop drawings and other written interpretations or clarifications. The invitation to bid is a legal notice alerting the public and all interested parties of an owner's intent to receive bids for predetermined goods or services at a specific time and location as outlined in the notice. The invitation to bid is placed in local newspapers where prospective bidders can find and read it. Owners and engineers also may send the notice directly to bidders that have bid on previous projects for them. The instructions to bidders are an important written matter as it describes to the prospective bidders how to formally submit the bid to the owner (PDH center, 2010).

2.9 Types of Construction Contracts

There are many different types of construction contracts, distinguished primarily by the method of determining the final contract price. Regardless of the method used, the goal is the same quality construction completed on time and to all specifications for the lowest possible price while allowing the contractor an opportunity to make a fair profit. The type of contract chosen may depend on several factors, including the identity and relationship, if any, of the owner and contractor; the completeness of the design and its complexity; the type of work to be done; and the need or desire of competitive pricing (Fisk & Reynolds, 2006).

Construction contracts may be classified into the following types:

2.9.1 Lump Sum Contracts

2.9.2 Unit Price Contracts

2.9.3 Cost Plus Contracts

2.9.4 Design-Build Contracts

2.9.5 Turnkey Contracts

2.9.6 Management-Oriented Contracts

2.9.7 Construction by Day Labor

2.9.8 Target Estimate Contracts

2.9.9 Guaranteed Maximum Price Contracts

2.9.10 Contracts with Quantities

2.9.11 Construction Management Contracts

Here are these types of contracts with some details:

2.9.1 Lump-Sum Contract

Also known as stipulated sum and fixed price contract. Bockrath (2000) defines it to be the contract in which the contractor agrees to perform for a stated amount of money. Fisk & Reynolds (2006) write that the lump sum contract is one in which the contractor agrees to do specified

construction for a fixed price set forth in the contract, The only changes allowed to the fixed price are for extras or change orders.

Clough (1981) argued that the satisfactory completion of the work for the stated amount of money remains the obligation of the contractor, regardless of the difficulties and troubles that may be experienced in the course of construction activities, even though the total cost of the work may turn out to be greater than the contract price. However, the contractor can be relieved of this contractual responsibility because of impossibility of performance, where there is contract provision for price adjustment in the event of changed conditions, and possibly because of other contingencies.

Hendrickson (2008) and Collier (1994) emphasized that in this type of contract, the owner has essentially assigned all the risk to the contractor, who in turn takes almost all the risks by offering to do the work for a stipulated sum. He writes that beside the fixed lump sum price, other commitments are often made by the contractor in the form of submittals such as a specific schedule, the management reporting system or a quality control program. Collier (1994) recommends that for an owner there is a risk of default in performance of the work by the contractor, this risk can be reduced by requiring and paying for a performance bond. In this kind of contract a contractor can minimize his risks and minimize his profit.

This type of contract is popular from the owner's viewpoint for the obvious reason that the total cost of the project is known in advance, its use is limited (Clough, 1981). It can be used successfully for the routine

construction of schools, mill buildings, warehouses, and similar structures with which the average contractor has had considerable experience. Although these projects involve many different kinds of work, a capable and experienced contractor can generally estimate the total cost and prepare the bid with a fair degree of accuracy.

Bockrath (2000) and Clough (1981) suggests that if the work required by the contract is not accurately determined in advance of field operation and in all its features at the time of bidding, a lump sum contract is not suitable and should not be used. Bockrath (2000) claims that it would be unfair to the bidders to expect them to bind themselves to the performance of work of which cannot be outlined in advance.

In this type of contracts, bids are requested based on a complete set of plans and specifications, thus allowing for easy comparison of bid prices and fostering competition (Fisk & Reynolds, 2006).

2.9.2 Unit Price Contract

Bockrath (2000) defines unit price contract as the one in which payment for the work is to be made upon the basis of the computed quantities of specifically stated items of work actually performed and materials furnished and used by the contractor in the project, each such quantity being multiplied by the contractor's bid price for that unit. Halpin & Woodhead (1980) stated that in the unit price contract, the project is broken down into work items that can be characterized by units, and the

contractor quotes the price by units rather than as a single total contract price.

This type of contract is based on estimated quantities of certain well-defined items of work and costs per unit amount of each of these work items. The estimated quantities are compiled by the engineer, and the unit costs are those bid by the contractor for carrying out the stipulated work in accordance with the contract documents. The total sum of money paid to the contractor for each work item remains an indeterminable factor until completion of the project, however, because payment to the contractor is made on the basis of units of work actually done and measured in the field. Therefore the exact ultimate cost of the construction is not known to the owner until completion of the project. The contractor is obligated to perform the quantities of work actually required in the field at the quoted unit prices, whether they are greater or less than the engineer's estimates (Clough, 1981).

Hendrickson (2008) notes that in this type of contract; the risk of inaccurate estimation of uncertain quantities for some key tasks has been removed from the contractor.

Collier (1994) discusses that unit price contracts are not always a separate kind of contract, but they are often a form of fixed price contract with separate unit prices and separate sums stipulated for each item of work required.

This type of contract is most often used in heavy construction and public works contracts, such as pipelines, highways, earthworks, bridges, tunneling and transit facilities; in situations where it is difficult to calculate quantities in advance (Fisk & Reynolds, 2006).

2.9.3 Cost Plus Contracts

Also called cost reimbursable contracts, are contracts in which the contractor is paid the actual costs of the construction plus a specified markup to cover overhead and profit. Typically, the contract defines costs as including all expenses for materials, labor, and subcontractors and suppliers (Fisk & Reynolds, 2006).

Bockrath (2000) mentioned several reasons that an owner may choose to use a cost plus contract. The work may be such that the owner fears that the bidders will add large contingencies, or in an emergency situation requiring construction of something without time to develop plans for it, a contractor may not be able to make a proposal on a lump sum basis. A unit price basis is equally undesirable because it is difficult to foresee all that is required. In such a situation it is preferable to engage a contractor to do the work on the basis of cost plus some allowance for overhead and profit. Also he recommended that cost plus contract may also be useful in situations that are not emergencies, especially when it is uncertain what troubles or difficulties will be encountered in the work. In this way decisions can be made as the work progresses.

Fisk and Reynolds (2006) comments that this type of contract is appropriate where, due to an incomplete or very complex design, a contractor would be unable to give a lump-sum price without including a large contingency for unknown factors.

Cost plus contracts can be divided into several types as follows:

- Cost Plus Fixed Percentage of Cost Contract

In this type of contract, the contractor is paid its actual costs plus a specified percentage for costs of overhead. Thus, the contract would specifically exclude actual overhead expenses from the definition of eligible costs. To the total of costs and the overhead is then added a specified percentage for profit (Fisk & Reynolds, 2006).

For certain types of construction involving new technology or extremely pressing needs, the owner is sometimes forced to assume all risks of cost overruns. The contractor will receive the actual direct job cost plus a fixed percentage, and have little incentive to reduce job cost. Furthermore, if there are pressing needs to complete the project, overtime payments to workers are common and will further increase the job cost (Hendrickson, 2008).

However, Hendrickson (2008) does not advise the owner to use this type of contract; unless there are compelling reasons, such as the urgency in the construction of military installations.

- **Cost Plus Fixed Fee Contract**

In this type of contract, the contractor is paid its actual costs plus a fixed fee that is set in advance, and it may or may not specify that costs include a set daily rate for overhead (Fisk & Reynolds, 2006). Hendrickson (2008) mentioned that under this type of contract; the contractor will receive the actual direct job cost plus a fixed fee, and will have some incentive to complete the job quickly since its fee is fixed regardless of the duration of the project. Bockrath (2000) discussed that this type of contract overcomes the possible weakness of the cost plus percentage type, which is that the more nonproductive and wasteful the contractor is; the more profit he makes.

The contractor here receives only the stipulated fixed fee sum regardless of what the costs of the project and his overhead and profit are. If staff salaries are to be paid out of this fee, the contractor will endeavor to expedite the project so as to make as much profit as possible. Even if staff salaries are to be classed as a part of the general costs of the job, the contractor will still want to rush the work so that his workers can be available for another contract as soon as possible (Bockrath, 2000).

- **Cost Plus Variable Percentage Contract**

For this type of contract, the contractor agrees to a penalty if the actual cost exceeds the estimated job cost, or a reward if the actual cost is below the estimated job cost. In return for taking the risk on its own

estimate, the contractor is allowed a variable percentage of the direct job-cost for its fee. Furthermore, the project duration is usually specified and the contractor must abide by the deadline for completion (Hendrickson, 2008).

Hendrickson (2008) finds that this type of cost plus contract allocates considerable risk for cost overruns to the owner, but also provides incentives to contractors to reduce costs as much as possible.

- Cost Plus Incentive Fee

The contract here specifies time and quality criteria. If the contractor meets those criteria, it is paid its costs plus a set fee. If the contractor exceeds those criteria, perhaps by completing the job early, the contractor is paid an additional fee based on a scale set forth in the contract. If the contractor does not meet those criteria, the fee is less (Fisk & Reynolds, 2006).

2.9.4 Design-Build Contract

Design-build contract permits an owner to contract with one entity to provide both design and construction services. It involves a single contract for both design and construction services rather than one contract for design and another for construction. It combines into a single role the design responsibility of the project and the building function of the prime contractor (Toler, 2007).

The design-builder may be a single company, or it may be a joint venture. The design-builder need not have in-house capability to perform both construction and design; a construction contractor may subcontract the design work, or an engineering firm may subcontract the construction work. Some design-build contracts are “turnkey” contracts (Friedlander).

2.9.5 Turnkey Contracts

In a turnkey relationship, the design-builder not only designs and constructs the project; it also ensures that the plant is functioning and ready to operate for the owner. The term “turnkey” derives from the concept that the owner may figuratively insert a key into a slot and turn it to begin successful operation of the plant (Friedlander).

2.9.6 Management-Oriented Contracts

Management contracting is a process whereby an organization is appointed to the professional team during the initial stages of a project to provide construction-management expertise under the direction of the contract administrator. The management contractor employs and manages works contractors who carry out the actual construction of the project and he is reimbursed by means of a fee for his management services and payment of the actual prime cost of the construction (Masterman, 2002; cited in Murtaja, 2007).

2.9.7 Construction by Day Labor

Also called force account, which means that the owner does the work with his own forces, pays for all labor, all materials furnished, and all expenses of any kind that are required for the completion of the job. He also provides or rents the equipment. The workmen may be his own regular employees or others whom he has recruited for the job. The owner may supervise the work directly, handle it through the services of the engineer, have a superintendent appointed from his own staff, or hire a superintendent for the job. He may even hire a contractor to do this supervision, paying him a salary or a fee to do so (Dunham et al., 1979).

2.9.8 Target Estimate Contract

This is another type of contract which specifies a penalty or reward to a contractor, depending on whether the actual cost is greater than or less than the contractor's estimated direct job cost. Usually, the percentages of savings or overrun to be shared by the owner and the contractor are predetermined and the project duration is specified in the contract. Bonuses or penalties may be stipulated for different project completion dates (Hendrickson, 2008).

2.9.9 Guaranteed Maximum Price Contract

Fisk & Reynolds (2006) noted that this type of contract is a variation of the cost plus contract where the owner and contractor agree that the project will not cost the owner more than a set price, the guaranteed

maximum. The contractor is paid on a cost plus fixed fee or percentage of cost basis, but in no event more than the set maximum price.

Hendrickson (2008) comments that when the project scope is well defined, an owner may choose to ask the contractor to take all the risks, both in terms of actual project cost and project time. The owner and the contractor agree to a project cost guaranteed by the contractor as maximum. There may be or may not be additional provisions to share any savings if any in the contract.

Whereas Barrie & Paulson (1992) discussed that under this type of contract, the owner takes the scope risk and the contractor takes the price risk over a guaranteed maximum or upset amount. Savings below the guaranteed maximum price are normally shared between contractor and owner on a negotiated basis. This type of contract permits work to begin prior to final design and, if the scope is well defined, can fix a maximum price for the work. As in the fixed price contract, problems arise when scope changes are made by the owner or when changed conditions are encountered.

Fisk and Reynolds (2006) comment that in some guaranteed maximum price contracts, a savings clause provides that if the project costs the owner less than the guaranteed maximum price, the owner and contractor are to split the difference between the costs and the guaranteed maximum price; typical splits are (50/50) percent and (60/40) percent (owner/contractor). Guaranteed maximum price contracts give contractors

great incentive to keep costs as reasonable as possible to ensure themselves as much profit as possible.

2.9.10 Contracts with Quantities

In some countries; a form of unit price contract is used for many major building projects. These are called contracts with quantities. The main difference between contracts with quantities and unit price contracts is primarily in the quantities of work provided in a contract with quantities. For the most part, contracts with quantities have quantities that are not approximate. They are accurate quantities measured by an agent of the owner known as a quantity surveyor. Also, a professional quantity surveyor may handle the financial administration of a building project, from the initial conceptual estimates to the settlement of the final account. In contracts with quantities the quantity surveyor is responsible to the owner for the accuracy of the quantities provided to bidders in the bidding documents. If there is any subsequent variation from those quantities in the contract, the owner pays the contractor according to the actual quantities of work done (Collier, 1994).

2.9.11 Construction Management Contracts

A professional construction management program featuring phased construction and competitively bid fixed price contracts offer early completion advantaged coupled with fixed price contracts, but may not offer a high quality price guarantee since work begins prior to finalizing all

individual contracts. Changes to the work after contracts have been awarded or nonperformance by individual contractors can result in major delays and disputes between owner, construction manager and project contractors (Barrie & Paulson, 1992).

2.10 Law for Engineers

Dramatic increases in regulations and increased liability exposure in the past few decades have made it imperative that engineers should be at least conversant with the basics of law. However, it is necessary for engineers an elementary understanding of how law works (Bockrath, 2000).

An engineer ordinarily uses a logical method to solve problems, trying generally to identify and control variables and eliminate guesswork from the final equation. Objectivity is important. The result of the process generally has few subjective components or disregards them in the interest of maintaining the integrity of the scientific process. While in law, however, the logic of the process is secondary to the fact of the result. Experience and analogy are most important in the process of legal thought (Bockrath, 2000).

Bockrath (2000) recommends that law should be thought of as a process rather than a set of rules: a process by which disputes are resolved. He adds that rules exist, but economic and political pressures and

considerations are a part of the process, as are the personalities of the litigants, judges, and attorneys.

2.11 Construction Contracts Law

Fisk & Reynolds (2006) discussed that the performance of construction contracts is regulated by law as with most endeavors, but the difference between them and other enterprises seems to lie in the fact that there are more jurisdictional agencies involved, and thus more laws to contend with. They find that these laws fall into four major categories:

1. Contract law: those laws and regulations that affect the making of contracts, both public and private.
2. Laws governing the execution of the work being performed under the contract.
3. Laws that relate to the setting of differences and disputes that may develop out of the performance of the contract.
4. Licensing laws that govern not only the business practices but also the personal qualifications standards of the various people involved in the construction process.

Contract law is called residual, since it mainly deals with things not dealt with by statute law, or legislated law. It is largely traditional common law modified by statute. Contracts are the means by which all commerce and business works. Considering how much the law impinges on

individuals and construction, the courts interfere very little in the making of contracts. People make contracts every day, and yet the law remains unconcerned with most of them (Collier, 1994).

According to Bockrath (2000), the engineer's involvement with the law especially in cases related to construction contracts may occur in these situations:

1. Preparing contract documents and specifications.
2. Conducting contractual relationships and the handling of claims and payments.
3. Interpreting contract clauses and the settlement of disputes arising.
4. Educating attorneys regarding engineering matters and customs.
5. Settlement of disputes out of court.
6. Participating as an expert witness in many cases such as: regular jury trial, cases heard before judges, mediation and arbitration of disputes.

2.12 Disputes Resolution in Construction Contracts

Once a contract is reached, a variety of problems may emerge during the course of work. Disputes may arise over quality of work, over responsibility for delays, over appropriate payments due to changed conditions, or a multitude of other considerations. The mechanism for

contract dispute resolution can be either specified in the original contract, or can be decided when a dispute arises (Hendrickson, 2008).

Changes in construction technology and the complexity of projects have made building more complicated. Present used contracts and project management techniques are struggling to keep up with the dynamics of industry. In addition, owners have become highly leveraged with tighter budgets and restricted cash flow. Pressures to get projects up and running have led to tighter time schedules and experiments with new accelerated project delivery methods. The cumulative effect of these factors has caused traditionally cooperative relationships to deteriorate, and be replaced by adversarial, antagonistic relationships, 'win-lose' attitudes, and general dissension (Roxene, 1998; cited in Enshassi & Abu Rass, 2008).

Hendrickson (2008) emphasized that the most prominent mechanism for dispute resolution is adjudication in a court of law. This process tends to be expensive and time consuming since it involves legal representation and waiting in queues of cases for available court times. In adjudication, the dispute is decided by a neutral, third party with no necessary specialized expertise in the disputed subject. Legal procedures are highly structured with rigid, formal rules for presentations and fact finding. On the positive side, legal adjudication strives for consistency and predictability of results. The results of previous cases are published and can be used as precedents for resolution of new disputes (Hendrickson, 2008).

The high cost of adjudication has inspired a series of non-traditional dispute resolution mechanisms that have some of the characteristics of judicial proceedings. These mechanisms include (Hendrickson, 2008):

- Private judging in which the participants hire a third party judge to make a decision.
- Neutral expert fact-finding in which a third party with specialized knowledge makes a recommendation.
- Mini-trial in which legal summaries of the participants' positions are presented to a jury comprised of principals of the affected parties.

Negotiation among the contract parties is a second important dispute resolution mechanism. These negotiations can involve the same sorts of concerns and issues as with the original contracts. The negotiation process is usually informal, unstructured and relatively inexpensive. If an agreement is not reached between the parties, then adjudication is a possible remedy (Hendrickson, 2008).

A third important dispute resolution mechanism is the resort to arbitration or mediation and conciliation. In these procedures, a third party serves a central role in the resolution. These outside parties are usually chosen by mutually agreement of the parties involved and will have specialized knowledge of the dispute subject. In arbitration, the third party may make a decision which is binding on the participants. In mediation and conciliation, the third party serves only as a facilitator to help the

participants reach a mutually acceptable resolution. Like negotiation, these procedures can be informal and unstructured (Hendrickson, 2008).

2.13 Construction Contractors

Builders who supervise the execution of construction projects are traditionally referred to as contractors, or more appropriately called constructors. The general contractor coordinates various tasks for a project while the specialty contractors such as mechanical or electrical contractors perform the work in their specialties. Material and equipment suppliers often act as installation contractors; they play a significant role in a construction project since the conditions of delivery of materials and equipment affect the quality, cost, and timely completion of the project (Hendrickson, 2008).

Hendrickson (2008) divided contractors into three categories as follows:

1. General Contractors

The function of a general contractor is to coordinate all tasks in a construction project. Unless the owner performs this function or engages a professional construction manager to do so, a good general contractor who has worked with a team of superintendents, specialty contractors or subcontractors together for a number of projects in the past can be most effective in inspiring loyalty and cooperation. The general contractor is also knowledgeable about the labor force employed in construction.

2. Specialty Contractors

Specialty contractors include mechanical, electrical, foundation, excavation, and demolition contractors among others. They usually serve as subcontractors to the general contractor of a project. In some cases, legal statutes may require an owner to deal with various specialty contractors directly. In most cases, the owner will hold the general contractor responsible for negotiating and fulfilling the contractual agreements with the subcontractors.

