

**An-Najah National University**

**Faculty of Graduate Studies**

**Construction Contracting Management Obstacles  
in Palestine**

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**Construction contracting management obstacles in  
Palestine**

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## Dedication

*This humble work is lovingly dedicated to everyone who supported me to accomplish my work successfully. I dedicate this search in particular to:*

*My generous father for his ultimate unconditional support with my life and study. I am honored to have you as my father.*

*Thank you for giving me a chance to prove and improve myself through all my walks of life.*

*My affectionate mother for her prayers and blessing. Her hours of work in loving my daughter, enabled the hours of research, contemplation and writing necessary to complete this work.*

*My beloved brothers and sister: Robin, Oday, Mohammad, Tasneem and Qusai. Allah Bless them.*

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*I owe him for being selfless let his passions, and ambitions converging with mine.*

*My lovely daughter who had to endure my absence and being busy doing the study.*

*Everyone who helped and supported me.*

*To you all I dedicate my love, gratitude and the outcome of my work.*

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## إقرار

أنا الموقع أدناه مقدم الرسالة التي تحمل العنوان:

### Construction contracting management obstacles in Palestine

أقر بأن ما اشتملت عليه هذه الرسالة إنما هي نتاج جهدي الخاص، باستثناء ما تمت الإشارة إليه حيثما ورد، إن هذه الرسالة ككل، أو أي جزء من هذه لم يقدم من قبل لنيل درجة أو لقب 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's name:**

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التوقيع:

**Date:**

التاريخ:

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## **List of abbreviations**

BOQ	Bill Of Quantities
DAB	Dispute Adjudication Board
CIPS	The Chartered Institute of Purchasing and supply
FIDIC	The Federation International of Consulting Engineers
GDP	Gross Domestic Produce
GECC	General Exam in Construction Capability
JCCA	Jordanian Constructions Contractors Association
KPIs	Key Performance Indicators
KSA	Kingdom of Saudi Arabia
MPWH	The Ministry of Public Works and Housing
OGC	The Office Of Government Commerce
PCBS	Palestinian Central Bureau of Statistics
PCU	Palestinian Contractors Union
PECDAR	Palestinian Economic Council for Development and Reconstruction
PNA	Palestinian National Authority
SAP	Scientific and Academic Publishing
SPSS	Statistical Package for social Science
UPC	Unified Palestinian Contract
W.B.	West Bank

**Construction contracting management obstacles in Palestine**

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**Abstract**

The construction industry is complex, widely varying and many factors influencing its projects outcome. As construction projects become larger and more complex, their management and challenges become more complicated and core element for success. During the past few years, many of the construction projects in West Bank went beyond timeline with extra cost overruns, many obstacles faced the contracting process and generally, the contracting career failed to take what it deserved of commensurate development.

The objectives of this research are to study the construction contracting sector in Palestine, highlight this sector problems and obstacles from the perspective of local contract parties; project owners, consultants, contractors and donor countries institutes. In addition to, investigate the importance of these problems and observe identical situations in other neighboring Arab countries, in order to investigate some proposed solutions for improving the current sector situation.

In order to achieve this research objectives, set of interviews were held with some contract parties to survey the problems they experience. Also, a



questionnaire was performed to assess the importance degree of these problems.

Results from the study showed that the problems related to the career ethics are the most important problems that the Palestinian construction sector suffers from. Also, results showed that the major construction contracting problems are: Intense competition between contractors to the extent of bidding at cost prices or by losses, policy adoption of awarding the tender to the lowest evaluated bidder not to the most accurate, owners' payments delay, currency exchange rate fluctuation, owner deceleration in decision making, the number of available contractors is high compared with the size of tendered projects, fluctuation of construction materials prices due to inflation, current economic situation deterioration, some contractors maneuvers by downloading some prices on other items and conflicts between tender documents. Based on these findings, proposed solutions were developed for solving and improving the current state. Proposed solutions were presented in a framework to solve and avoid the negative impact of such problems which might improve the performance of construction sector in Palestine. Finally, recommendations for the PNA, PCU and the other related contract parties were presented in this research helping them in overcoming the current sector related obstacles.

# **Chapter One**

## **Introduction**

### **1.1 Overview**

Since construction contracts are becoming larger and more complex, managing these contracts become a core element of the success of any project. It is crucial for a successful project, that the requirements and obligations of the construction contract should be understood and fulfilled by all involved parties to achieve all contract's expected benefits as efficiently and effectively as possible (OGC, 2002).

Managing the construction contracting goes much further than ensuring that the agreed terms of the contract are being met. It is expanded to cover the whole process of “systematically and efficiently managing contract creating, execution, and analysis that made with customers, vendors, partners, or employees for the purpose of maximizing financial and operational performance and minimizing potential risk” (CIPS, 2010). Contracting management also entails contracts' terms and conditions negotiating, ensuring their compliance, charges and cost monitoring, ordering and payment procedures, documenting and management reporting, contract maintenance and agreement on any changes that may rise during its implementation or execution.

Managing the contract performance affects the success of the associated project. While, not managing the contracts leads organizations to failure; fail in meeting their goals, may include delayed timelines, cost overruns, disruption, involvement in loss and losing their reputation (Dmaidid et al, 2013), Appendix (A).

During the past few years, almost many of the construction projects in the West Bank went beyond schedule and cost, and many obstacles faced the contracting process (PCU, 2003a). Such problems and obstacles have given rise to many claims and conflicts. Therefore, this study investigates this widespread phenomena and its associated problems from the perspective of the local contract parties, and tries to provide feedback for solving such these related problems to enhance the performance of the construction contracting sector in Palestine.

## **1.2 The problem of the research**

There is no doubt that the construction sector in Palestine represents the corner stone for development in the Palestinian economy (PCU, 2003a). It activates many other sectors such as the construction supporting industries and the construction materials trading. Also, it absorbs a huge functional and labor staff and has an important role in attracting investments.

Generally, contracting career failed to take its deserved development commensurate with the birth event of our Palestinian state. After the PNA establishment in the West Bank and Gaza Strip at 1994 and the need of

many infrastructures and buildings' development, many projects were expected to be tendered. That leads to intense competition, tough declining in tenders pricing, reducing the contractors' profit rate and therefore many problems have emerged (Dmaidid et al, 2013). Construction contracting situation can be judged to be less severe in other surrounding Arab countries, where the contracting sector is considered to be more profitable and disciplined than that in our country; Palestine.

### **1.3 The importance of the research**

This study drives its importance from the significance of the construction sector in Palestine, which represents the motive of development of the Palestinian Economy. This research particularly studies the situation of the construction contracting in Palestine, highlighting the obstacles and constraints developed in this sector, comparing these observations with what happens in other more governor and profitable surrounding Arab countries, in order to investigate some proposed solutions based on this comparison.

Moreover, this research can contribute to presenting a significant point for revisiting the construction contracting sector in Palestine, by investigating and negotiating the problems from the perspective of the local contractors and other contracting stakeholders.

## **1.4 Research aims and objectives**

The primary aim of this research is:

To initiate a set of useful procedures, that will help in avoiding and solving the construction contracting sector widespread associated problems in Palestine.

The objectives of the research are:

1. To investigate the current situation of the Palestinian construction contracting sector.
2. To highlight the obstacles and problems faced by this sector stakeholders.
3. To develop proposed solutions for the major problems associated with this sector.
4. To present the proposed solutions in a framework assisting contractors' companies and other contract parties to avoid and solve such related problems, improve the performance of their work and enhance the construction sector performance.

## **1.5 Limitations**

The study has the following limitations:

1. The research is conducted from the point of view of three main stakeholders, namely: projects' owners and their representatives (including consultants), contractors, and donor countries' institutions.
2. This research is limited to contractors who have a valid registration through the Palestinian Contractors Union only. Other contractors who are not registered into the contracting union were ignored.
3. Contractors who have valid registration in the PCU, from the first, second and third classes only are targeted by this study. The fourth and fifth classes are excluded.