3. Material and Equipment Suppliers

Major material suppliers include specialty contractors in structural steel fabrication and erection, sheet metal, ready mixed concrete delivery, reinforcing steel bar detailers, roofing, glazing etc. Major equipment suppliers for industrial construction include manufacturers of generators, boilers and piping and other equipment. Many suppliers handle on-site installation to insure that the requirements and contractual specifications are met.

2.14 Construction Contractors in Palestine

Construction contracting is considered the hub for construction sector in Palestine. Hence, Palestinian contractors have proved their national role and outstanding ability in construction and reconstruction. The contractor is the individual or company operating in the construction sector and who or which shall be registered and classified at the Palestinian

Contractor's Union (PCU). The contractor is any natural or legal person who shall have the right to practice construction contracting profession in accordance with operative laws and regulations. Such contractor shall be registered at the PCU according to its by-law. Construction contracting profession is any work pertaining to the construction of buildings, roads, installations, various engineering projects in addition to the operation and maintenance of such construction projects. The PCU member is the contractor registered at the Palestinian Contractor's Union and who acquires a classification grade according to the standards specified in the "Instructions of Contractor Classification" issued by the National Classification Committee (PCU, 2003).

The typical image of the construction contracting profession, whether in the Arab World or in Palestine does not match the role active contractors' play in the building of their societies. Contractors are effective entities involved in all professions subsidiary to the construction sector through a complementary relationship. Further, contractors possess the skills necessary for financial management and project administration. Taking into account that a large number of Palestinian contractors are engineers, contractors' professional experience is also consolidated by Palestinian expatriates. Such status has led to the upgrading of the construction contracting profession in Palestine as regards quality, specialty and professionalism (PCU, 2003).

Chapter 3

Methodology

3.1 Introduction

This chapter presents and discusses the methodology used during the research. Research methodology refers to the principles and procedures of logical thought processes that are applied to a scientific investigation. Methods concern two techniques: first are techniques that are available for data collection, data analysis, etc., and second those techniques which are actually employed in a research project. Any research project should answer certain questions in order to achieve its goals; these questions are: What? Why? Where? When? How? Whom? How much? (Fellows & Liu, 2008).

The adopted methodology used to accomplish this study includes review of literature related to construction contracts, personal interviews, questionnaire, and analysis of construction contracts.

This chapter also includes information about research background, research strategy, research population and location. In addition, sample method, data analysis, and finally study limitations are also included.

3.2 Research Objectives

It is important first to determine the scope of the work; the most important issue for a researcher is to determine accurately what is required from the work, what can be achieved, and the amount of work that can be done (Fellows and Liu, 2008).

This research is considered to achieve the following objectives of the study:

1. To study the current situation of construction contracting in Palestine.
2. To assess the current construction contracts performed and used in several institutes.
3. To highlight the most important problems in construction contracts.
4. To determine the contribution of owners, contractors, engineers in performing a contracts from an engineering and legal perspectives.
5. To contribute to improve construction contracting in Palestine.

3.3 Research Strategy

Naoum (2007) defined the research strategy as “the way in which the research objectives can be questioned”. There are two types of research strategies; the first type is quantitative research, and the second type is qualitative research. Deciding on which type of research to follow depends mainly on the purpose of the study, and the type and availability of information required (Naoum, 2007).

3.1.1 Quantitative Research

Quantitative research is ‘objective’ in nature. It is the inquiry into a social or human problem, based on testing a hypothesis or a theory composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether the hypothesis or the theory hold true. In this type of research, one uses a theory deductively and places it towards the beginning of the plan for a study. The objective is to test or verify a theory, rather than develop it. One thus begins the study advancing a theory, collects data to test it, and reflects on whether the theory was confirmed or unconfirmed by the results in the study. The theory becomes a framework for the entire study (Creswell, 1994 cited in Naoum, 2007).

3.1.2 Qualitative Research

Qualitative research is ‘subjective’ in nature. It emphasizes meanings, experiences, description and so on (Naoum, 2007). Fellows and Liu (2008) noted that in qualitative research, an exploration of the subject is undertaken without prior formulations, so the object is to gain understanding and collect information and data such that theories will emerge.

When comparing quantitative and qualitative research methods, Hancock (1998) noted that qualitative research is concerned with finding the answers to questions which begin with: why? how? in what way? Whereas quantitative research is more concerned with questions like: how much? how many? how often? to what extent?

Table 3.1 introduces the characteristics of both quantitative and qualitative methodologies and the differences between them.

Table 3.1: Characteristics of Quantitative and Qualitative Research Methodologies

Quantitative Research	Qualitative Research
Considered a hard science	Considered a soft science
Objective	Subjective
Deductive reasoning used to synthesize data	Inductive reasoning used to synthesize data
Focus - concise and narrow	Focus - complex and broad
Tests theory	Develops theory
Basis of knowing - cause and effect relationships	Basis of knowing – meaning, discovery
Basic element of analysis – numbers and statistical analyses	Basic element of analysis – words, narrative
Single reality that can be measured and generalized	Multiple realities that are continually changing with individual interpretation

Source: Jones & Bartlett Learning, LLC.

3.1.3 Triangulation Method

Triangulation is the use of multiple methods, usually quantitative and qualitative research in the study of the same research problem (Denzin, 1989 cited in Burns & Grove, 1997).

Triangulated studies reduce or eliminate disadvantages of each individual approach whilst gaining the advantages of each, and through this

combination; the multi-dimensional view of the subject is gained through synergy (Fellows & Liu, 2008).

This combination of both quantitative and qualitative methods is more than simply collecting and analyzing these both kinds of data; it also involves the use of both approaches in tandem so that the overall strength of a study is greater than either one of them (Creswell & Plano Clark, 2007 cited in Creswell, 2009).

In this study, both quantitative and qualitative methods are used. The questionnaire and the interviews contained both questions that combined facts and opinions together, while the contracts analysis is a quantitative approach which aimed to gather factual data.

3.4 Research Design

Research design is a blueprint for the conduct of a study that maximizes control over factors that could interfere with the desired study outcomes; the type of design directs the selection of a population, sampling procedure, methods of measurement, and a plan for data collection and analysis (Burns & Grove, 1997).

In research design, one has to decide the methodological approach in finding solutions or answers to the research problem or research questions. It is about stating the way in which the researcher accomplishes the research objectives (Fellows & Liu, 2008).

In this research; the questionnaire approach, the interviews, and literature research related to construction contracts, were all approaches used in collecting data.

The questionnaire and the interviews were used as both quantitative and qualitative research method. The contracts analysis was used as a quantitative method for collecting data.

Figure 3.1 illustrates a flowchart which describes the methodology used during the research.

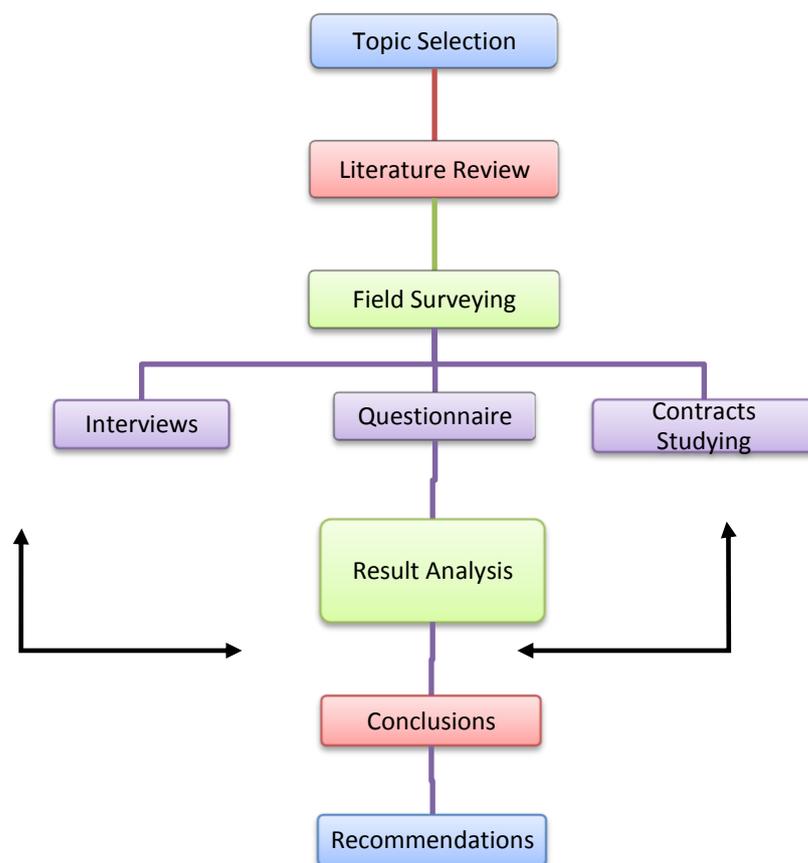


Figure 3.1: Methodology Flow chart

3.5 Research Population

There are two populations targeted in this research, they are contractors and owners. Contractors are all Palestinian contractors who have valid registration in the Palestinian Contractors Union (PCU) in the first of June, 2011; in all types of work fields that include buildings, roads, water and sewage, electro-mechanics, and public works of 1st, 2nd, 3rd, 4th, and 5th categories. The study targeted all five categories because contracts are a core subject for all contractors working under all categories, and in order to help to improve realistic contracts practices.

According to PCU records, the total number of contractors under all five categories is 323 contractors until the first of June, 2011.

Owners targeted in the study are owners of construction projects working in Palestine. Owners may include governmental ministries, municipalities, NGOs, and private agencies.

3.6 Research Location

The research was carried out in the West Bank. West Bank consists of 11 governorates; they are Jenin, Tubas, Tulkarm, Nablus, Qalqilya, Salfit, Ramalla & Al-Bireh, Jericho & Al-Aghwar, Jerusalem, Bethlehem, and Hebron.

3.7 Sample Method

The term sample means a specimen or part of a whole population which is drawn to show what the rest is like (Naoum, 2007). Sampling involves selecting a group of people, events, behaviors, or other elements in order to conduct a study (Burns & Grove, 1997).

Selecting the sample is very important; a great care must be taken when choosing the type of sample design and the researcher has to ensure that the characteristics of the sample are the same as of its population and act as representative of the population as a whole (Naoum, 2007).

3.8 Sample Size

The sample size consisted of 80 contractors, it was chosen as a stratified random sample from the whole population according to the location of the contracting company. The sample represented (25%) of the whole population of 323 contractors. The respondents were 50. Three of them were not valid so they were dropped, and 47 were approved. Figure 3.2 shows the distribution of respondents according to location.

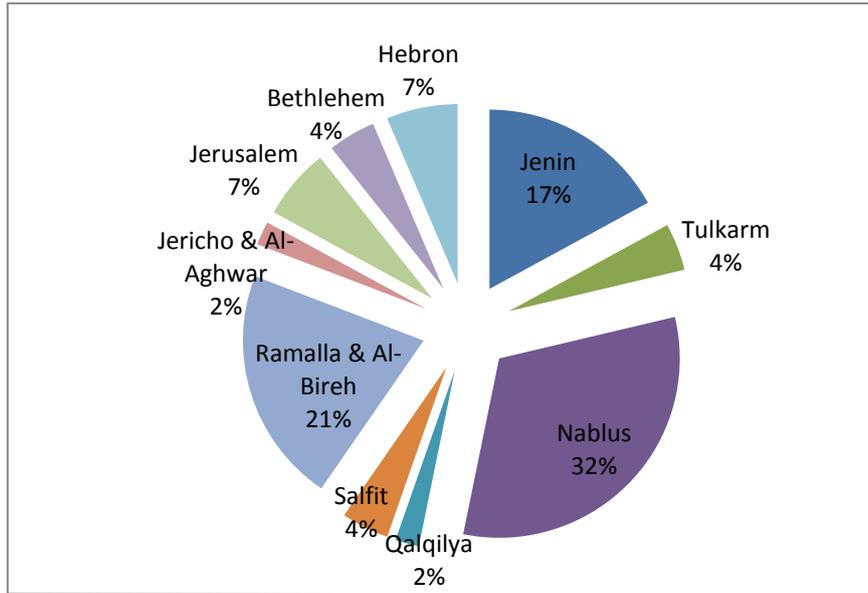


Figure 3.2: Respondents distribution according to location

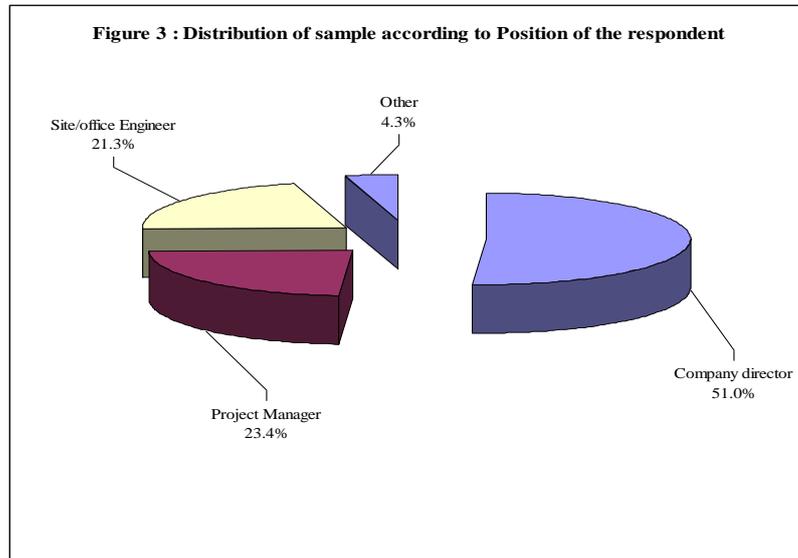


Figure 3.3: shows the distribution of respondents according to position.

This result illustrates that nearly three-fourth (74.4%) of respondent's designation is either company director or projects manager. The higher designation of respondents increases the accuracy of the results.

3.9 Questionnaire Design

Closed ended questions were used in the questionnaire. Closed questions require a short response in the form of Yes or No, Agree or Disagree, Important or Not Important, etc (Naoum, 2007). Closed questions are easy to ask and quick to answer, they require no writing by respondent, and their analysis is straightforward (Nachmias and Nachmias, 1996 cited in Naoum, 2007).

The questionnaire was designed in Arabic language in order to be easily understood by contractors especially that most of them are not familiar with English language. It is then translated into English language and attached in the appendix. (See appendices 1 & 2).

The questionnaire was consisted of thirteen pages starting with a covering letter that explained the purpose of the research, the importance of information presented, the top security of information presented, and the questionnaire contents.

In order to accomplish the aim of the research, the questionnaire was divided into three sections:

1. Profile of the contracting company.

2. Facts about some contracting practices.
3. Specifications and aspects of construction contracts that are used in Palestine.

The first two sections' questions were multiple choice ones, and the last sections' questions were agreement scale questions.

3.10 Personal Interviews

They are face-to-face interpersonal role situations, in which an interviewer asks respondents questions designed to take answers pertinent to the research hypothesis, and it can take three forms, they are: unstructured, structured and semi-structured interviews (Naoum, 2007).

Advantages of personal interviews (Creative Research Systems, 2011):

1. The ability to let the interviewee see and feel the interviewer.
2. The ability to find the target population more easily than any other method.
3. Longer interviews are sometimes tolerated. People may be willing to talk long face-to-face.

In this research, semi-structured interviews were used in interviewing lawyers, arbitrators, contractors, etc. These interviews were

used in this research to support the questionnaire; they were used to answer questions resulted from the questionnaire.

3.11 Contracts Analysis

Several construction contracts were collected from different parties to be analyzed, these parties included: contractors, ministries, municipalities, owners, engineers, etc. These contracts were examined, reviewed, and evaluated.

3.12 Data Measurement

Two formats were used in the questionnaire. The first was the checklist, and the second was the Likert scale. The checklist type of question is essentially a list of items that respondents are offered to mark about themselves, an organization or an event. It is a straightforward means of collecting information and the data can be analyzed easily. The checklist questions are specially designed for a group of respondents who have accurate information and can answer the questions with a high degree of certainty (Naoum, 2007).

The Likert scale is used to determine the opinion or attitude of a respondent and contains a number of declarative statements with a scale after each statement, this scale is the most commonly used of the scaling techniques (Burns & Grove, 1997). Table (3.3) shows degrees used in Likert scale and the meaning of each grade.

Table 3.3: Degrees used in Likert scale and their meanings

Degree of Importance	Scale	Meaning
Strongly Agree	5	Strongly agree that this sentence is correct
Agree	4	Agree that this sentence is correct
Neither Agree nor is agree	3	No idea if that this sentence is correct or not
Disagree	2	Disagree that this sentence is correct
Strongly Disagree	1	Strongly Disagree that this sentence is correct

3.13 Data Analysis

Microsoft Office Excel and Statistical Package for Social Sciences (SPSS) were used in this research to analyze data. The following statistics were used:

1. Means, frequencies, percentages, and standard deviations.
2. Chi Square Test.

In order to estimate the contractors' responses toward the specifications of construction contracts used in Palestine, scales were used depending on percentages as follows:

- (80%-100%) is a very high degree.
- (70%-79.9%) is a high degree.
- (60%-69.9%) is a moderate degree.
- (50%- 59.9%) is a low degree.
- Less than (50%) is a very low degree.

3.14 Reliability of the Questionnaire

The Cronbach Alpha coefficient was used to find out the reliability for the questionnaire in this research. The reliability values of the study domains were (0.92), (0.87), (90.0) and (0.96), respectively, which are high, and suitable for scientific purposes.

3.15 Study Limitations

The study was limited to contractors who have valid registration in the PCU in the middle of the year 2011. Other contractors who don't have valid registration were not included in this study. Also the study was limited to only contractors from the West Bank.

3.16 Study Barriers

They are many constraints and barriers that faced the researcher during the conduction of the research. The most important barrier was the contractor's unconcern to present their opinions in such subjects. A high rate of them showed lack of cooperation and they delegated the answers to office engineers. Although the researcher explained first the aim of the research and they were asked if they can present needed information, a few number of contractors replied easily and fast without a continuous reminding from the researcher.

When contractors agreed to participate and showed interest to the subject of the research, they were given a copy of the questionnaire to answer it, and they were given two weeks to take their time in understanding the questions and answering them. After two weeks, the researcher phoned contractors to remind them to finish preparing questionnaires in order to be collected. Some of contractors answered that they can't reply because they don't have enough time, others lost it, others will answer it soon, and others are not interested. The researcher sent the questionnaire times and times, phoned most contractors two, three and four times, and visited some of them more than once, every time she had a new argument, until the researcher succeeded at last to collect a suitable number of responses.

Chapter Four

Results and Discussion

4.1 Introduction

This chapter describes the results that have been obtained from the different methods of data collection described in chapter three. Results were processed using Microsoft Excel and Statistical Package for Social Sciences (SPSS), and were prepared to present information about contracting companies profile, some necessary information about respondents, facts about companies contracting experience, and practices appear while applying contracts in general or in some specific types.

4.2 Section One: Profile of the Contracting Company

This section includes five topics that focus on contractor's types of projects, volume of projects, and some issues related to construction contracts. The frequencies, the percentages and ranks of the answers of respondents were calculated, the results are as follows.

1. Types of Executed Projects

Table (4.1) shows project types that the surveyed companies focus on their projects execution according to PCU classification.

Table 4.1: Types of executed projects

Type	Frequency	Percentage %	Rank
Buildings	36	76.6	1
Roads	3	6.4	3
Water and Sewage	3	6.4	3
Electro-mechanic	4	8.5	2
General Works	1	2.1	4
Total	47	100.0	

Table (4.1) shows that “buildings projects” ranks first with (76.6%) of all projects types. “Electro-mechanic projects” ranks second with (8.5%). “Roads” and “water & sewage” projects rank third as they both gain the same percentage of (6.4%). “General works projects” comes in the last rank with (2.1%). This result indicates that most contractors are involved in the construction of buildings rather than any other construction projects. See figure 4.1 below.

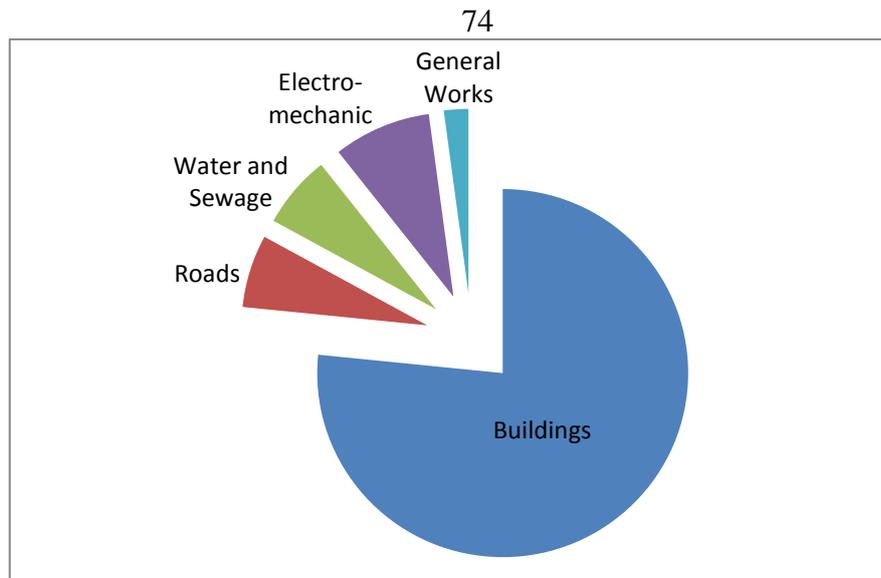


Figure 4.1: Types of executed projects

2. Numbers and Values of Accomplished Projects during the Last Five Years

Tables (4.2) and (4.3) show respectively numbers and volumes of accomplished projects by contracting companies during the last five years.

Table 4.2: Number of accomplished projects during the last five years

Number of Accomplished Projects	Frequency	Percentage %	Rank
Less than 10	10	21.3	2
From (10-20)	22	46.8	1
From (21-30)	8	17.0	3
More than 30	7	14.9	4
Total	47	100.0	

The previous table shows that accomplished projects from (10-20) rank first and represent (46.8%). Whereas accomplished projects less than (10) rank second and represent (21.3%). Accomplished projects from (21-30) rank third and represent (17.0%). More than (30) accomplished projects rank last and represent (14.9%). It is clear that most contractors accomplished less than 20 projects during the last five years. This indicates that numbers of projects accomplished by contractors are very small.

Table 4.3: Value of accomplished projects during the last five years

Value of Accomplished Projects (Million \$)	Frequency	Percentage %	Rank
Less than 1	5	10.6	4
From 1 – less than 5	16	34.0	1
From 5 – less than 10	16	34.0	1
From 10 – less than 15	3	6.4	5
15 and more	7	14.9	3
Total	47	100.0	

Table (4.3) shows that (34.0%) of accomplished projects throughout the last five years was for values from (1 to less than 5) million US dollars

and also values from (5 to less than 10) million US dollars. (14.9%) was for (15 and more) million US dollars, (10.6%) was for values (less than 1) million US dollars, and (6.4%) was the last for values from (10 to less than 15) million US dollars.

These above results assure the previous table, we find in this table that more than three-fourth of values of accomplished projects by contractors in the last five years are less than 10 million US dollars. This means that most accomplished projects by Palestinian contractors are very small projects.

3. Types of Construction Contracts Performed

Table (4.4) shows types of construction contracts that were ever performed by the surveyed companies. In this table, unit price contracts ranks first with (57.4%), lump-sum contracts ranks second with (31.9%), cost plus contracts ranks third with (6.4%), turnkey and design-build contracts rank last with (2.1%).

Table 4.4: Types of construction contracts performed

Type of Contract	Frequency	Percentage %	Rank
Lump-sum contracts	15	31.9	2
Unit price contracts	27	57.4	1
Cost plus contracts	3	6.4	3
Turnkey contracts	1	2.1	4
Design-build contracts	1	2.1	4
Total	47	100.0	

It is very obvious from the above table that most contractors have contracted using unit price contracts. This result certifies the fact that the most appropriate contracts to be applied are unit price contracts.

4. Preferred and Non-Preferred Contracts Types

Table (4.5) shows types of contracts that are preferred and those that are not preferred to be used by contractors. The table below illustrates that unit price contract is the most preferred type that ranks first with (80.9%). The table also illustrates that the most non-preferred contract to be used by contractors is lump-sum contract with a percentage of (63.8%).

Table 4.5: Preferred and non-preferred contracts types

Type of Contract	Preferred Contract Type			Non-Preferred Contract Type		
	Frequency	Perc %	Rank	Frequency	Perc %	Rank
Lump-Sum Contracts	4	8.5	2	30	63.8	1
Unit Price Contracts	38	80.9	1	2	4.3	4
Cost Plus Contracts	2	4.3	3	8	17.0	2
Turnkey Contracts	1	2.1	5	0	0.0	---
Design-Build Contracts	2	4.3	3	7	14.9	3
Total	47	100.0		47	100.0	

In the above table, the contractors were asked about types of contracts they prefer, and also types of contracts they don't prefer. The results on the left side of the table show that (80.9%) of surveyed contractors prefer to contracting using unit price contracts, only (8.5%) of them prefer contracting using lump-sum contracts, then comes the other types of contracts with very low percentages.

The results in the right side of the table shows that more than half of the surveyed contractors don't prefer to contract with lump-sum contracts, (17%) of them don't prefer to contract with cost plus contract, and only (4.3%) of contractors don't prefer to contract with unit price contract. See figure (4.2).

We can conclude from the above discussion that unit price contract is the best contract to be used by contractors.

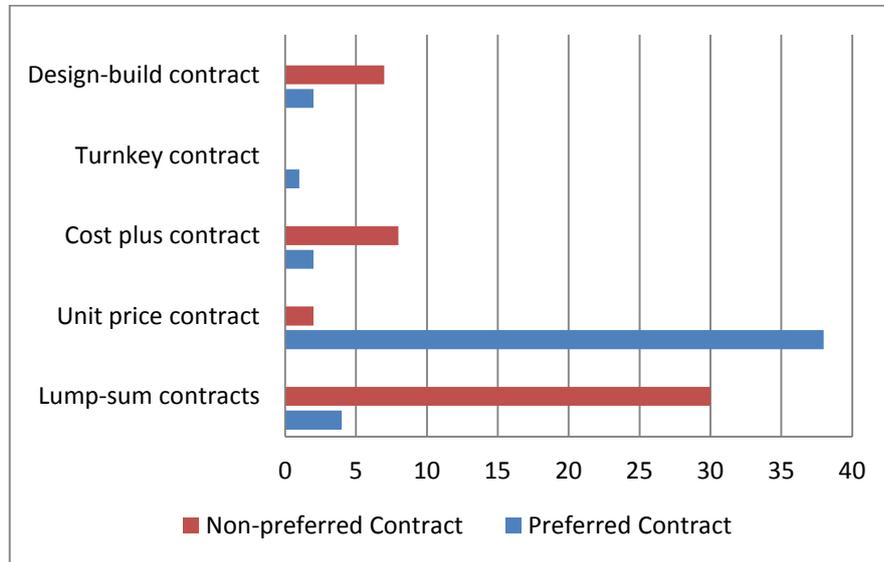


Figure 4.2: Preferred and non-preferred contracts types

5. Disputes

Table (4.6) shows that (55.3%) of contracting companies have ever disputed with owners of projects they had executed.

Table 4.6: Disputes between owners & contractors

Disputes Occurance	Frequency	Percentage %
Yes	26	55.3
No	21	44.7
Total	47	100.0

The positive answer respondents in the previous question were asked to present the mechanism that the dispute was resolved through. The answers are shown in table (4.7).

Table 4.7: Disputes resolution mechanisms

Dispute Resolution Mechanism	Frequency	Percentage	Rank
		%	
Amicable Settlement	18	69.2	1
Arbitration	7	26.9	2
Adjudication	1	3.9	3
Total	26	100.0	

Table (4.7) shows that amicable settlement ranks first with a percent of (69.2%), whereas arbitration ranks second with (26.9%), adjudication ranks last with (3.9%).

It is very obvious that the majority of contractors prefer amicable settlement on other mechanisms of dispute resolution. This result conforms with Enshassi & Abu Rass (2008) as they stated that in the Palestinian environment, choosing court (adjudication mechanism) to resolve disputes is considered by many to be an aggressive act, unlike western culture. Therefore, they tried to avoid courts. Alternative dispute resolution methods are more frequently used than legal methods. Informal negotiation is the most used dispute resolution method. Mediation and conciliation are

also widely used methods. Dispute Adjudication Board (DAB) is the least used method, as it is not widely known to the local contractors or owners.

4.3 Section Two: Facts about Contracting Practices

This section was designed to know needed information about several practices relating to contracting process from contractors' observations. These observations include some information about disputes happening during projects execution and also description of currently used contracts.

1. Contractors Categories Invited by Owners

When contractors were asked about the most contractors' categories invited by owners for bids, table (4.8) shows the results.

Table 4.8: Contractors' categories invited by owners

Categories Invited by Owners	Frequency	Percentage %	Rank
1 st category	21	44.7	1
2 nd category	17	36.2	2
3 rd category	8	17.0	3
4 th category	1	2.1	4
Total	47	100.0	

It is observed from the above table that contractors classified at the 1st category are the most invited when bidding as it ranks first with

(44.7%). The 2nd category ranks second with (36.2%). The 3rd category ranks third with (17.0%). The 4th category ranks last with (2.1%).

This result demonstrates that the first and second categories of contractors are the highest PCU classifications that are invited by owners of projects, as they both (1st and 2nd) achieve a percent of (81%). It is very important for owners to give more attention to lower categories, as they aren't targeted by owners on most cases. By inviting them to bids, owner benefit from lowering the bids prices by increasing the competitiveness between categories, and contractors themselves can improve their capabilities when executing new projects.

2. Contractors Categories Gaining Bids

Table (4.9) shows the results for the most contractors' categories that gain bids.

Table 4.9: Contractors categories gaining bids

Categories Gaining Bids	Frequency	Percentage %	Rank
1 st category	18	38.3	2
2 nd category	20	42.6	1
3 rd category	9	19.1	3
Total	47	100.0	

Table (4.9) shows that the most category gaining bids is the 2nd category that represents (42.6%), the 1st category represents (38.3%), and the 3rd category comes at last and represents (19.1%).

This result illustrates that 1st and 2nd category gain (80.9%) of bids. This is an expected result since these two categories are most preferred to be invited by owners.

3. Best Accomplished Projects

Table (4.10) shows that (78.7%) of best projects are accomplished by the 1st category. (12.8%) are accomplished by the 2nd category. (6.4%) are accomplished by the 3rd category. And (2.1%) are accomplished by the 4th category.

Table 4.10: Contractors' categories that accomplish best projects.

Categories Accomplishing Best Projects	Frequency	Percentage %	Rank
1 st category	37	78.7	1
2 nd category	6	12.8	2
3 rd category	3	6.4	3
4 th category	1	2.1	4
Total	47	100.0	

It is noticed from the previous results that contractors from 1st and 2nd categories achieve a percentage of (91.5%). This high percentage, in one hand, assures contractors trust in these two categories that they can

make best work, and it is an invitation to other categories to try improve their capabilities and to work as better as they can, on the other hand.

4. Best Institutes' Contracts

Table (4.11) shows that the most obvious and comprehensive contracts are those of foreign institutes as it ranks first with (76.6%). Governmental Ministries ranks second with (17.0%). Private local institutes ranks third with (6.4%). See figure 4.4.

Table 4.11: Best institutes' contracts

Institute	Frequency	Percentage %	Rank
Governmental Ministries	8	17.0	2
Foreign Institutes	36	76.6	1
Private Local Institutes	3	6.4	3
Total	47	100.0	

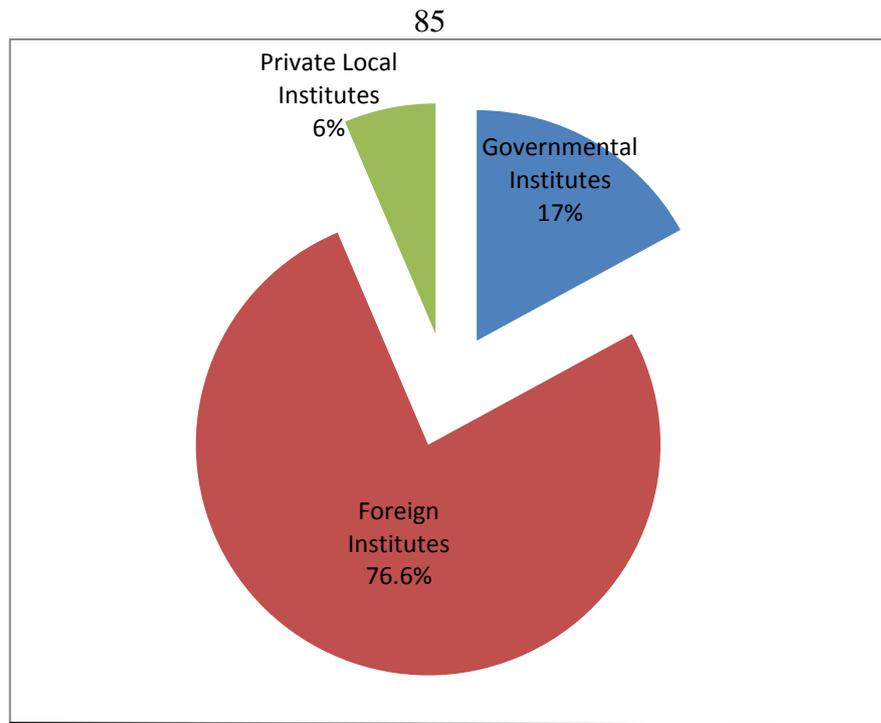


Figure 4.4: Best institutes' contracts

Contractors prefer foreign institutes' contracts on any other contracts since they find that these contracts are fairer for them than other institutes' contracts. But it is very important note to know that foreign institutes use their own contracts, they put tight conditions and high quality specifications on the contracts, but as noticed; contractors prefer the foreign institutes contracts. This result may be justified due to their high credibility in executing contracts conditions, early payments, and high liability towards contractors.

5. Responsibility of Laws Implementation in the Project Area

When contractors were asked about the parties who are responsible to considerate and implement local laws and municipality laws in the area of the project; the contractors answered that "all parties" should take

responsibility of these laws in the project area as it ranks first with (59.6%). “Owner” ranks second with (25.5%). “Contractor” ranks third with (6.4%), also “Engineer & Contractor only” ranks third with (6.4%), and finally “Engineer” ranks last with (2.1%). See table (4.12).

Table 4.12: Responsibility of laws consideration

Party	Frequency	Percentage %	Rank
Owner	12	25.5	2
Engineer	1	2.1	5
Contractor	3	6.4	3
All Parties	28	59.6	1
Engineer & Contractor only	3	6.4	3
Total	47	100.0	

This result is very important especially when the contractor knows and understands his duties and responsibilities in these laws application, this also can be considered to be very important in reducing contracts disputes.

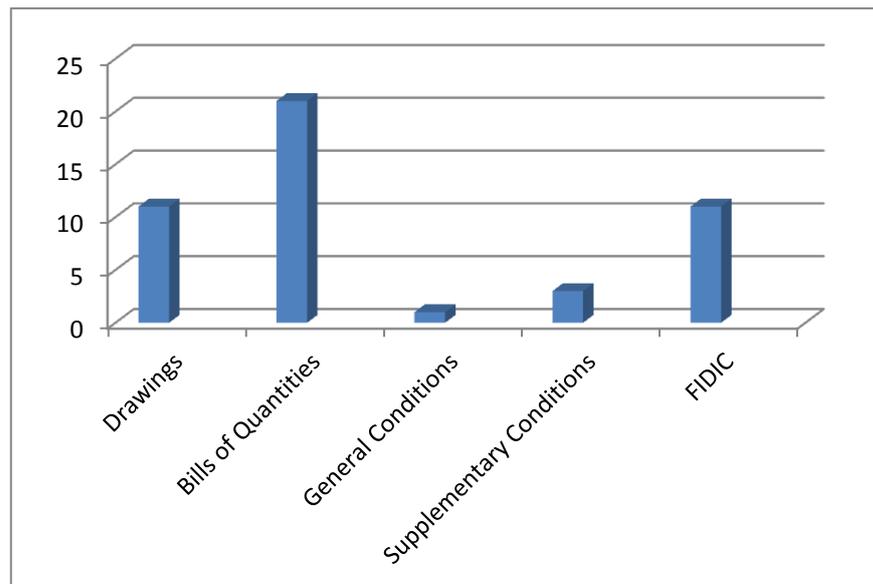
6. Priority of Contracts Documents

Table (4.13) shows the results of priority of contracts documents when there exists a contradiction between these documents, and if the contract doesn't have any clause determining this priority.

Table 4.13: Contracts documents priority

Contracts Documents	Frequency	Percentage %	Rank
Drawings	11	23.4	2
Bills of Quantities	21	44.7	1
General Conditions	1	2.1	5
Supplementary Conditions	3	6.4	4
FIDIC (Ministry of Works)	11	23.4	2
Total	47	100.0	

As table (4.13) shows that bills of quantities have the first priority as they achieved (44.7%), whereas drawings and FIDIC rank second as they both achieved the same percentage (23.4%). Supplementary Conditions rank fourth with (6.40%), and General Conditions rank last with (2.1%). See figure 4.5.

**Figure 4.5: Contracts documents priority**

7. Owner and Contractor Disputes

Table (4.14) shows that disputes mostly happen during the execution of the contract as it achieved (74.5%), during maintenance and final delivery achieved (12.8%), during first delivery of works achieved (10.6%), and during the signing of the contract achieved (2.1%).

Table 4.14: Disputes period

Disputes Period	Frequency	Percentage %	Rank
During signing of the contract	1	2.1	4
During execution of the contract	35	74.5	1
During first delivery of works	5	10.6	3
During maintenance and final delivery	6	12.8	2
Total	47	100.0	

The result that can be concluded from this table is that most problems appear during the execution of the project. This emphasizes that if the conditions and items are clearer, then the disputes will be less.

8. Disputes Parties

Table (4.15) shows that disputes between engineer and contractor are mostly happening during execution of works as it achieved (80.9%).

Disputes between owner and contractor rank second with percentage (14.0%). Disputes between owner and engineer rank third with (4.30%).