## **1.6 Methodology**

This study will be carried out through the following:

- Literature review: existing literatures and publications on the concept of contracting management was reviewed. Also, reviewing and studying some local construction contracting sector studies and related documents, and documents associated with other foreign contracting companies in a more governor surrounding Arab countries, such as Jordan and Kingdom of Saudi Arabia.
- Conducting interviews with some targeted local contract parties in order to collect information about their claim of the most serious problems that they faces in the current situation.

- Data collection: through a questionnaire targets sample to investigate the views of the different contract parties regarding the contracting obstacles that they are facing.
- Analysis of the collected data using the statistical software program (SPSS) for making a descriptive analysis for the questionnaire sample characteristics, making schematic categorizing, problems ranking and analyzing and making some statistical tests for the sample responses arithmetic means and deviations.
- Examining the questionnaire resulted analysis; by negotiating the questioner extreme results with some contract parties for more details and justifications.
- Showing the resulted problems including those which are the focus of this research. Discussing the proposed solutions for the main resulted problems, based on the conducted comparison with the contracting sector in the other Arab adjacent countries.
- Drawing conclusions and proposing some required related further studies.

## **1.7 Structure of the thesis**

This thesis is presented in six chapters:

Chapter One presents the research problem, aim, objectives of the study, its importance and limitations.

Chapter Two summarizes the literatures related to the construction contracting management and the construction sector in Palestine. The chapter also reviews the related previous studies, identifying and categorizing the problems faced by the construction sector in this domain.

Chapter Three shows the methodology used in this research in order to achieve its objectives, viewing the used methods and tools in collecting and analyzing the research related data.

Chapter Four shows and discusses the resulted analyses of the collected data and ranking the contracting problems in Palestine.

Chapter Five proposes solutions and avoidance procedures for the main research resulted construction contracting problems and obstacles in Palestine, basing on a comparison with the related situation in the other Arab countries. Then, representing those proposed procedures in a framework.

Chapter Six summarizes the research and its main findings. Finally, recommendations for the PNA, PCU, and contract parties are suggested basing on the resulted proposed solutions.

## **1.8 Summary**

This research aims to survey the construction contracting problems in Palestine from the different local contract stakeholders' point of view,



making comparison with other Arab countries, and searching for solutions for the current Palestinian contracting sector problems.

## **Chapter Two**

### **Literature review**

#### **2.1 Introduction**

“The construction industry plays an important role in the economic contribution for the development of the country” (Adnan et al, 2012a). Whereas, the ability to manage its projects and contracts has always been a significant challenge to the construction industry due to its fragmented and transient nature (Khuzaimah and Hassan, 2012). Thus, this chapter aims to review the related studies concerned with managing the construction industry and its contracts, and study its situation in Palestine.

This chapter includes: an introduction of the construction industry, contract management, construction management and the Palestinian construction contracting sector. In addition to, reviewing and discussing the related previous studies. Also, the construction contracting management obstacles in Palestine will be highlighted in this chapter.

#### **2.2 The concept of construction contracting management**

##### **2.2.1 Contract management**

Contract management is the process that enables the parties of a contract to meet their obligations in order to deliver the objectives of the contract. Also it involves building a good working relationship between customer and provider. It continues throughout the life of a contract and involves

managing proactively to anticipate future needs as well as reacting to situations that arise. The main aim of contract management is to obtain the services as agreed in the contract and achieve value for money. This means optimizing the efficiency, effectiveness and economy of the service or relationship described by the contract, balancing costs against risks and actively managing the customer-provider relationship. Contract management may also involve aiming for continuous improvement in performance over the life of the contract (OGC, 2002).

Contract management starts with the contract negotiations and lasts until the end of the contract, and is the process that covers three fundamental functions required to compensate the goals of the project; Project delivery, relationship management and administration of the contract (yigit, 2009).

Collier (1994) clarifies that the essential ingredients of contracts are:

- Mutual agreement between the contract parties as to the terms and conditions of the contract.
- Genuine intention of the parties to accept and fulfill their respective rights and duties under the contract.
- Legal capacity of parties to make a valid contract.
- Consideration of value exchanged between the parties.
- Lawful object (purpose) of the contract.