Table 4.15: Disputes parties

Disputes Parties	Frequency	Percentage %	Rank
Owner and Engineer	2	4.30	3
Owner and Contractor	7	14.9	2
Engineer and Contractor	38	80.9	1
Total	47	100.0	

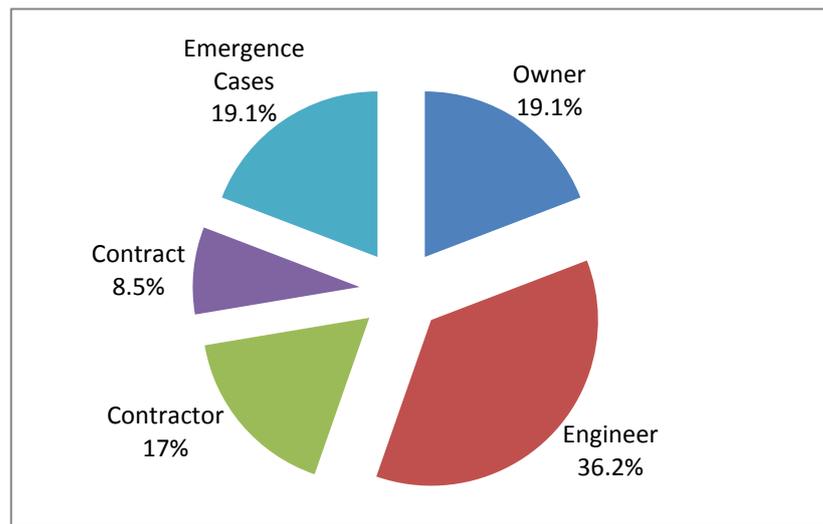
These disputes occurring between contract parties (the contractor and the owner) are aimed to be reduced by improving contracts' conditions.

9. Disputes Responsibility

Table (4.17) shows that, the major responsible for disputes is the engineer as he achieved (36.2%). Owner and Emergency cases rank second as they achieved the same percentage (19.1%). Contractor ranks as fourth cause with (17.0%). Contract was the last cause with (8.50%). See figure 4.6.

Table 4.16: Disputes responsibility

Disputes Responsibility	Frequency	Percentage %	Rank
Owner	9	19.1	2
Engineer	17	36.2	1
Contractor	8	17.0	4
Contract	4	8.50	5
Emergency Cases	9	19.1	2
Total	47	100.0	

**Figure 4.6: Disputes responsibility**

From the above results, we find that the majority of contractors don't find the contract itself a problem, but many of them find that the engineer is the reason for disputes, and as we know, the engineer is the person who supervises the works and monitors it to ensure that it confirms the specifications of the contract.

10. Disputes Caused by Owner, Engineer, Contractor, and Contract

Table 4.17: Disputes caused by owner, engineer, contractor, and contract

Party	Reason of Dispute	Frequency	%	Rank
Owner	Interfering in woks & changing their specifications	29	29.30	2
	Delay of contractor payments	31	31.10	1
	Lack of engineer observations	7	7.10	5
	Slow in making decisions	13	13.20	4
	Not compensating the contractor under force majeure conditions	15	15.20	3
	Delay in receiving or delivering work site	4	4.10	6
Total number of responses		99	100.0	
Engineer	Lack of authorities given to him	19	19.2	2
	Lack of supervision on works	14	14.1	4
	His poor experience in work execution	24	24.3	1
	Changing specifications continuously	10	10.1	6
	His oral instructions & orders	13	13.1	5
	Slow in making decisions	19	19.2	2
Total number of responses		99	100.0	
Contractor	Contractor poor experience in work execution	11	13.6	4
	Shortage of manpower assigned to the project	13	16.1	3
	Delay in work execution	22	27.2	2
	No abidance with needed specifications	24	29.6	1
	No documentation of the daily works	11	13.6	4
Total number of responses		81	100.0	
Contract	Unclear contract items	11	13.4	4
	Incomprehensive contract items	11	13.4	4
	Not reading & understanding contracts before signing	21	25.6	2
	Difference between contracts and site conditions	13	15.9	3
	Repeating the same contracts forms in all projects	26	31.7	1
Total number of responses		82	100.0	

From the above table there are some points to be discussed:

- The respondents consider owner delay of payments as the first main reason of disputes. Continuous changing of works specifications was considered as the second main reason of disputes caused by owners. These two points are a clear violation to the contract signed by the owner and the contractor. Owners should quicken and facilitate contractors' payments which reflect to the rapidity of the project. They also shouldn't change works specifications at the time they want and they should oblige contract conditions.
- The first three reasons for disputes caused by the engineer as contractors believe are: his poor experience, lack of authorities given to him and slow in making decisions. These three factors can be easily minimized if engineers themselves enhance their experience in works, and if owners give engineers adequate authority which reflects on works progress.
- A reasonable percentage of contractors admit that they cause disputes because they don't abide to needed specifications, also their delay in work execution represents a sensible percentage.
- The main contracts problem facing contractors is repeating the same contracts forms for all projects, following it signing the contract before reading and understanding it.

Description of Applied Contracts

Table (4.18) shows the results of respondents' description of currently applied contracts.

Table 4.18: Description of applied contracts

Description of Applied Contracts	Frequency	Percentage %	Rank
In suitable conditions and applied correctly	4	8.5	4
In suitable conditions but applied incorrectly	18	38.3	1
In unsuitable conditions but applied correctly	7	14.9	3
In unsuitable conditions and applied incorrectly	18	38.3	1
Total	47	100.0	

The above results illustrate contractors' dissatisfaction on currently applied contracts. A reasonable percentage of them judge on contracts to be applied in unsuitable conditions and applied incorrectly. A similar percentage judges on these contracts to be applied in suitable conditions but applied incorrectly. This means that more than three-fourth of contractors

critic contracts as they applied incorrectly. Responsible authorities should revise the circumstances appropriate to apply these contracts.

11. Contracts Problems

Table (4.19) shows that speed formulation of contract ranks first and achieved (55.3%), uncaring about contract formulation ranks second with (23.4%). Unperceiving contract importance ranks third with (12.8%), and other reasons rank last with (8.50%).

Table 4.19: Contracts problems

Contracts Problems	Frequency	Percentage %	Rank
Not feeling the contract importance	6	12.8	3
Speed in contract formulation	26	55.3	1
Not caring about contract formulation	11	23.4	2
Others	4	8.50	4
Total	47	100.0	

More than half of respondents think that speed in contract formulation is the main reason for problems accompanies contract. This obstacle can be overcome by caring while contract formulation.

12. Contracts Problems from Legal & Islamic Law Perspectives

When contracts were given to legal experts, and also to Islamic law experts to give their legal and Islamic law opinions, and to tell us if there appear and exist any wrong items or any missed ones from the Islamic law perspective.

After studying contracts from legal and Islamic law perspectives, we concluded that there is a full correspondence and consistency between law and Islamic law in all issues relating to these contracts items, despite one issue that was contradictory between legal and Islamic law perspectives.

This issue was that when owner and contractor signs a construction contract, one item in this contract is payments that should be paid to the contractor in their schedule, as agreed in the contract. But sometimes happens that the owner delays these payments from their schedule time, and this will delay the contractor to complete his works because of lack of money. And if the contractor delays finishing the works; he should pay penalty because of this delay.

Legal opinion was that the contractor has the full right to demand compensation, either money compensation or extending the work time with a period appropriate to delay. But the Islamic law experts controvert the legal opinion; it is from their point of view forbidden to take any compensation of this delay in payments.

13. Causes of Arbitration Failure

Table (4.20) shows that the first reason of arbitration failure in resolving engineering disputes is the lack of authority of arbitrators on dispute parties as it achieved (42.6%). Absence of specialized arbitrators ranks second with (36.2%). Some items don't have reference in law ranks third with (17.0%). Other causes rank last with (4.3%).

Table 4.20: Causes of Arbitration Failure

Causes of Arbitration Failure	No.	Percentage	Rank
Absence of specialized arbitrators	17	36.2	2
Lack of authority of arbitrators on dispute parties	20	42.6	1
Some items don't have reference in law	8	17.0	3
Other	2	4.3	4
Total	47	100.0	

Specialists in law find it is a mistake among contractors that they don't trust the judgment of arbitration, and non-specialist arbitrators may be a reason for entrust of their judgment. Arbitration is faster than adjudication, and the authority of dispute parties can be taken from the court authority, as the court can bring any of the dispute parties.

4.4 Section Three: Specifications of Construction Contracts used in Palestine

This section was designed to achieve the objectives of conducting this research. The two main objectives are: to assess and clarify main aspects related to construction contracts used in Palestine from engineering, legal and Islamic law perspectives. And to examine, review, and evaluate practices related to construction contracts.

This section also investigates some facts and information related to contracts practices. These facts include realistic situations about some practices related to bidding, contracts documents, contracts formulation, disputes, and many other issues that give an overview about the actual status of contracts application.

The respondents were asked to give their views, opinions, and perceptions on items relating to construction contracts used in Palestine depending on their experience in contracting process.

In this section, the researcher calculated the means, standard deviations, percentages and levels for all items of construction contracts specifications set in the questionnaire both in general and also to some specific types.

4.1.1 Construction Contracts In General

There are 60 items in this section that the contractors were asked to give their opinion, how do they behave and what does they believe in these practices. Tables (4.21) & (4.22) show the results. (See the whole table in appendix 4).

The total score of the specification of construction contracts in general achieved a mean of (3.62) and a percentage of (72.4) which indicates that the surveyed sample is highly leveled and highly agreed (See appendix 4).

Table 4.21: Contracts specifications in general (very high level)

Specifications	Mean	Standard Deviation	Percentage	Level
The item “awarding the contract without giving reasons” is unfair for competitive contractors because it’s their right to know the reason of the bid winner.	4.47	1.00	89.4	Very high
If the owner delayed contractors payments of scheduled time, the contractor have the right to demand compensation by additional payments or additional time.	4.47	0.55	89.4	Very high
The job of documenting daily updates and reports is the duty of the contractor although nobody demands this from him.	4.28	0.58	85.6	Very high
It is important to keep a copy from the unified contract in the company as a reference to any construction work.	4.26	0.87	85.2	Very high
As the contracts are clear as possible, they couldn’t be complete without some additions from the engineer.	4.26	0.61	85.2	Very high
If the engineer ordered the contractor to work at night and this is not included in the contract, the contractor can accept or reject.	4.26	0.61	85.2	Very high
I care when contracting to the existence of an item that determines the way to resolute the disputes.	4.23	0.60	84.6	Very high
If the owner wants to speed the work completion because of his personal reasons, he should first take the contractor agreement.	4.21	0.86	84.2	Very high
Supervising works from the engineer doesn’t indicate non confidence or harm the contractor; it instead motivates him to work better.	4.17	0.94	83.4	Very high
If the contract doesn’t include the way to execute an item then the contractor should take the engineer admiration before starting it.	4.15	0.72	83.0	Very high
If the contractor wants to work at night he must take the engineer agreement who can accept or reject.	4.15	0.81	83.0	Very high
If amicable settlement doesn’t solve the dispute, then I prefer to solve it using arbitration rather than adjudication.	4.13	0.54	82.6	Very high
The bid may be awarded to other than lowest price but the owner must justify this to the competitive contractors.	4.09	0.88	81.8	Very high

The priority to the contract documents should be clear in the contract, otherwise the contractor can prioritize it as he wants.	4.09	1.02	81.8	Very high
The priority in awarding bids is given to financial requirements rather than technical ones.	4.04	1.22	80,8	Very high
Selecting contractors' categories by owner is an acceptable and important matter.	4.02	1.01	80.4	Very high

The previous table indicates some important notes:

- Item of “awarding the contract without giving reasons is unfair for competitive contractors” ranked first with the mean of (4.47). Contractors believe that they have the right to know the reasons for awarding the contract to one of them, especially if his price isn't the lowest one. By asking expert in law the answer was that the owner should give reason for awarding the contract to any contractor. The contractor who spends time in preparing the contract documents and if he satisfied the required conditions, then he has the right to know the reason.
- The item “compensation of delaying contractor's payments” ranks first also with a mean of (4.47). Contractors agree that owners have to compensate contractors for delayed payments by paying additional payments or giving additional time. To analyze this point; the researcher returned to legal experts in order to know their opinions. Legal opinion approves the contractor to demand compensation for any delaying in contractor's payment from the scheduled time.
- “The duty of the contractor of daily documentation of works” ranks third with a mean of (4.28). This means that contractors admit that it is an essential job of recording and documenting daily events. This is

a very good point that contractors can use these documents in any future claim or dispute.

- “Keeping a copy of the unified contracting contract in the contracting company as a reference” ranks fourth with a mean of (4.26). As this contracting contract is the reference for all public works in Palestine, it is very important for any contracting company to keep it as a reference to return to it when needed.
- “The need for engineer orders in spite of contract clearance” ranks fourth with a mean of (4.26). In this item contractors recognize the important role of the engineer on work site, and they also realize that there isn't a complete contract without some shortcomings and ambiguous items that the engineer is the only person whose orders can complete it.
- “The engineer desire to work at night and is not included in contract” ranks fourth with a mean of (4.26). This item leads to a bigger issue, that is the orders of engineer if not included in the contract, if the contractor should or not obey engineers' orders or not. By asking law experts the answer was that the engineer can only order what is known in the construction industry, he cannot order any unfamiliar item if it is not of engineering traditions.
- “Way of disputes resolution item in the contract” ranks seventh with the mean of (4.23). As contractors replied; they care of the existence of an item specifying the way of resolution of any future disputes.

This demand of contractors of the existence of this item implies a high awareness between contractors.

- “The need of taking contractor agreement to speed works more than scheduled time” ranks eighth with the mean of (4.21). Contractors replied that there agreement should be taken before any change in contract items.
- The items “the necessity of engineer supervision and orders”; “taking the engineer approval of execution way of not included items in the contract”; “taking engineer permission before changing any item of contract”; rank from ninth to eleventh, respectively. All these items have the same goal of the necessity of engineers’ supervision, orders, and approval of any activity in work site. Contractors know accurately the essential role of the engineer as he monitors the accurate application of the contracts.

Table 4.22: Contracts specifications in general (low & very low levels)

Specifications	Mean	Standard Deviation	Percentage	Level
The engineer can give change orders at any time during execution even during maintenance period if it is necessary to accomplish works.	2.94	1.21	58.8	Low
The owner can make any modifications on works during execution without previous approval from contractor if these modifications are part of the contract.	2.87	1.21	57.4	Low
There are specialized institutes that have a duty of educating, qualifying, and training contractors in the contractual issues and informing them about their rights and responsibilities.	2.85	1.10	57.0	Low
If the way of executing an item isn't included in the contract, the contractor executes it with an appropriate way and the engineer should accept it.	2.83	1.26	56.6	Low
Bids of governmental institutes are better than those of private ones.	2.72	1.31	54.4	Low
It is cared in formulating contracts to distribute the risks between the owner and contractor fairly.	2.64	1.24	52.8	Low
The owner has the right to negotiate the lowest bidder to low his price if his price is more than the expected price.	2.62	1.41	52.4	Low
When judging on bidding practices in general it subdues to equity and full competition principles.	2.43	1.04	46.8	Very low
Any major item forgotten in the contract is understood to be executed by the contractor.	2.30	1.23	46.0	Very low
If the owner closed down the bidding because of any reason the contractors shouldn't request any compensation.	2.00	0.88	40.0	Very low
If the engineer wants to damage some of the works because they don't comply with specifications, he can do that without informing the contractor.	1.96	0.91	39.2	Very low
Total score	3.62	0.27	72.4	High

From the above table we have:

- The item “bids used currently subdue to equity and competition principles” levels very low with a mean of (2.43). Contractors judge on bids used currently as being unfair.
- The item “execution of forgotten items is understood to be done by contractor” levels very low with a mean of (2.30). Contractors don’t agree to execute any item not included in the contract.
- The item “the contractors shouldn’t request any compensation if the owner closed down the bid” levels very low as its mean is (2.00). Contractors want to be compensated if the owner closed down the bid.
- The item “damaging some of works because of not complying with specifications without informing the contractor” ranks lastly with a very low level and a mean of (1.96). Contractors highly disagree to damage any of the works without their knowledge.

4.1.2 Specific Types of Construction Contracts

Table (4.23) shows the results for the lump-sum contracts. The researcher calculated the means, standard deviations, percentages and levels for items of the questionnaire of this type of contract.

Table 4.23: Specifications of lump-sum contracts

Specifications	Mean	Standard Deviation	Percentage	Level
In this type of contracts, drawings and specifications should be very clear and detailed.	4.47	0.75	89.4	Very high
The contractor bears high financial risk because his price is steady and there is high acceptably for different circumstances around the project to change.	3.96	0.98	79.2	High
The contractor finds himself needed to increase his price to make it very high frightening of any unexpected increase on prices.	3.81	1.01	76.2	High
This type of contracts is appropriate to small projects only but does not suit medium or large ones.	3.77	1.07	75.4	High
This type doesn't need a very long calculations and bills preparing like other types of contracts.	3.47	1.35	69.4	Moderate
The agreement on a lump sum payment makes sure that this sum can't be changed although the works quantities may increase or decrease.	3.06	1.29	61.2	Moderate
The owner can't make any changes needed even though they may be very necessary to the works.	2.87	1.21	57.4	Low
The used practices in implementing this type are correct from the way the contracts is formulated and carried out.	2.70	0.98	54.0	Low
Any unexpected conditions or additional works may be needed during execution is committable by the contractor only.	2.19	1.06	43.8	Very low
Total score	3.37	0.55	67.4	Moderate

The table above shows that the total scores of the specifications of lump-sum contracts achieved a mean of (3.37) and a percentage of (67.4) which indicates a moderate level of results.

The item “drawings and specifications of lump-sum contracts should be very clear and detailed” ranks first with a mean of (4.47). This indicates that contractors find it the most important issue relating to lump-sum contract is its clearance and detailed documents. This is a very correct since it is very difficult to change any item as it is determined previously.

The item “any unexpected conditions during execution of works are assigned to the contractor only” ranks last with a very low level and a mean of (2.19). Contractors by this result disagree to carry all risk relating to this type of contract although applying works using it obligates the contractor to follow its conditions. To be on safe side, the contractor should understand well all conditions relating to lump-sum contract and not to use it only in special cases.

Table (4.24) shows the results for the unit price contracts. The researcher calculated the means, standard deviations, percentages and levels for items of the questionnaire of this type of contract.

Table 4.24: Specifications of unit price contracts

Specifications	Mean	Standard Deviation	Percentage	Level
This type of contracts is the best among others used and the more keeping rights to both the contractor and the owner.	4.11	1.05	82.2	Very high
The bids are referred in most cases to the lowest prices especially if the owner is an official institute.	3.91	1.04	78.2	High
The risk is very little on the contractor comparing with other types of contracts.	3.89	0.87	77.8	High
The competition over lower prices is a loss of the time and effort of contractors when they study and price new bids without a big chance to win.	3.87	0.88	77.4	High
Increasing or decreasing works quantities on a percent of 25% from bid value is a very large percent and indicates inaccurate items quantities.	3.55	1.02	71.0	High
The projects resulted from referring bids to the lowest prices and lower than market prices or expected prices are determined to be the lowest projects in quality and conforming specifications.	3.38	1.15	67.6	Moderate
This type may be used if the quantities and specifications of project aren't very specified and determined clearly when contracting.	3.30	1.10	66.0	Moderate
Referring the bid to the highest prices or to a price more than market price costs the owner additional expenses without better quality noticed.	3.21	1.16	64.2	Moderate
The differences in work quantities between those in contract and those executed are very large in most cases because quantities are written approximately.	2.68	1.02	53.6	Low
Total score	3.55	0.55	71.0	High

Table (4.24) shows that the total score of the items of unit price contracts in the questionnaire achieved a mean of (3.55) and a percentage of (71.0) which indicates a high level of results.

The item “unit price contract is the best among other types of contracts, and the most saving of owners and contractors rights” ranks first with a very high level and a mean of (4.11). This implies the majority of contractors find that unit price contract is the best to use for different types of projects.

The item “the difference in quantities between the contract and the real executed is very large as it is determined approximately” ranks last with a low level. This implies the pleasant from contractors to unit price contracts. And in general they don't have comments in its application.

Table (4.25) shows the results for the cost plus contracts. The researcher calculated the means, standard deviations, percentages and levels for items of the questionnaire of this type of contract.

Table 4.25: Specifications of cost plus contracts

Specifications	Mean	Standard Deviation	Percentage	Level
This type of contracts is mostly preferred in special cases only such as emergencies or speed or necessity.	3.74	0.87	74.8	High
I don't advice to use this type in general in ordinal circumstances; instead I prefer using other types of contracts.	3.70	1.18	74.0	High
Work costs cannot be determined previously, so the owner cannot notice costs until it finishes.	3.49	0.95	69.8	Moderate
The contractor doesn't hold any risks but all risks are hold by the owner.	3.47	1.14	69.4	Moderate
It is a disadvantage for this type the very tall calculations needed which increases time and effort in preparing bills.	3.40	0.97	68.0	Moderate
It is not conditioned in this type accurate specifications or drawings when contracting because it can be given to contractors while executing the works.	3.30	1.12	66.0	Moderate
The contractor in most cases buys high price materials to increase his profit rate.	3.09	1.18	61.8	Moderate
The practices used in implementing these contracts' are correct from formulating and executing it and bills of quantities and payments way.	3.00	0.88	60.0	Moderate
Total score	3.40	0.49	68.0	Moderate

Table (4.25) shows that the total score of the specification of cost plus contracts achieved a mean of (3.40) and a percentage of (68.0) which indicates a moderate level of results.

Contractors prefer to contract with this type on special cases only such as emergence cases or importance or quickness. This type is preferred to be used in these cases.

When the contractors were asked about types of contracts they prefer to contract with. The results are illustrated in the following table where the frequencies and percentages of respondents' responses for the three types of contracts mentioned above are calculated.

Table 4.26: Preferred type of contract

Contract \ Response	Yes		No	
	Frequency	%	Frequency	%
Lump-sum Contracts	7	14.9	40	85.1
Unit price Contracts	41	87.2	6	12.8
Cost plus Contracts	13	27.7	34	72.3

Table (4.26) indicates that most of respondents prefer to use unit price contracts as it gains (87.2%) of their positive responses. Also table (4.25) indicates that most of respondents do not prefer to use lump-sum contract as it gains (85.1%) of their negative responses.

4.5 Results Related to the Study Hypotheses

1. Results Related to the First Hypothesis:

There is no significant relation at ($\alpha=0.13$) between company classification according to PCU and Number of accomplished projects by this company during the last five years.

In order to test the hypothesis, the researcher used Chi-Square test.

Table (4.27) shows the results.

Table 4.27: Chi-Square to test the relation between company classification according to PCU and Number of accomplished projects during the last five years

No. of projects Company classification	Less	From	From	More	D.F	Chi-Sq value	Sig.
	than 10	(10-20)	(21-30)	than 30			
1st category	3	10	2	3	9	6.448	0.694
2nd category	2	8	4	3			
3rd category	3	3	1	0			
4th category	2	1	1	1			

*significant at ($\alpha=0.13$)

Table (4.27) shows that there is no significant relation at ($\alpha=0.05$) between company classification according to PCU and number of accomplished projects during the last five years.

2. Results Related to the Second Hypothesis:

There is a significant relation at ($\alpha=0.13$) between types of construction contracts used and type of institution that uses this contract.

In order to test the hypothesis, the researcher used Chi-Square test. Table (4.28) shows the results.

Table 4.28: Chi-Square to test the relation between types of construction contracts and best institutions contracts

Institution Type of contract	Governmental	Foreign	Private	D.F	Chi-Sq value	Sig.
	Ministries	Institutes	Local Institutes			
Lump-Sum Contracts	3	11	1	8	21.459	0.006*
Unit Price Contracts	3	23	1			
Cost Plus Contracts	2	1	0			
Turnkey Contracts	0	1	0			
Design-Build Contracts	0	0	1			

*significant at ($\alpha=0.13$)

Table (4.28) shows that there is significant relation at ($\alpha=0.13$) between types of construction contracts and best institutions contracts.

3. Results Related to the Third Hypothesis:

There is no significant relation at ($\alpha=0.13$) between type of construction contract used in one project and the priority of contract documents used when a conflict exists between contract documents.

In order to test the hypothesis, the researcher used Chi-Square test. Table (4.29) shows the results.

Table 4.29: Chi-Square to test the relation between types of construction contracts and priorities when a conflict exists between contract documents

Priority Type of contract	Drawings	Bills of Quantities	General Conditions	Supplementary Conditions	FIDIC	D.F	Chi-Sq value	Sig.
Lump-Sum Contracts	4	4	2	0	1	16	62.278	0.0001*
Unit Price Contracts	5	15	1	0	0			
Cost Plus Contracts	0	0	0	1	0			
Turnkey Contracts	3	0	0	0	0			
Design-Build Contracts	3	8	0	0	0			

*significant at ($\alpha=0.13$)

Table (4.29) shows that there is significant relation at ($\alpha=0.13$) between types of construction contracts and priorities when a conflict exists between contract documents.

4. Results Related to the Fourth Hypothesis:

There is a significant relation at ($\alpha=0.13$) between types of construction contracts and reasons for contracts disputes.

In order to test the hypothesis, the researcher used Chi-Square test. Table (4.30) shows the results.

Table 4.30: Chi-Square to test the relation between types of construction contracts and contract disputes

Preference Type of contract	Preference		D.F	Chi-Sq value	Sig.
	Yes	No			
Lump-sum Contracts	7	40	2	57.093	0.0001*
Unit price Contracts	41	6			
Cost plus Contracts	13	34			

*significant at ($\alpha=0.13$)

Table (4.30) shows that there is significant relation at ($\alpha=0.13$) between types of construction contracts and contract disputes.

After analyzing the results of the research; the question to be asked here is what is the actual situation of contracting companies in Palestine? How are construction contracts in Palestine? Are construction contracts used in Palestine suitable? Are they correct according to Engineering, Legal, and Islamic law principles? Do different types of contracts match contracts used worldwide? Do construction contracts in Palestine fit the Palestinian special situation? The following chapter answers these questions.

Chapter 5

Conclusions and Recommendations

5.1 Introduction

This chapter presents the outcomes of the research, several notable findings, conclusions, and practical recommendations for several parties involved in construction industry that help to improve and develop the successful contracting practices in Palestine. It also introduces proposed recommendations for further studies.

The main objective of this research was to recognize all types of contracts that are used in Palestine. Also to assess and clarify all aspects related to contracts used in Palestine from engineering, legal and Islamic law perspectives. Finally, the research aimed to investigate, review, and evaluate the current practices related to contracts.

Generally, the above topics were studied and examined, the objectives have been achieved, some results were concluded, and many actions have been recommended. These conclusions and recommendations are hoped to improve the capability of Palestinian contractors in contracting practices, on one hand, and to add a value for construction industry researches in Palestine, on the other hand.

5.2 Conclusions

This research adds a real contribution to Palestinian construction contracting studies. This contribution is represented by enlightening and clarifying very important issues when contracts are legally formulated.

This research also gives an in-depth view on several practices appears during the application of contracts, these practices are also reviewed and evaluated from three perspectives: engineering, legal, and Islamic law.

The most important addition is that the results of this study will provide researchers with new information that can be used to develop construction industry in Palestine.

Based on the results of the research, the main findings that are concluded are:

1. The survey showed that the majority of Palestinian contractors are highly educated, the results indicate that (90%) of contractors are university graduates, and (4.3%) of them holds a degree of M.A.
2. A reasonable percentage of Palestinian contractors (42.6%) have more than 15 years of experience. It was also found that (36%) of contracting companies have more than 11 years of experience, (17%) of them has more than 15 years of experience.

3. A rate of (38.3%) of Palestinian contractors is classified at the first degree in the PCU, and (36.2%) are classified second category. This high rate implies that most contractors have perfect specifications relative to the local classification requirements.
4. A sizable proportion of respondents contracting companies (76.6%) have buildings projects as the major work for their companies. The data showed also that the majority of these companies (85%) accomplished less than 30 projects during the last five years. This result indicated that the number of accomplished project during a one year is between (2-5) projects, which are very low. This is a very small number. It was also found that the majority of respondents companies (85%) worked projects with a small value (0.2 million dollar – 2.5 million dollar). These results of number of projects or the volume of work gives a high indication of the small size of work for Palestinian contractors, and also executed projects were simple in their nature.
5. The survey results showed that most of contractors (81%) prefer contracting with unit price contracts and (4.3%) of contractors don't prefer contracting with unit price contracts.
6. As results indicated that more half of contractors (64%) don't prefer contracting with lump-sum contracts. Only (9%) of contractors prefer to contract with it.

7. Findings indicated that more than half of respondent contracting companies have disputed with owners due to misinterpretation of contract. A rate of (69%) of these disputes was resolved by amicable settlement. Moreover, only (4%) of these disputes were resolved by adjudication. These results reflect the undesired trend between contractors to go to courts to solve their disputes.
8. The survey results show that, more than three-fourth (77%) of respondents contractors, consider that foreign institutes contracts are most obvious and comprehensible contracts than any other local contracts.
9. The findings illustrated that three - fourth of respondents companies (75%) said that most disputes happen during contract execution rather than any stage. The study revealed that most of disputes occurred between engineer and contractor as (81%) of respondents said. Moreover, a reasonable percentage of respondents thought that the engineer is the major cause of these disputes.
10. Sensible percentage of contractors believes that the main reason for contracts problems is repeating the same contract form for all projects. A sizable proportion of them (77%) described different types of contracts to be applied incorrectly. The study also revealed that more than half of contractors deem that the speed in contract formulation is the main problem.

11. As another finding, a reasonable percentage of contractors thought that the main reason of disputes failure is due to the lack of authority of arbitrators on dispute parties.
12. There is almost consensus among contractors that they are interested in being trained and educated in contracting aspects in order to improve their knowledge and expertise.

Recommendations

The following are practical recommendations to the government; PCU, Engineering Association, and all interested institutes; owners and to contractors which could lead to better contracting practices in Palestine.

5.3.1 The Government

1. The government is recommended to give more focus on contracts laws and regulations that organize the contracting status.
2. Speeding up the ratification on proposed laws of topics relating deeply to construction contracts such as arbitration laws, etc.
3. The government is recommended to introduce policies toward awarding tenders to the most accurate cost and not necessarily to the lowest price.
4. Setting new regulations and laws that guarantees and adopts contractors' rights and protects them. Besides, the suggested

regulations must be examined and evaluated. These regulations aimed to improve the existing practices of contracting in Palestine.

5. The government is advised to make high control and upgrade the contracts items and don't allow exceeding them.

5.3.2 PCU, Engineers Association and all Interested Institutes

1. It is highly recommended to PCU and Association of Engineers to conduct continuous training and education programs through training courses, lectures, seminars, and workshops that helps them to be familiar with engineering and legal issues related to contracts. These training programs aim to increase contractors realizing and understanding of contracting process importance and to improve their practices for future contracting management.
2. It is preferred to conduct efficient training programs for project managers and engineers to improve their managerial skills, and help them to apply contracts conditions appropriately.
3. PCU, Engineers Association, Bar Association and Ministry of Public Works are all invited to revise and modify currently used construction contracts and improve their conditions to meet Palestinian special situation. In addition, they are invited to introduce a unified contracting contract.
4. It is highly recommended to specialize arbitrators in construction contracts in order to have the capability to settle the disputes that are accepted contractually from engineering and legal overviews.

5. It is recommended for bar association to provide contractors with legal assistance and advice when they need it.
6. Responsible authority should allocate contracts risks by distributing possible risks of contracts on both the owner and the contractor.
7. It is highly recommended to form a specialist body that contains all involved parties, in order to take care and adopt all issues relating to contracting process.

5.3.3 Contractors

1. All Palestinian contractors are invited to attend training courses held by experts in law, construction management, or any related fields to contracting in order to take essential education and training on construction contracting.
2. Contractors are advised to review all contracts documents very well before signing the contract. They should give themselves enough time to study these documents and make necessarily site visits to take a good picture of the contract conditions. Moreover, they should take advice, support, and assistance from experts to explain any ambiguous item or unclear condition.
3. Contractors should keep daily records during works execution. This documentation will support them in any future claims and disputes.
4. Contractors are advised to finish works on their time schedule and conform contracts specifications in order to overcome disputes and financial penalties.

5. Contractors should give more care and attention when choosing types of contract they want to work with. Besides, they should know the suitability of each type of contract to be used in different situations.

5.3.4 Owners

1. Awarding bids to the lowest price contractor isn't always the right decision. Bids should be awarded to accurate estimated cost in order to have satisfied results and reduce risks. Moreover, owners should give more weight for technical rather financial aspects of contractors.
2. Owners are recommended to facilitate and quicken contractors' payments by paying them on their schedules and not delay them in order to end claim and disputes relating to them.
3. Owners are recommended to obtain legal advice during contract preparation. They should take experts' assistance in contract formulation and not to repeat contracts from other projects.
4. Owners should try to make a complete set of contracts documents when preparing them for several types of contracts. It is very difficult in some contracts types to modify conditions or quantities after signing them.

Proposed Further Studies

This study is a step in a long way in reviewing and evaluating construction contracts in Palestine. This research stimulates others to improve the contracts more and more. This study opened the way for others to continue work through several areas, these areas include:

1. The same study might be conducted to owners, to view their opinions, to know their claims relating to contracts and any problems or risks facing them when applying contracts.
2. Researchers are invited to develop a suitable unified contracting contract for construction works in order to help owners and contractors. This suggested contract should be appropriate to the Palestinian special situation.
3. It is necessary to repeat this research every five years to observe and study the new trends of contractors.
4. There is a need for additional studies on other issues and practices relating to construction industry in Palestine such as:
 - Causes of contractors failure in Palestine.
 - Construction projects management in Palestine.
 - Managing construction claims.
 - Barriers of successful construction tenders.

References

- Barrie, D. & Paulson, B. (1992). *Professional Construction Management: Including CM, Design-Construct, and General Contracting*. 3rd Edition. McGraw-Hill, Inc. United States.
- Bockrath, J. (2000). *Contracts and the Legal Environment for Engineers and Architects*. 6th Edition. McGraw-Hill. United States.
- Burns, N. & Grove, S. (1997). *The Practice of Nursing Research: Conduct, Critique, & Utilization*. W. B. 3rd Edition. Saunders Company.
- Clough, R. (1981). *Construction Contracting*. 4th Edition. John Wiley & sons. United States.
- Collier, K. (1994). *Managing Construction, The Contractual Viewpoint*. Delmar Publishers Inc. U.S.A.
- Creative Research Systems (2011). *Survey System's Tutorial*. <http://www.surveysystem.com>. Revised on 16-6-2011.
- Creswell, J. (2009). *Research Design. Quantitative, Qualitative, and Mixed Methods Approaches*. 3rd Edition. SAGE Publications. Inc. United States.
- .

- Dunham, C., Young, R., and Bockrath, J. (1979). *Contracts, Specifications, and Law for Engineers*. 3rd Edition. McGraw-Hill, United States.
- Enshassi, A., Abu Rass, A. (2008). *Dispute Resolution Practices in the Construction Industry in Palestine*. International Conference on Multi-National Construction Projects. China.
- Enshassi, A., Al-Hallaq, K. and Mohamed, S. (2006). *Causes of Contractor's Business Failure in Developing Countries: The Case of Palestine*. Journal of Construction in Developing Countries. Vol. (11). No. (2).
- Enshassi, A., Kaka, A. (1997). *Delegation and Span of Management in the Construction Industry*. Islamic University Journal. Vol. (5). No. (2).
- Enshassi, A., Mohamed, S., and Madi, I. (2007). *Cost Estimation Practice in The Gaza Strip: A Case Study*. The Islamic University Journal (Series of Natural Studies and Engineering). Vol. (15). No. (2).
- Fellows, R. & Liu, A. (2008). *Research Methods for Construction*. 3rd Edition. Blackwell Publishing Ltd.
- Fisk, E. & Reynolds, W. (2006). *Construction Project Administration*. 8th Edition. Pearson Education. U.S.A.
- Friedlander, M. A *Primer on Industrial Design-Build Construction Contracts*. Schiff Hardin LLP.

<http://www.schiffhardin.com/media/news/media.163.pdf>. Accessed on 14/12/2010.

Gofhamodimo, C. *Construction Contracts, Procurement Methods in Botswana*.

<http://www.Ith.se/fileadmin/hdm/alumni/papers/icm1999/icm1999-03.pdf>.

Last accessed on 11/5/2011.

Halpin, D. and Woodhead, R. (1980). *Construction Management*. John Wiley & Sons, Inc. U.S.A.

Hancock, B. (1998). *An Introduction to Qualitative Research*. Trent Focus for Research and Development in Primary Health Care.

Hendrickson, C. (2008). *Project Management for Construction Fundamental Concepts for Owners, Engineers, Architects and Builders*. Version 2.2, prepared for World Wide Web publication. <http://pmbok.ce.cmu.edu/>. Last accessed on 05/08/2011.

Jones & Bartlett Learning, LLC. *Quantitative Design*. www.jblearning.com

Palestine Economic Policy Research Institute (MAS), Palestinian Central Bureau of Statistics (PCBS), Palestine Monetary Authority (PMA). (2011). *Quarterly Economic and Social Monitor. Volume (26)*. Ramallah, Palestine.

May, A. (1995). *Keating on Building Contracts*. 6th Edition. Sweet & Maxwell. London.

Merriam Webster. <http://www.merriam-webster.com/dictionary/contracts>.

Accessed on 13/12/2010.

Murtaja, A. (2007). *Investigation of FIDIC Clauses Dealing with Construction Project Performance*. Msc Thesis. The Islamic University of Gaza, Palestine.

Naoum, S. (2007). *Dissertation Research and Writing for Construction Students*. 2nd Edition. Elsevier Ltd.

Palestine Investment Conference. (2008). *Investment Opportunities: Project and Concept Profiles*. Bethlehem.

Palestinian Central Bureau of Statistics. (2010). *Building Licenses Statistics; Third Quarter, 2010*. Volume (15), Issue No. (3).

Palestinian Central Bureau of Statistics. (2012). *Press Report. Preliminary Estimates of Quarterly National Accounts. First Quarter, 2012*. Ramallah, Palestine.

Palestinian Contractors Union. (2003). *Construction Section Profile*. Accessed on 13/12/2010.

Palestinian Contractors Union (2003). Construction Sector Profile. <http://www.pcu.ps/e/index.php?action=sector0>. (Last accessed on 29/7/2011).

Palestinian Federation of Industries (2009). *The Current Status of the Industrial Sector in Palestine*.

PECDAR Economic Reports (1997) *Housing in Palestine*.

<http://www.pecdar.ps/etemplate.php?id=264> . (Last accessed on 25/5/2011).

PHD center (2010). *Construction Contract Basics. Course Content*.

<http://www.phdonline.org/courses/p120/p120content.pdf>. Accessed on 24/2/2010.

The Palestine Economic Policy Research Institute (MAS) (2008). *An Investment Guide to Palestine*. Ramallah, Palestine.

Toler, T. (2007). *Design-Build vs. Traditional Construction: Risk and Benefit Analysis*. Accessed on 10/5/2011.

United Nations (2001). *Information Note on the Economy of the Occupied Palestinian Territory (West Bank and Gaza)*. Third United Nations Conference on the Least Developed Countries, Brussels, Belgium. Prepared by the Palestine National Authority, Ministry of Economy and Trade.

Verster, JJP. (2005). *Managing cost, contracts, communication and claims: A Quantity Surveying Perspective on Future Opportunities*. Accessed on 27/8/2009.