Where, The Office Of Government Commerce (OGC, 2002) clarifies the three areas of the contract management activities as:

- “Service (project) delivery management which ensures that the service is being delivered as agreed, to the required level of performance and quality.
- Relationship management which keeps the relationship between the two parties open and constructive, aiming to resolve or ease tensions and identify problems early.
- Contract administration which handles the formal governance of the contract and changes to the contract documentation.

All three areas must be managed successfully in any contract if the arrangement is to be successful" (OGC, 2002). Hence, contract management aims to keep contract, performance and relationship running smoothly and providing the value of money represented by the contract, this means aiming to optimize the efficiency, effectiveness and economy of any arrangement.

### **2.2.2 The construction industry**

The construction industry is vast and varied, from homes, highways, hospitals and many other constructions. It is a big business and one of the most important economic sectors in the world, as Jackson (2010) said “It is one of the largest dollar generating segments of the world economy”. “The construction industry is large, complex and diverse and covers a wide range of business interests and activities, united by their common usage and

development of land” (Chan and Liu, 2007). It gives rise to many other related industries such as steel, concrete, lumber, carpet, furniture, paint, paving, mining, shipping and other industries.

### **2.2.3 Construction management**

Construction management is defined as “Construction management (CM) entails the planning, scheduling, evaluation, and controlling of construction tasks or activities to accomplish specific objectives by effectively allocating and utilizing appropriate labor, material, and time resources in a manner that minimizes costs and maximizes customer/owner satisfaction” (Jackson, 2010).

Construction is complex, and many factors influence the outcome of a construction project. “The job of the construction managing include taking a set of written plans and specifications and a raw piece of land and then coordinate all of the materials, manpower, and equipment necessary to guarantee the set price, schedule, and quality of the project—without any accidents or errors, regardless of weather conditions, interest rate fluctuations, acts of God, or any other unforeseen conditions” (Jackson, 2010).

As construction projects become increasingly more complex, the challenges associated with managing these projects become more complicated. The need for qualified construction managers is tremendous, and opportunities abound for those interested in the work (Jackson, 2010).

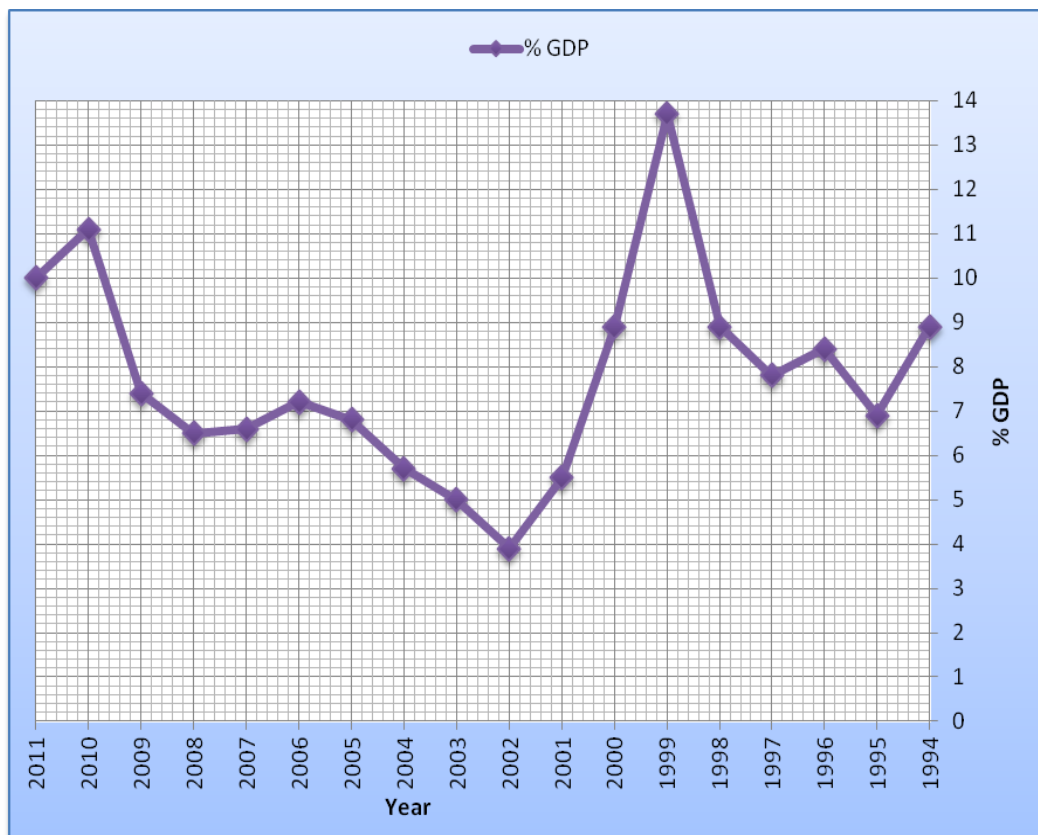
## **2.3 The construction contracting sector in Palestine**