Appendices

Appendix 1: Questionnaire in English Language.

Appendix 2: Questionnaire in Arabic Language.

Appendix 3: Religious Question.

Appendix 4: Contracts Specification in General (Table).

Questionnaire

Construction Contracts Used in Palestine

Dear Contractor:

I'd like first to present to you my deepest thanks and appreciation for giving part of your valuable time and effort in filling this questionnaire.

This questionnaire aims to studying construction contracts used in Palestine, and it is a partial fulfillment of the requirements for the degree of Master in the Engineering Management at An-Najah National University in Nablus, hoping that this research results could contribute improving contracts' practices. Information you will contribute will help in improving academic research and contracting section in Palestine.

Questionnaire Information:

All information presented from you will be used for research purposes with complete commitment for the fully confident for it. So please try to give correct and accurate data in order to help us to reach to best results from this questionnaire.

Questionnaire Contents:

This questionnaire consists of three main sections in order to accomplish the desired goals:

Section One: Profile of the contracting company.

Section Two: Facts about some contracting practices.

Section Three: Specifications of construction contracts that are used in Palestine.

Supervisors

Researcher

Dr. Riyad Abdulkareem Awad

Eng. Minnat-Allah Saqfelhait

Dr. Ali Mohammad Sartawi

2011

Section One: Contracting Company Profile

1. Location of the contracting company:

2. Company classification according to PCU

1st Category (A+B) 2nd Category 3rd Category 4th Category 5th Category

3. Position of the respondent

Company Director Project Manager Site/Office Engineer Other (mention
.....)

4. Respondent qualification:

5. Respondents years of experience

Less than 5 years From (5-10) years From (11-15) years More than 15 years

6. Company years of experience

Less than 10 years From (10-15) years From (16-20) years More than 20 years

7. Qualification of company employees

Master and higher

Number

BSc

Number

Diploma

Number

Baccalaureate Number

Less than baccalaureate Number

8. Type of engineering specialization for technical employees

Civil Engineer Number

Architect Number

Electrical Engineer Number

Mechanical Engineer Number

Other specialist Engineer Number Specialization

Technical Number Specialization

9. Types of most accomplished projects

- Buildings Roads Water and Sewage Electro-mechanic General Works

10. Number of accomplished projects during the last five years

- Less than 10 From (10-20) From (21-30) More than 30

11. Value of accomplished projects during the last five years (Million Dollars)

- Less than 1 From 1-less than 5 From 5-less than 10 From 10-less than 15 15 and more

12. Types of construction contracts that your company have ever contracted

Lump-Sum Contracts Unit Price Contracts

Cost Plus Contracts Turnkey Contracts

Design-Build Contracts Other (Mention)

- Governmental Ministries
- Foreign Institutes
- Municipalities
- Private Local Institutes
- Other (Mention)

5. Local and municipality laws of project area consideration is the responsibility of

- Owner
- Engineer
- Contractor
- All Parties
- Engineer & Contractor only

6. When a conflict exists between contract documents, then the priority is to the

- Drawings
- Bills of Quantities
- General Conditions
- Supplementary Conditions
- FIDIC (Ministry of Works)

7. The disagreements between the owner and the contractor happens mostly during

- Signing the contract
- Execution of the contract
- First delivery of works
- Maintenance and final delivery
- Other (Mention)

8. The disagreements happening during execution of works are mostly between

- Owner and Engineer
- Owner and Contractor
- Engineer and Contractor

9. The disagreements happening during execution of works are mostly because of

- Owner
- Engineer
- Contractor
- Contract
- Emergence Cases

10. Most disagreements happening during execution because of OWNER are often because (more than one answer can be chosen)

- Interfering in works & changing their specifications repeatedly
- Delay of contractor payments
- Lack of observing the engineer
- Slow in making decisions
- Not compensating the contractor under force majeure conditions
- Delay in receiving or delivering the work site

11. Most disagreements happening during execution because of ENGINEER is often because (more than one answer can be chosen)

- Lack of authorities given to him on works
- Lack of supervision
- His poor experience in work execution
- Changing specifications continuously
- His oral instructions & orders
- Slow in making decisions

12. Most disagreements happening during execution because of CONTRACTOR is often because (more than one answer can be chosen)

- His poor experience in work execution assigned to the project
- Shortage of manpower
- Delay in work execution
- Non **abidance** with needed specifications
- Not documentation the daily works
- Other (Mention)

13. Most construction contracts problems are mainly because of (more than one answer can be chosen)

- Unclear contract items
- Incomprehensive contract items
- Not reading & understanding contracts before signing
- Difference between contracts and site conditions
- Repeating the same contracts forms in all projects

14. Construction contracts applied currently can be described generally to be used

- In suitable conditions and applied correctly
- In suitable conditions but applied incorrectly
- In unsuitable conditions but applied correctly
- In unsuitable conditions and applied incorrectly

15. The reason of incomplete or unclear contracts formulation is

- Not feeling in contract importance
- Speed in contract formulation
- Not caring about contract formulation
- Other (Mention)

16. Arbitration sometimes fails in resolving engineering disputes because of

- Absent of specialized arbitrators
- Lack of authority of arbitrators on dispute parties
- Some items don't have reference in law
- Other (Mention)

Section Three: Specifications of Construction Contracts Used in Palestine

Engineering projects are one of the most important projects in the world; this importance can be observed in all projects stages, from the moment the idea of constructing the project is born; to the full accomplishing of the desired project.

One of the most important priorities when deciding to execute a project is to formulate contracts to the works, these contracts are mostly written containing several conditions needed for project accomplishment, such as types of works, time needed, and cost of the work ...etc.

Please indicate your opinion in the following questions about practices of contracts used in Palestine based in your experience in construction contracts.

	Construction Contracts Specifications	Agreement Level				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Construction Contracts in General						
	The main reference to any construction work is the unified contract (Ministry of works).					
	It is important to keep a copy from the unified contract in the company as a reference to any construction work.					
	There are some items in contracts without any interpretation in the unified contracting contract.					
	When judging on bidding practices in general it subdues to equity and full competition principles.					
	Announcement of bidding is made on official newspapers and it is clear and unambiguous.					
	Selecting contractors' categories by owner is an acceptable and important matter.					
	The item "" is an unfair for competitive contractors because it's their right to know the reason of the bid winner.					
	Bids of governmental institutes are better than those of private ones.					
	The contractor is given in general enough time to study contract documents and to price it.					
0	When the contractor enters into a bid he mustn't be not present unless he faced emergence cases.					
1	If the owner wanted to close down the contract before opening he can do that with a condition of returning the contractors the contract price.					
2	If the owner closed down the bidding because of any reason the contractors shouldn't request any compensation.					
	Construction Contracts Specifications	Agreement Level				
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	The priority in awarding bids is given to					

3	financial requirements rather than technical ones.					
4	The bid may be awarded to other than lowest price but the owner must justify this to the competitive contractors.					
5	The owner has the right to negotiate the lowest bidder to low his price if his price is more than the expected price.					
6	When the bid is the lowest comparing with market price it will be also the lowest in quality.					
7	As the period of the project is large, the disagreements also enlarge between contract parties.					
8	When contracting in a foreign language, I care for accurate translation to exist and I take assistance from experts in contracts when needed.					
9	When contract in a foreign language I care for Arabic translation to exist to use when any disagreement happens.					
0	Determining the accurate details when contracting in large projects can initiate problems in execution because the difference of circumstances that affects the project especially economic ones.					
1	I read the contract and understand it accurately and take help from experts in law or any other specification if needed before signing it.					
2	If the contractor didn't make a same project previously he should tell the owner or he is believed to have expertise of accomplishing it.					
3	Any major item forgotten in the contract is understood to be executed by the contractor.					
4	It is cared in formulating contracts to distribute the risks between the owner and contractor fairly.					
5	The priority to the contract documents should be clear in the contract, otherwise the contractor can prioritize it as he wants.					
6	As the contracts can be clear as possible, it couldn't be complete without some additions from the engineer.					
7	The contractor should take care when pricing the bid to any future changes in prices and he cannot return to the owner if any changes happened in material prices or labor salaries.					
8	The law guarantees the right of the contractor to request compensation if any increase in materials prices happened because of any unexpected circumstances and the owner should compensate him.					

	Construction Contracts Specifications	Agreement Level				
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9	If the contractor informs the engineer about a hazard existing in implementing his design and the engineer refused, the responsibility is eliminated from the contractor to execute this design.					
0	If the way of executing an item isn't included in the contract, the contractor executes it with an appropriate way and the engineer should accept it.					
1	If the contract doesn't include the way to execute an item then the contractor should take the engineer admiration before starting it.					
2	If the engineer ordered to use a material that the contractor discovered previously its problem but the engineer decided to use it and it affected constructions then the total responsibility is on the engineer.					
3	The owner can make any modifications on works during execution without previous approval from contractor if these modifications are part of the contract.					
4	It is not allowed to the contractor to abandon some or all works to another one except with the permission of the owner and full committable of the original contractor to works in addition to the new.					
5	If the contractor decided to subcontract some works to subcontractors he must take previous permission from the owner.					
6	The owner can subtract any payments to the contractor to pay his employees or suppliers if he delayed paying them or refused to pay.					
7	If the owner delayed payments to the contractors on scheduled time, the contractor have the right to demand compensation by additional payments or additional time.					
8	The engineer can give change orders at any time during execution even during maintenance period if it is necessary to accomplish works.					
9	Some contractors benefit from any change order to happen to demand high prices compensating any loss in the bid.					
0	Supervising works from the engineer doesn't indicate non confidence or harm the contractor; it instead motivates him to work better.					

1	If the contractor wants to work at night he must take the engineer agreement who can accept or reject.					
2	If the engineer ordered the contractor to work at night he can accept or reject if not included in the contract.					
	Construction Contracts Specifications	Agreement Level				
		ngly agree	ee	al	re e	gl Disagree
3	If the engineer wants to damage some of the works because they don't comply with specifications, he can do that without informing the contractor.					
4	If the owner wants to speed the work completion because of his personal reasons, he should first take the contractor agreement.					
5	If the engineer gave an orally order while works execution, the contractor shouldn't perform it until it is documented.					
6	If the orally order from the engineer is urgent then the contractor should start executing until the written order reaches.					
7	There does not exist an agreement to determine the emergence cases as they changes continuously.					
8	Not any contract can be empty from disagreements and disputes although if the contract is very clear.					
9	The job of documenting daily updates and reports is on the contractor although if nobody demands this from him.					
0	I care when contracting to the existence of an item that determines the way to resolute the disputes.					
1	I prefer to resolute disputes using amicable settlement although I may loose some rights.					
2	If amicable settlement doesn't solve the dispute, then I prefer to solve it using arbitration rather than adjudication.					
3	If the owner wants to resolve the dispute by arbitration, he should take the contractor acceptance. Nevertheless the arbitration cannot be used.					
4	Rarely to exist specialized arbitrators with a good expertise in disputes resolutions. Therefore, it is very difficult and long way to resolute disputes using it.					
	I have the capability to arbitrate in					

5	construction contracts disputes if required.					
6	Not all disputes can be solved by arbitration because there are some problems that arbitration is unsuitable to them.					
7	I can say that I have the knowledge and understanding to laws and regulations that organize construction contracts in Palestine.					
8	There may exist some items in the contracts that may be a reason for disagreements and disputes without any existence of interpretations of it in the law.					
Construction Contracts Specifications		Agreement Level				
		ngly gree	ee	al	re e	gl Disagree
9	There are specialized institutes that have a duty of educating, qualifying, and training contractors in the contractual issues and informing them about their rights and responsibilities.					
10	I attend any lectures or conferences concerned in educating contractors in contractual issues especially law issues in order to know my rights and my responsibilities.					

- Please indicate any notes you would like to comment on contracts practices

.....

The construction contracts differ by the difference of the project needed to be accomplished, it is noticed that every type of contracts has its special nature and different circumstances of any other type.

Depending in your experience and opinion in different types of construction contracts please indicate how contracts practices are:

	Construction Contracts Specifications	Agreement Level				
		ngly gree	ee	al	re e	gl Disagree
Lump-sum Contracts						
	In this type of contracts, drawings and specifications should be very clear and detailed.					

The owner can't make any changes needed even though they may be very necessary to the works.					
Any unexpected conditions or additional works may be needed during execution is committable by the contractor only.					
This type of contracts is appropriate to small projects only but does not suit medium or large ones.					
The contractor bears high financial risk because his price is steady and there is high acceptably for different circumstances around the project to change.					
The agreement on a lump sum payment makes sure that this sum can't be changed although the works quantities may increase or decrease.					
The contractor finds himself needed to increase his price to make it very high frightening of any unexpected increase on prices.					
This type doesn't need a very long calculations and bills preparing like other types of contracts.					
The used practices in implementing this type are correct from the way the contracts is formulated and carried out.					

- Do you prefer to use this type of contracts? Yes No

- Why?

.....

Any other comments:

1.
2.
3.

Construction Contracts Specifications	Agreement Level				
	gl ee	y ee	al	re e	gl Disagree
	Unit price Contracts				
This type of contracts is the best on others used and the more keeping rights to both the contractor and the owner.					
This type may be used if the quantities and specifications of project aren't very specified and determined clearly when contracting.					
The differences in work quantities between					

those in contract and those executed are very large in most cases because quantities are written approximately.					
Increasing or decreasing works quantities on a percent of 25% from bid value is a very large percent and indicates inaccurate items quantities.					
The bids are referred in most cases to the lowest prices especially if the owner is an official institute.					
The projects resulted from referring bids to the lowest prices and lower than market prices or expected prices are determined to be the lowest projects in quality and conforming specifications.					
The competition over lower prices is a loss of the time and effort of contractors when they study and price new bids without a big chance to win.					
Referring the bid to the highest prices or to a price more than market price costs the owner additional expenses without better quality noticed.					
The risk is very little on the contractor comparing with other types of contracts.					

- Do you prefer to use this type of contracts? Yes No

- Why?

.....

Any other comments:

1.
2.
3.

Construction Contracts Specifications	Agreement Level				
	gl ee	y ee	al	re e	gl Disagree
	Cost plus Contracts				
This type of contracts is mostly preferred in special cases only such as emergencies or speed or necessity.					
The contractor doesn't hold any risks but all risks are hold by the owner.					
The contractor in most cases buys high price materials to increase his profit rate.					
Work costs cannot be determined previously, so the owner cannot notice costs until it finishes.					
It is not conditioned in this type accurate specifications or drawings when contracting because it can be given to contractors while executing the works.					

	I don't advice to use this type in ordinal circumstances; instead I prefer using other types of contracts.					
	It is a disadvantage for this type the very tall calculations needed which increases time and effort in preparing bills.					
	The practices used in implementing these contracts' are correct from formulating and executing it and bills of quantities and payments way.					

- Do you prefer to use this type of contracts? Yes No

- Why?

.....

Any other comments:

1.
2.
3.

Appendix 2

Questionnaire

Engineering Contracts Used in Palestine

استبيان حول العقود الهندسية المعمول بها في فلسطين

الأخ المقاول الفاضل:

بعد التحية،،،

بدايةً أتقدم لكم بجزيل الشكر والتقدير للمساهمة بجزء من وقتكم وجهدكم في تعبئة هذا الاستبيان.

يهدف هذا الاستبيان إلى دراسة العقود الهندسية المعمول بها في فلسطين وهو جزء من البحث التكميلي لنيل درجة الماجستير في الإدارة الهندسية من جامعة النجاح الوطنية بنابلس، آمليين أن تؤدي نتائج هذا البحث إلى تحسين ممارسات العقود المعمول بها.

إن المعلومات التي ستساهمون بها ستساعد في إثراء البحث العلمي وتطوير وخدمة قطاع المقاولات في فلسطين.

الفئة الموجه إليها الاستبيان:

المقاولون ذوي الخبرة في التعامل مع العطاءات والعقود الهندسية والعاملون في مجال المقاولات بكافة أشكالها.

المعلومات الواردة في الاستبيان:

إن كافة المعلومات الواردة في هذا الاستبيان سوف تستخدم لأغراض البحث العلمي فقط مع الالتزام التام بالمحافظة على السرية الكاملة للمعلومات الخاصة بكم. لذا أرجو من حضرتكم أن تكون المعلومات المقدمة دقيقة وصحيحة قدر الإمكان للوصول إلى أفضل النتائج المرجوة من هذا الاستبيان.

مكونات الاستبيان:

يتكون هذا الاستبيان من ثلاثة أقسام رئيسية لكي يحقق الأهداف التي وضع من أجلها:

القسم الأول: معلومات عامة عن شركة المقاولات.

القسم الثاني: معلومات وحقائق حول بعض الممارسات الخاصة بالعقود.

القسم الثالث: مواصفات العقود الهندسية المعمول بها في فلسطين.

الباحثة

تحت إشراف

م. منة الله سالم سقف الحيط

الدكتور/ رياض عبد الكريم عوض

الدكتور/ علي محمد سرطاوي

2011

القسم الأول: معلومات عامة عن الشركة

1. المحافظة التي يتواجد فيها المقر الرئيسي للشركة:

2. تصنيف الشركة حسب اتحاد المقاولين الفلسطينيين

□ درجة أولى (أ+ب) □ درجة ثانية □ درجة ثالثة □ درجة رابعة □ درجة خامسة

3. المركز الإداري لمعبي الاستبيان

□ مدير الشركة □ مدير مشروع □ مهندس موقع/مكتب □ غير ذلك (ما هو)

4. المؤهل العلمي لمعبي الاستبيان:

5. عدد سنوات الخبرة لمعبي الاستبيان

□ أقل من 5 سنوات □ من (5-10) سنوات □ من (11-15) سنة □ أكثر من 15 سنة

6. عدد سنوات خبرة الشركة في مجال المقاولات

□ أقل من 10 سنوات □ من (10-15) سنة □ من (16-20) سنة □ أكثر من 20 سنة

7. تصنيف الشهادات العلمية لموظفي الشركة

□ ماجستير فأعلى العدد

□ بكالوريوس العدد

□ دبلوم العدد

□ ثانوية عامة العدد

□ أقل من الثانوية العدد

العامة

8. نوع التخصص الهندسي للموظفين المهنيين في الشركة

□ مهندس مدني العدد

□ مهندس معماري العدد

□ مهندس كهرباء العدد

□ مهندس ميكانيك العدد

□ مهندس بتخصص العدد التخصص

آخر

□ فني العدد التخصص

9. نوع المشاريع التي تركز عليها الشركة حسب تصنيف اتحاد المقاولين الفلسطينيين

□ أبنية □ طرق □ مياه ومجاري □ كهروميكانيك □ أشغال عامة

10. عدد المشاريع التي نفذتها شركتكم خلال السنوات الخمس الأخيرة

أقل من 10 من (10-20) من (21-30) أكثر من 30

11. حجم المشاريع التي قامت شركتكم بتنفيذها خلال السنوات الخمس الأخيرة (مليون دولار)

أقل من 1 من 1 إلى أقل من 5 من 5 إلى أقل من 10 من 10 إلى أقل من 15 15 فما فوق

12. أنواع العقود الهندسية التي سبق لشركتكم أن تعاقدت بها

عقود المبلغ المقطوع (Lump Sum Contracts) عقود سعر الوحدة (Unit Price Contracts) عقود
الكلفة زائد (Cost Plus Contracts) عقود تسليم المفتاح (Turnkey Contracts) عقود تصميم وتنفيذ
(Design Build Contracts) أخرى (ما هي)

13. أنواع العقود الهندسية التي تفضل شركتكم التعاقد بها

عقود المبلغ المقطوع (Lump Sum Contracts) عقود سعر الوحدة (Unit Price Contracts) عقود
الكلفة زائد (Cost Plus Contracts) عقود تسليم المفتاح (Turnkey Contracts) عقود تصميم وتنفيذ
(Design Build Contracts) أخرى (ما هي)

14. أنواع العقود الهندسية التي لا تفضل شركتكم التعاقد بها

عقود المبلغ المقطوع (Lump Sum Contracts) عقود سعر الوحدة (Unit Price Contracts) عقود
الكلفة زائد (Cost Plus Contracts) عقود تسليم المفتاح (Turnkey Contracts) عقود تصميم وتنفيذ
(Design Build Contracts) أخرى (ما هي)

15. هل سبق وأن حصل بين شركتكم وبين صاحب العمل في أحد المشاريع التي قمتم بتنفيذها سابقاً أي خلاف أو نزاع حول تفسير العقد؟ نعم لا

إذا كانت الإجابة نعم، تم حل الخلاف بالطريقة التالية (يمكن اختيار أكثر من إجابة)

بطريقة ودية عن طريق التحكيم عن طريق المحاكم المختصة
بطريقة أخرى (ما هي)

القسم الثاني: معلومات وحقائق حول بعض الممارسات الخاصة بالعقود

1. أكثر تصنيفات المقاولين الذين يستهدفهم أصحاب المشاريع عند طرح العطاءات

درجة أولى درجة ثانية درجة ثالثة درجة رابعة درجة خامسة

2. أكثر تصنيفات المقاولين الذين ترسو عليهم العطاءات

درجة أولى درجة ثانية درجة ثالثة درجة رابعة درجة خامسة

3. إن أفضل المشاريع المنفذة هي تلك التي يقوم بتنفيذها مقاولون من تصنيف

□ درجة أولى □ درجة ثانية □ درجة ثالثة □ درجة رابعة □ درجة خامسة

4. إن أفضل العقود وضوحاً وتفسيراً وإحاطةً بجميع نواحي المشروع هي عقود المؤسسات

□ الحكومية □ الأجنبية □ البلديات □ الخاصة المحلية □ أخرى (ما هي)

5. إن مراعاة القوانين المحلية وقوانين البلدية التي تتبع لها منطقة المشروع هي مسؤولية

□ صاحب العمل □ المهندس □ المقاول □ جميع الأطراف □ المهندس والمقاول فقط

6. إذا وجد تناقض في المعلومات الموجودة في وثائق العطاء المختلفة دون وجود نص يحدد الأولوية في العقد، فإن الأولوية تكون لـ

□ المخططات □ جداول الكميات □ الشروط العامة □ الشروط الخاصة □ عقد الفيديك (وزارة الأشغال)

7. معظم الخلافات التي تحدث بين صاحب العمل والمقاول تتم غالباً أثناء مرحلة

□ التوقيع على العقد □ تنفيذ العقد □ التسليم الأولي للأعمال □ الصيانة والاستلام النهائي □ غير ذلك (ما هي)

8. معظم الخلافات التي تتم أثناء تنفيذ المشروع تكون غالباً بين

□ صاحب العمل وجهاز الإشراف □ صاحب العمل والمقاول □ جهاز الإشراف والمقاول

9. معظم الخلافات التي تتم أثناء تنفيذ المشروع تكون غالباً بسبب

□ صاحب العمل □ جهاز الإشراف □ المقاول □ العقد □ ظروف طارئة

10. معظم الخلافات التي تتم أثناء تنفيذ المشروع بسبب صاحب العمل تكون غالباً بسبب (يمكن اختيار أكثر من اجابة)

□ تدخله المتكرر في الأعمال وتغييره المستمر لمواصفاتها □ تأخره في دفع مستحقات المقاول

□ عدم القيام بدوره في متابعة جهاز الاشراف بشكل مستمر □ تأخره في اتخاذ القرارات

□ عدم تحمله للظروف الطارئة مع المقاول أو تعويضه عند حدوثها □ تأخره في تسليم أو استلام الموقع

11. معظم الخلافات التي تتم أثناء تنفيذ المشروع بسبب جهاز الإشراف تكون غالباً بسبب (يمكن اختيار أكثر من اجابة)

□ قلة الصلاحيات الممنوحة له □ عدم متابعته وإشرافه على العمل □ قلة خبرته في تنفيذ الأعمال □ تغييره الدائم للمواصفات أثناء التنفيذ □ إصدار التعليمات والأوامر شفويًا □ تأخره في اتخاذ القرارات

12. معظم الخلافات التي تتم أثناء تنفيذ المشروع بسبب المقاول تكون غالباً بسبب (يمكن اختيار أكثر من اجابة)

□ قلة خبرته في تنفيذ الأعمال □ عدم كفاية كادره لتنفيذ الأعمال □ تأخره في التنفيذ عن الوقت الممنوح له □ عدم تقيده بالمواصفات المطلوبة □ عدم توثيقه لسير العمل اليومي □ غير ذلك (ما هو)

13. إن غالبية مشاكل العقود تكون بسبب (يمكن اختيار أكثر من اجابة)

□ عدم وضوح بنودها □ عدم شمولية بنودها □ عدم قراءة وفهم العقود قبل التوقيع عليها □ اختلاف العقود عن الواقع □ تكرار نفس صيغ العقود في جميع المشاريع دون مراعاة طبيعة كل مشروع

14. إن العقود الهندسية المستخدمة حالياً بأنواعها المختلفة يمكن وصفها بأن استخدامها يكون

□ في الظروف المناسبة وتطبق بشكل صحيح □ في الظروف المناسبة ولكن لا تطبق بشكل صحيح □ في الظروف الغير مناسبة لكن تطبق بشكل صحيح □ في الظروف الغير مناسبة ولا تطبق بشكل صحيح

15. إن العقود المصاغة صياغة ناقصة أو غامضة أو متناقضة يكون سببها

□ عدم الشعور بأهمية العقود □ السرعة في صياغة العقود وكتابتها مما لا يتيح المجال لتدقيقها □ عدم الاهتمام بصياغة العقود □ غير ذلك (ما هو)

16. يفضل التحكيم أحياناً في حل الخلافات والنزاعات الهندسية بسبب

□ عدم وجود محكمين مختصين في النزاعات الهندسية □ عدم وجود سلطة للمحكمين على الأطراف المتنازعة □ عدم وجود مرجعية لبعض البنود في القانون □ غير ذلك (ما هو)

القسم الثالث: مواصفات العقود الهندسية المعمول بها في فلسطين

إن من أهم المشاريع في فلسطين وفي غيرها من دول العالم هي المشاريع الهندسية، وتتمثل هذه الأهمية في جميع مراحلها، من لحظة نمو فكرة إنشاء مشروع هندسي معين؛ وحتى تنفيذ هذا المشروع على أكمل وجه.

وان من أهم أولويات تنفيذ المشاريع الهندسية تنفيذ عقود لجميع الأعمال المطلوب تنفيذها، وقد جرت العادة أن تكون هذه العقود مكتوبة وتتضمن العديد من البنود والشروط اللازمة لإتمام المشروع؛ منها على سبيل المثال نوع الأعمال المراد انجازها والمدة الزمنية للانجاز والقيمة المادية للعقد، إلى غير ذلك من البنود والتي تضمن حق طرفي العقد - صاحب العمل والمقاول-.

أرجو من حضرتكم بيان رأيكم في النقاط الواردة في الأسئلة التالية حول مواصفات العقود المنفذة في فلسطين اعتماداً على خبرتكم في مجال العقود الهندسية:

لرقم	مواصفات العقود الهندسية	درجة الموافقة				
		أ	أ	لا	لا	لا
		وافق بشدة	وافق	أدري	أوافق بشدة	لا أوافق بشدة
.	العقود الهندسية بشكل عام (Engineering Contracts in General)					
1.	إن دفتر عقد المقابلة الموحد الصادر عن وزارة الأشغال العامة والإسكان بجزأيه الأول والثاني هو المرجع الرئيسي لأي عمل إنشائي.					
2.	أحتفظ بنسخة من عقد المقابلة الموحد في مقر الشركة كمرجع مهم للرجوع إليه كلما استدعى الأمر ذلك.					
3.	إن هناك بنود عادة ما ترد في العقود المعمول بها ولا يوجد لها تفسير أو شرح أو حتى إشارة في عقد المقابلة الموحد.					
4.	يمكن الحكم على العطاءات المعمول بها حالياً بشكل عام بأنها تخضع لمبدأ المساواة والعدل وحرية المنافسة.					
5.	يتم الإعلان عن العطاءات عادة في الصحف الرسمية ويكون الإعلان واضح غير مبهم وشامل للمعلومات اللازمة.					
6.	إن قيام صاحب العمل بتحديد درجة تصنيف المقاولين المسموح لهم الدخول في العطاء يعتبر أمر مبرر وضروري.					
7.	إن بند "إرساء العطاء دون إيداء الأسباب" بند مجحف بحق المقاولين المتنافسين حيث أن من حقهم معرفة الأسباب التي فاز أحدهم لأجلها.					
8.	أفضل الدخول في العطاءات التي تطرحها مؤسسات حكومية على تلك التي تطرحها مؤسسات خاصة.					

					يُعطى المقاول عادةً مدة كافية لدراسة وثائق العطاء دراسة مستفيضة وتسعيه تسعيراً مدروساً.	9.
					إذا تقدمت لأي عطاء صغيراً كان أم كبيراً فإنني أقوم بحضور جلسة فتح العطاء ولا أتغيب عنها مطلقاً إلا في الظروف القاهرة.	10.
درجة الموافقة					مواصفات العقود الهندسية	لرقم
لا	لا	لا	أ	أ		
أوافق بشدة	أوافق	أدري	وافق	وافق بشدة		
					إذا أراد صاحب العمل إلغاء العطاء بعد تسلمه من المقاولين وقبل فتحه فيجوز له ذلك على أن يرجع للمقاولين ثمن العطاء وكفالة الدخول فيه.	11.
					إذا ألغى صاحب العمل العطاء لأي سبب من الأسباب فلا يجوز للمقاولين مطالبته بأي تعويض بسبب الإلغاء.	12.
					في معظم المشاريع تُعطى الأولوية في ترسية العطاءات للناحية المالية بالدرجة الأولى مع أهمية قليلة للناحية الفنية.	13.
					من الممكن أن يرسو العطاء على غير أقل الأسعار شريطة أن يقوم صاحب العمل بوضع المبررات لذلك أمام المقاولين المتنافسين.	14.
					يحق لصاحب العمل مفاوضة المقاول على سعر عطائه لمحاولة تخفيضه إذا كان سعره هو أقل الأسعار لكنه أعلى من السعر المتوقع.	15.
					كلما كان العطاء هو الأقل سعراً عن سعر السوق فإنه يكون الأقل جودةً من حيث المواد والمصنعية والأداء من قبل كادر المقاول.	16.
					كلما طالبت فترة تنفيذ المشروع كلما زادت الخلافات بين أطراف المشروع.	17.
					عند توقيع العقد باللغة الأجنبية أحرص على وجود ترجمة عربية دقيقة وأقوم بالاستعانة بخبراء في مجال العقود للتأكد من سلامة العقد.	18.
					عند توقيع العقد باللغة الأجنبية فإنني أحرص على وجود نص عربي فإذا حصل أي خلاف أثناء التنفيذ فيعتبر النص العربي هو المرجع.	19.
					إن تحديد تفاصيل التنفيذ الدقيقة عند توقيع العقد في المشاريع الكبيرة يُعرض التنفيذ للعديد من المشاكل نظراً لتغير الظروف التي تؤثر على المشروع بشكل متسارع وخاصة الظروف الاقتصادية.	20.
					قبل توقيع العقد أقوم بقراءة العقد قراءة دقيقة وفهمه فهماً عميقاً	

					21. وأستعين بمستشارين في القانون أو أي تخصص آخر ان لزم الأمر.
					22. على المقاول الذي لم يسبق له أن قام بمشاريع مماثلة للمشروع المنوي تنفيذه إبلاغ صاحب العمل بذلك وإلا فإنه يعتبر قادر على تنفيذه.
					23. ان أي بند أغفل ذكره في العقد وهو بند أساسي في تنفيذ المشروع يفهم منه ضمناً أن تنفيذه على المقاول.
					24. يراعى في صياغة العقود الدارجة حالياً توزيع المخاطر المحيطة بالمشروع بين المقاول وصاحب العمل توزيعاً عادلاً.
					25. يجب أن يكون ترتيب الأولوية لوثائق العقد واضح ومنصوص عليه في العقد وإلا فيستطيع المقاول تحديد الأولوية حسب ما يراه مناسباً.
					26. إن العقود مهما كانت واضحة لا يمكن أن تكون كاملة بدون أن تتقصها بعض النقاط التي يجب على المهندس البت فيها أثناء التنفيذ.
درجة الموافقة					مواصفات العقود الهندسية
لا	لا	لا	أ	أ	
أوافق بشدة	أوافق	أدري	أوافق	أوافق بشدة	لرقم
					27. على المقاول أن يراعي عند وضع أسعاره أي تغيرات مستقبلية ممكن أن تطرأ على الأسعار ولا يحق له الرجوع على صاحب العمل في حال حدثت أي تغيرات في أسعار المواد أو أجور العمال أو ما شابه.
					28. يضمن القانون حق طلب المقاول للتعويض في حال حصلت زيادة في أسعار المواد الخام بسبب ظروف لم يكن لمقاول خبير أن يتوقعها وعلى صاحب العمل تعويضه بمقدار هذه الزيادة.
					29. إذا أخبر المقاول المهندس بوجود خطورة في تنفيذ تصميمه ورفض المهندس تغييره تنتفي مسؤولية المقاول عن تنفيذ هذا التصميم.
					30. إذا لم يرد في العقد طريقة تنفيذ بند معين فإنني أقوم بتنفيذه بالطريقة التي أراها مناسبة وعلى المهندس أن يقبلها كما قمت بتنفيذها.
					31. إذا لم يرد في العقد طريقة تنفيذ بند معين فان علي أخذ موافقة المهندس على طريقة التنفيذ قبل البدء بها.
					32. إذا طلب المهندس استعمال مادة سبق للمقاول أن اكتشف عدم جودتها وأخبر المهندس لكنه أصر على استخدامها وأثرت على جودة المنشآت فان المهندس فقط هو الذي يتحمل كامل المسؤولية عنها.
					يجوز لصاحب العمل إجراء أي تغيير على الأعمال أثناء

					التنفيذ دون موافقة المقاول المسبقة بشرط أن يدخل هذا التغيير ضمن التزام المقاول بالعقد وأن يتم إبلاغه بهذا التغيير في وقت مناسب.	33.
					لا يسمح للمقاول بالتنازل عن كل الأعمال أو أي جزء منها لمقاول آخر إلا بموافقة صاحب العمل مع تحمل المقاول الأصلي المسؤولية الكاملة عن الأعمال بالإضافة إلى المقاول الجديد.	34.
					إذا أراد المقاول أن يوكل بعض الأعمال إلى مقاولين فرعيين فيجب أخذ الموافقة المسبقة من صاحب العمل وإذا رفضهم فعليه تغييرهم.	35.
					يستطيع صاحب العمل خصم أية مطالبات مستحقة على المقاول لعماله أو مقاوليه الفرعيين أو موردي المواد من المبالغ المترتبة له إذا تأخر المقاول أو رفض دفعها لهم.	36.
					إذا تأخر صاحب العمل على المقاول بدفع مستحقاته في مواعيدها المنصوص عليها في العقد فإن من حق المقاول مطالبته بالتعويض إما بدفع مبالغ إضافية له أو زيادة المدة الزمنية حسب مدة التأخير.	37.
					يمكن للمهندس أن يصدر الأوامر التغييرية في أي وقت أثناء تنفيذ المشروع حتى خلال فترة الصيانة ما دامت ضرورية لانجاز الأعمال.	38.
					يستغل بعض المقاولين حدوث أي أمر تغييرية للمبالغة في طلب اسعار عالية لتعويض أي خسارة أو انخفاض في سعر العطاء الأصلي.	39.
درجة الموافقة						
					مواصفات العقود الهندسية	
لا	لا	لا	أ	أ		لرقم
وأفق بشدة	وأفق لا	أدري لا	وأفق أ	وأفق بشدة		
					إن مراقبة المهندس الدقيقة وإشرافه الجيد على الأعمال لا يضر المقاول أو يدل على عدم ثقة به بل يحفز على العمل بشكل أفضل.	40.
					إذا أراد المقاول العمل ليلاً فيجب عليه أخذ موافقة المهندس المشرف والذي يستطيع بدوره القبول أو الرفض.	41.
					إذا طلب المهندس من المقاول العمل ليلاً دون وجود شرط في العقد ينص على ذلك فللمقاول الحق في القبول أو الرفض.	42.
					إذا أراد المهندس هدم بعض الأعمال بسبب عدم مطابقتها للمواصفات فيستطيع هدمها دون إخطار المقاول بذلك.	43.
					إذا أراد صاحب العمل تسريع انجاز الأعمال لأسباب طارئة	

					44. خاصة به لمدة أقل من تلك المنصوص عليها في العقد فيجب أخذ موافقة المقاول أولاً وإذا رفض المقاول فلا يستطيع صاحب العمل إجباره.
					45. إذا أصدر المهندس أمراً شفهيّاً أثناء تنفيذ المشروع فلا أقوم بتنفيذه أبداً إلا إذا جاء مدعماً بطلب مكتوب موقع عليه من قبل المهندس.
					46. إذا كان الأمر الشفهي الذي يصدره المهندس طارئاً جداً فأبدأ بتنفيذه ريثما يصلني الأمر الكتابي الرسمي.
					47. لا يوجد اتفاق على تحديد الظروف الطارئة والتي كثيراً ما تتغير بشكل يصعب حصرها.
					48. لا يمكن أن يخلو تنفيذ أي عقد من الخلافات والنزاعات مهما كان العقد واضحاً لذا يجب أخذ ذلك في الاعتبار في تنفيذ المشاريع المختلفة.
					49. إن مهمة تدوين وتوثيق مجريات الأحداث اليومية في المشروع ينبغي أن يقوم بها المقاول حتى إن لم يطلب منه ذلك.
					50. أحرص عند توقيع العقد على ضرورة وجود بند يحدد طريقة حل الخلافات التي يمكن أن تطرأ أثناء تنفيذ العقد.
					51. أفضل حل الخلافات بطريقة ودية حتى وإن كلفني الأمر تنازلاً عن بعض الحقوق.
					52. إذا لم يجدي حل الخلافات بطريقة ودية فإنني أفضل أن يتم حلها بطريقة التحكيم بدلاً من حلها في المحاكم.
					53. إذا أراد صاحب العمل اللجوء إلى التحكيم فينبغي موافقة المقاول وإذا لم يوافق المقاول فإن قرار التحكيم لا يعتبر ملزماً له.
					54. يندر وجود محكمين مختصين ذوو خبرة في حل النزاعات الهندسية مما يجعل حلها بهذه الطريقة أمر معقد وطويل.
					55. يمكنني أن أكون محكماً في الخلافات الهندسية الخاصة بالعقود إن طُلب مني ذلك.
درجة الموافقة					
					مواصفات العقود الهندسية
لا	لا	لا	أ	أ	لرقم
أوافق بشدة	أوافق	أدري	أوافق	أوافق بشدة	
					56. لا يمكن حل جميع الخلافات بطريقة التحكيم إذ أن هناك بعض القضايا التي لا يصح فيها التحكيم.
					57. يمكنني القول بأنني على علم وإلمام بالقوانين التي تنظم العقود الهندسية في فلسطين وخاصة ما يتعلق منها بعقد المقاوله.