### **2.3.1 The importance of the Palestinian construction sector**

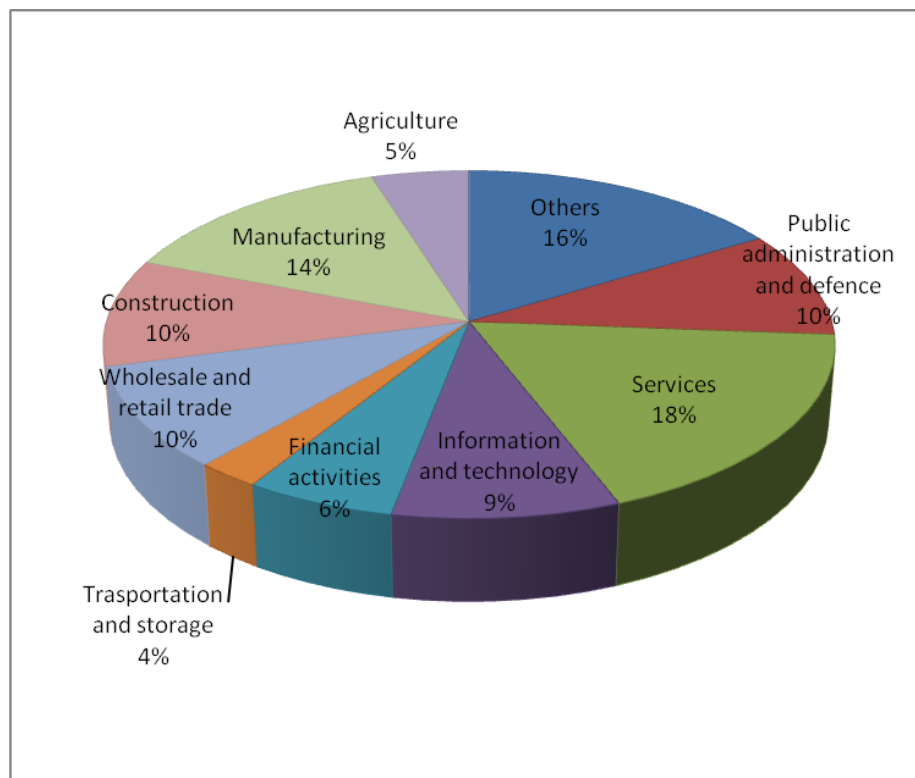
The construction sector is one of the key economic sectors and is the main force motivating the Palestinian national economy. Upon the establishment of the Palestinian National Authority (PNA) and the assumption of its power over the Palestinian territories in 1994, the construction sector has witnessed a noticeable expansion and activities. This has resulted in the recovery of the construction contracting profession and the 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, 2003a).

The Palestinian construction sector is considered to be one of the most productive sectors that are associated with the Palestinian Territory settlement process after the year 1994, where there was a political stability specially by the establishment of PNA in the Gaza strip and certain parts of the West Bank, which resulted in an active movement in the building and construction field (PCU, 2003a). The Palestinian Central Bureau of Statistics (PCBS) shows that the construction sector contribution to the Palestinian GDP is increasing since the PNA establishment to reach 10.0% of the Palestinian GDP in 2011 as shown in Figure (2.1) which represents

the percentage contribution of the construction sector changes in the Palestinian GDP for the years (1994 – 2011). This is a large proportion covered by this sector compared with other economic activities and sectors as shown in Figure (2.2). And thus, this sector is positively affecting other various economic, social, educational and vocational sectors and other Palestinian institutions (PCBS, 2012a), (PCBS, 2010).