					إن هناك بعض البنود في العقود يمكن أن يدور الخلاف حولها دون وجود أي تفسير لها في القانون.	58.
					تقوم الجهات المختصة كل حسب اختصاصه بدورها في توعية المقاولين وتنقيفهم في النواحي التعاقدية والقانونية وتعريفهم بحقوقهم وواجباتهم في كل ما يتعلق بالعقود.	59.
					أقوم بمتابعة وحضور أي ندوات أو لقاءات أو مؤتمرات تُعنى بالتنقيف في النواحي التعاقدية خاصة القانونية منها لمعرفة ما يحق للمقاول من حقوق وما يجب عليه من واجبات.	60.

- الرجاء ذكر أية ملاحظات تود إبدائها حول ممارسات العقود الهندسية المعمول بها:

تتنوع العقود الهندسية وتختلف باختلاف المشروع المراد انجازه، ويلاحظ أن كل نوع من أنواع العقود له طبيعته الخاصة وظروف لتنفيذه تختلف عن أي نوع آخر.

الرجاء حسب رأيك وخبرتك في مجال العقود تحديد مدى صحة تطبيق أنواع العقود المختلفة المعمول بها في فلسطين:

لرقم	مواصفات العقود الهندسية	درجة الموافقة				
		أ	أ	لا	لا	لا
		وافق بشدة	وافق	أدري	أوافق	لا أوافق بشدة
.	عقود المبلغ المقطوع (Lumpsum Contracts)					
1.	في هذا النوع من العقود يجب أن تكون المخططات والمواصفات الخاصة بها مفصلة وواضحة جداً.					
2.	لا يستطيع صاحب العمل على الإطلاق إجراء أي تغييرات مهما كانت ضرورية ممكن أن تطرأ على المشروع أثناء التنفيذ.					
3.	إن أية ظروف غير متوقعة أو أعمال إضافية قد تطرأ على المشروع أثناء التنفيذ يتحملها المقاول فقط.					
4.	يناسب هذا النوع من العقود المشاريع الصغيرة فقط أما المشاريع المتوسطة أو الكبيرة فمن غير المناسب استخدامه لها.					
5.	يتحمل المقاول في هذا النوع مخاطرة مالية كبيرة نظراً لثبات سعره مع إمكانية حدوث اختلافات كبيرة في الظروف المحيطة بالمشروع.					
6.	إن الاتفاق على مبلغ مقطوع لقاء تنفيذ هذا العقد يؤكد على أن هذا المبلغ لا يمكن تعديله أو إنقاظه أو زيادته عليه مهما زادت كمية الأعمال أو قلت.					

					يضطر المقاول في هذا النوع من العقود إلى زيادة سعر عطاءه بحيث يجعله مرتفعاً جداً تحسباً لأي ارتفاع في الأسعار أو أية ظروف أخرى قد تطرأ على المشروع.	7.
					لا يحتاج هذا النوع من العقود الى الكثير من العمليات الحسابية وكيل الأعمال المنجزة واعداد الفواتير والتي عادةً ما تصاحب الأنواع الأخرى من العقود.	8.
					إن الممارسات المستخدمة حالياً في تنفيذ هذا النوع من العقود صحيحة من ناحية صياغة العقود وطريقة تنفيذها.	9.

- هل تفضل العمل بهذا النوع من العقود؟ نعم لا
- لماذا؟

-
- أية ملاحظات أخرى حول هذا النوع من العقود:
..... 1.
..... 2.
..... 3.

درجة الموافقة					مواصفات العقود الهندسية	لرقم
لا	لا	لا	أ	أ		
أوافق بشدة	أوافق	أدري	وافق	وافق بشدة		
عقود أسعار الوحدة (Unit Price Contracts)						.
					هذا النوع من العقود هو أفضل الأنواع المعمول بها وأكثرها حفظاً لحقوق كل من المقاول وصاحب العمل.	1.
					يمكن استخدام هذه النوع من العقود إذا كانت كميات ومواصفات المشروع المراد تنفيذه غير واضحة أو محددة أو مفصلة عند توقيع العقد.	2.
					إن الفروق في كميات الأعمال بين تلك المدونة في العطاء وتلك المنفذة فعلاً على أرض الواقع غالباً ما تكون كبيرة جداً في معظم البنود لأنه يتم تحديدها أصلاً بالتقريب عند توقيع العقد.	3.
					إن زيادة أو إنقاص تنفيذ كميات الأعمال عن نسبة 25% من قيمة العطاء دون احداث أي تغيير في السعر هي نسبة كبيرة جداً وتعتبر مؤشر على عدم دقة كميات البنود.	4.
					في هذا النوع من العقود تُحال العطاءات في معظم الحالات ان	5.

					لم يكن في جميعها على أقل الأسعار خاصة إذا كان صاحب العمل مؤسسة رسمية.
					6. إن المشاريع الناتجة عن إحالة العطاءات على أقل الأسعار في حال كانت أقل من سعر السوق أو أقل من السعر المتوقع من قبل صاحب العمل تعتبر من أقل المشاريع جودة ومطابقة للمواصفات المطلوبة.
					7. إن المنافسة على أقل الأسعار تعتبر إهدار لوقت وجهد عدد كبير من المقاولين عندما يقومون بدراسة وتعبئة عطاءات عديدة دون وجود احتمالية كبيرة للفوز فيها.
					8. إن إحالة العطاء على أعلى الأسعار أو على سعر أعلى من سعر السوق يكلف صاحب العمل مبالغ إضافية دون زيادة ملحوظة على مستوى جودة الأعمال أو المصنعية.
					9. نسبة المخاطرة على المقاول هنا قليلة جداً بالمقارنة مع باقي أنواع العقود.

- هل تفضل العمل بهذا النوع من العقود؟ نعم لا
- لماذا؟

-
- أية ملاحظات أخرى حول هذا النوع من العقود:
1.
2.
3.

لرقم	مواصفات العقود الهندسية	درجة الموافقة				
		أ	أ	لا	لا	لا
		وافق بشدة	وافق	أدري	أوافق	لا
	عقود الكلفة زائد (Cost Plus Contracts)					
1.	غالباً ما يفضل استخدام هذا النوع من العقود في حالات خاصة فقط مثل حالات الطوارئ أو الضرورة أو السرعة.					
2.	لا يتحمل المقاول هنا أي نوع من المخاطرة بل إن المخاطرة كلها تكون على صاحب العمل.					
3.	يقوم المقاول في أغلب الأحيان بشراء المواد ذات الأسعار العالية حتى تزيد نسبته في الأرباح.					
	لا يمكن تحديد تكاليف العمل مسبقاً وبالتالي لا يستطيع					

					4. صاحب العمل معرفة أو ضبط مصاريف المشروع الا بعد انتهائه.
					5. لا يشترط في هذا النوع من العقود دقة في المواصفات أو المخططات عند توقيع العقد إذ يمكن تزويد المقاول بها أثناء التنفيذ.
					6. لا أنصح باستخدام هذا النوع من العقود بشكل عام وفي الظروف العادية وأفضل استخدام أنواع أخرى من العقود على هذا النوع.
					7. من مساوئ هذا النوع كثرة العمليات الحسابية المطلوبة وهذا يزيد من الوقت والجهد اللازم في إعداد المطالبات والفواتير.
					8. إن الممارسات المستخدمة حالياً في تنفيذ هذا النوع من العقود صحيحة من ناحية صياغة العقود وطريقة تنفيذها والمطالبات المالية وطريقة صرف الدفعات للمقاول.

- هل تفضل العمل بهذا النوع من العقود؟ نعم لا
- لماذا؟

.....

.....

- أية ملاحظات أخرى حول هذا النوع من العقود:

1.

.....

2.

.....

3.

.....

Appendix 3

فضيلة الدكتور حسام الدين عفانة حفظه الله،،،

السلام عليكم ورحمة الله وبركاته.

انا طالبة ماجستير في تخصص الادارة الهندسية من جامعة النجاح الوطنية بنابلس، أجري دراسة حول موضوع "العقود الهندسية المعمول بها في فلسطين من منظور هندسي وقانوني".

أرجو من فضيلتكم التكرم بالاجابة على السؤال التالي وبيان الحكم الشرعي فيه:

عندما يتم توقيع عقد هندسي "عقد مقاوله" لتنفيذ مشروع هندسي معين بين صاحب العمل "المالك" والمقاول (مشاريع هندسية مثل انشاء بنايات سكنية أو تجارية أو طرق ...)، حيث يحتوي هذا العقد على البنود الرئيسية التي يجب على الطرفين الالتزام بها. أحد هذه البنود التي يشملها العقد هي موضوع الدفعات النقدية، حيث يتم الاتفاق على دفع مبالغ مالية محددة في مواعيد محددة طوال فترة تنفيذ المشروع. لكن يحدث أحياناً ان يتأخر صاحب العمل في دفع المبالغ النقدية في مواعيدها المحددة، وقد يكون هذا التأخير سبب رئيسي في تأخر المقاول في انجاز بقية الأعمال في المشروع في مواعيدها بسبب قلة السيولة النقدية بين يديه. علماً بان المقاول يتوجب عليه تسليم الأعمال كاملة في مواعيدها المحددة واذا تأخر عن هذه المواعيد فإنه يُلزم بدفع غرامة تأخير محددة مسبقاً عن كل يوم يتأخر فيه عن الموعد المحدد.

السؤال: هل يجوز شرعاً مطالبة المقاول لصاحب العمل بالتعويض المالي مقابل هذا

التأخير في الدفعات النقدية بما يتناسب مع مدة التأخير؟

أرجو من فضيلتكم الافادة وبارك الله فيكم.

الباحثة

منة الله سالم سقف الحيط

Appendix 4

Contracts Specifications in General

Means, standard deviations, percentages, and levels for items

Specifications	Mean	Standard Deviation	Percentage	Level
The item "awarding the contract without giving reasons" is unfair for competitive contractors because it's their right to know the reason of the bid winner.	47.	00.	9.4	Very high
If the owner delayed contractors payments of scheduled time, the contractor have the right to demand compensation by additional payments or additional time.	47.	55.	9.4	Very high
The job of documenting daily updates and reports is the duty of the contractor although nobody demands this from him.	28.	58.	5.6	Very high
It is important to keep a copy from the unified contract in the company as a reference to any construction work.	26.	87.	5.2	Very high
As the contracts are clear as possible, they couldn't be complete without some additions from the engineer.	26.	61.	5.2	Very high
If the engineer ordered the contractor to work at night and this is not included in the contract, the contractor can accept or reject.	26.	61.	5.2	Very high
I care when contracting to the existence of an item that determines the way to resolute the disputes.	23.	60.	4.6	Very high
If the owner wants to speed the work completion because of his personal reasons, he should first take the contractor agreement.	21.	86.	4.2	Very high
Supervising works from the engineer doesn't indicate non confidence or harm the contractor; it instead motivates him to work better.	17.	94.	3.4	Very high
If the contract doesn't include the way to execute an item then the contractor should take the engineer admiration before starting it.	15.	72.	3.0	Very high
If the contractor wants to work at night he must take the engineer agreement who can accept or reject.	15.	81.	3.0	Very high
If amicable settlement doesn't solve the dispute, then I prefer to solve it using arbitration rather than adjudication.	13.	54.	2.6	Very high
The bid may be awarded to other than lowest				Ver

price but the owner must justify this to the competitive contractors.	.09	.88	1.8	Very high
The priority to the contract documents should be clear in the contract, otherwise the contractor can prioritize it as he wants.	09.	02.	1.8	Very high
The priority in awarding bids is given to financial requirements rather than technical ones.	04.	22.	0,8	Very high
Selecting contractors' categories by owner is an acceptable and important matter.	02.	01.	0.4	Very high
I read the contract and understand it accurately and take help from experts in law or any other specification if needed before signing it.	98.	87.	9.6	High
If the contractor informs the engineer about a hazard existing in implementing his design and the engineer refused, the responsibility is eliminated from the contractor to execute this design.	98.	07.	9.8	High
I prefer to resolute disputes using amicable settlement although I may loose some rights.	98.	90.	9.8	High
If the engineer ordered to use a material that the contractor discovered previously its problem but the engineer decided to use it and it affected constructions then the total responsibility is on the engineer.	94.	24.	8.8	High
Not any contract can be empty from disagreements and disputes although if the contract is very clear.	94.	79.	8.8	High
The main reference to any construction work is the unified contract (Ministry of works).	91.	95.	8.2	High
There may exist some items in the contracts that may be a reason for disagreements and disputes without any existence of interpretations of it in the law.	91.	58.	8.2	High
Announcement of bidding is made on official newspapers and it is clear and unambiguous.	89.	81.	7.8	High
When the contractor enters into a bid he mustn't be not present unless he faced emergence cases.	89.	96.	7.8	High
As the period of the project is large, the disagreements also enlarge between contract parties.	89.	91.	7.8	High
If the owner wants to resolve the dispute by arbitration, he should take the contractor acceptance. Nevertheless the arbitration cannot be used.	89.	94.	7.8	High
I attend any lectures or conferences concerned in educating contractors in contractual issues especially law issues in order to know my rights and my responsibilities.	85.	69.	7.0	High
There are some items in contracts without any interpretation in the unified contracting contract.	74.	97.	4.8	High
It is not allowed to the contractor to abandon some or all works to another one except with the permission of the owner and full committable of the original contractor to works in addition to the new.	70.	10.	4.0	High

If the engineer gave an orally order while works execution, the contractor shouldn't perform it until it is documented.	70.	02.	4.0	High
There does not exist an agreement to determine the emergence cases as they changes continuously.	70.	88.	4.0	High
Not all disputes can be solved by arbitration because there are some problems that arbitration is unsuitable to them.	70.	93.	4.0	High
If the orally order from the engineer is urgent then the contractor should start executing until the written order reaches.	68.	02.	3.6	High
If the contractor didn't make a same project previously he should tell the owner or he is believed to have expertise of accomplishing it.	66.	96.	3.2	High
If the owner wanted to close down the contract before opening he can do that with a condition of returning the contractors the contract price.	64.	33.	2.8	High
I can say that I have the knowledge and understanding to laws and regulations that organize construction contracts in Palestine.	62.	90.	2.4	High
If the contractor decided to subcontract some works to subcontractors he must take previous permission from the owner.	60.	10.	2.0	High
The law guarantees the right of the contractor to request compensation if any increase in materials prices happened because of any unexpected circumstances and the owner should compensate him.	57.	31.	1.4	High
When contracting in a foreign language, I care for accurate translation to exist and I take assistance from experts in contracts when needed.	55.	14.	1.0	High
The contractor should take care when pricing the bid to any future changes in prices and he cannot return to the owner if any changes happened in material prices or labor salaries.	55.	43.	1.0	High
Some contractors benefit from any change order to happen to demand high prices compensating any loss in the bid.	55.	08.	1.0	High
Rarely to exist specialized arbitrators with a good expertise in disputes resolutions. Therefore, it is very difficult and long way to resolute disputes using it.	51.	08.	0.2	High
When the bid is the lowest comparing with market price it will be also the lowest in quality.	49.	33.	9.8	Moderate
When contract in a foreign language I care for Arabic translation to exist to use when any disagreement happens.	47.	16.	9.4	Moderate
The owner can subtract any payments to the contractor to pay his employees or suppliers if he delayed paying them or refused to pay.	38.	15.	7.6	Moderate
Determining the accurate details when				Moderate

contracting in large projects can initiate problems in execution because the difference of circumstances that affects the project especially economic ones.	.36	.15	7.2	derate
The contractor is given in general enough time to study contract documents and to price it.	30.	18.	6.0	Mo derate
I have the capability to arbitrate in construction contracts disputes if required.	26.	21.	5.2	Mo derate
The engineer can give change orders at any time during execution even during maintenance period if it is necessary to accomplish works.	94.	21.	8.8	Lo w
The owner can make any modifications on works during execution without previous approval from contractor if these modifications are part of the contract.	87.	21.	7.4	Lo w
There are specialized institutes that have a duty of educating, qualifying, and training contractors in the contractual issues and informing them about their rights and responsibilities.	85.	10.	7.0	Lo w
If the way of executing an item isn't included in the contract, the contractor executes it with an appropriate way and the engineer should accept it.	83.	26.	6.6	Lo w
Bids of governmental institutes are better than those of private ones.	72.	31.	4.4	Lo w
It is cared in formulating contracts to distribute the risks between the owner and contractor fairly.	64.	24.	2.8	Lo w
The owner has the right to negotiate the lowest bidder to low his price if his price is more than the expected price.	62.	41.	2.4	Lo w
When judging on bidding practices in general it subdues to equity and full competition principles.	43.	04.	6.8	Ver y low
Any major item forgotten in the contract is understood to be executed by the contractor.	30.	23.	6.0	Ver y low
If the owner closed down the bidding because of any reason the contractors shouldn't request any compensation.	00.	88.	0.0	Ver y low
If the engineer wants to damage some of the works because they don't comply with specifications, he can do that without informing the contractor.	96.	91.	9.2	Ver y low
Total score	.62	.27	2.4	Hig h

جامعة النجاح الوطنية
كلية الدراسات العليا

العقود الانشائية المعمول بها في فلسطين
من منظور هندسي وقانوني

اعداد

منة الله سالم حمدي سقف الحيط

اشراف

د. رياض عبد الكريم عوض

د. علي محمد سرطاوي

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير في برنامج الإدارة الهندسية من كلية الدراسات العليا في جامعة النجاح الوطنية في نابلس-فلسطين.

2012

ب

العقود الانشائية المعمول بها في فلسطين من منظور هندسي وقانوني

اعداد

منة الله سالم حمدي سقف الحيط

اشراف

د. رياض عبد الكريم

د. علي السرطاوي

الملخص

تعتبر صناعة الانشاءات احدى أهم الصناعات في فلسطين، حيث تلعب دوراً رئيسياً في نهضة المجتمع وتقدمه. يمكن تعريف العقد الهندسي بأنه اتفاقية بين طرفين - صاحب العمل والمقاول- بحيث تحتوي هذه الاتفاقية على وثائق تحدد حقوق وواجبات كل طرف من هذه الأطراف.

هدفت هذه الدراسة بشكل رئيسي الى تحسين وضع العقود الانشائية في فلسطين عن طريق التعرف على أنواع العقود الانشائية المعمول بها في فلسطين، اضافة الى مراجعة هذه العقود وتحليلها وتقييمها من نواحي ثلاثة: هندسية وقانونية وشرعية. كذلك هدفت الى تسليط الضوء على أهم الممارسات التي تتم أثناء اعداد العقود وعند التوقيع عليها وكذلك عند تنفيذ المشروع.

لتحقيق الأهداف المذكورة، تم استخدام المنهجين البحثيين -الكمي والنوعي-. حيث تم تصميم استبانة وتوزيعها على المقاولين في جميع محافظات الضفة الغربية. كذلك تم اجراء مقابلات مع خبراء في القانون والشرعية، كذلك مع مهندسين ومقاولين ومحكمين. اضافة الى ذلك، تم تحليل العقود المعمول فيها، بحيث شملت عقود لمؤسسات حكومية ومؤسسات خاصة وعقود بلديات...الخ.

وبعد تحليل المعلومات والخروج بالنتائج كانت أهم التوصيات التي خلصت اليها الدراسة ضرورة تشكيل جسم موحد من جميع الأطراف المعنية يتبنى جميع القضايا المتعلقة بالعملية التعاقدية. كذلك تمت دعوة هذه الأطراف الى انشاء عقد مقابولة موحد.