**Figure ( 2.1 )** : Percentage contribution of the construction sector in the GDP for the years (1994 – 2011).Reproduced from (PCBS, 2010), (PCBS, 2012a)



**Figure ( 2.2 )** : Percentage contribution to GDP by the economic activity (West Bank, 2011)Reproduced from (PCBS, 2012a)

After the establishment of the PNA, the ministry of housing took the concern of this sector and many numbers of banks and financing institutes shares the supporting of the housing and construction sector. Increasing in this sector contribution in the Palestinian GDP had been occurred almost gradually until the Israeli re-occupation of Palestinian on September 28, 2000 and during Al-Aqsa Intifada, as shown in Figure (2.1) which had political setbacks and concomitant negative effects on the security, political and economic stability in the region. The significant growth that had been witnessed by the construction sector represents a strong signal of the economic recovery, and hence stimulates the growth in other sectors, but the sustainability of this growth will remain dependent on the political stability.



Construction is one of the most important sectors in the assimilation of labor force throughout the Palestinian cities and towns. Prior to the Israeli re-occupation of Palestine on September 28, 2000, construction sector used to employ an average of 22.1% of Palestinian labor force volume. However, the sector now employs 13.9% (at 2011) of the labor force volume only, thus constituting a decrease in the labor force volume as a direct consequence of the Israeli forces occupation. Noting that, the construction sector employs about 13.9% (at 2011) of laborers directly, and a higher percentage indirectly in factories related to the construction sector, other services and productive sectors. (PCBS, 2012b).

Construction sector contributes largely to different sectors of investment, such as manufacturing of construction materials. In addition, it provides materials needed for construction, such as stone, marble, brick, floor tiles, etc. Further, the sector is one of the main resources of the commercial sector in Palestine. So the expansion of the construction sector contributes to the expansion of the industrial and productive sectors (PCU, 2003a).

The construction sector has a large contribution to the GDP directly, in addition to the indirect contribution through the related activities such as mining, manufacturing, electricity, water and other economic activities. In addition to, the subsidiary industries and productive sectors, the construction sector is the largest and most important of all other sectors. As such, the construction sector has been crucially significant, mainly in the past years, for the role it plays in reconstruction, road rehabilitation and

construction of infrastructure despite the continued Israeli siege and aggression (PCU, 2003a).

### **2.3.2 The Palestinian contractor**

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 during Israeli incursions, when they have worked hard to maintain and reconstruct the infrastructure and buildings damaged by Israeli armed forces (PCU, 2003a).

Moreover, due to the Israeli siege over the Palestinian territories, construction labor force volume has decreased. In effect, the number of skilled and unskilled contractors have increased throughout Palestinian cities and towns (PCU, 2003a).

The contractor according to the PCU is the individual or company operating in the construction sector and who or which shall be registered and classified at the Palestinian Contractors Union (PCU). The PCU member is the contractor who registered at the PCU and acquires a classification grade according to the standards specified in the “Instructions of Contractor Classification” issued by the National Classification Committee (PCU, 2003a). According to recent statistics, the number of members classified at the PCU throughout Palestinian districts has been (612). Members classified in the West Bank have been (399), whereas

those classified in the Gaza Strip have been (213), this statistics is valid until the new classified lists conducted at 31.Mar.2011. (PCU, 2011a), (PCU, 2011b).

Contractors shall be classified according to specialty as follows:

1. “Building contractors.
2. Road Construction contractors.
3. Water and sewer contractors
4. Electro-mechanics contractors.
5. Public works and maintenance contractors” (PCU, 2003a).

### **2.3.3 The Palestinian Contractors Union (PCU)**

The Palestinian Contractors Union (PCU) is a professional, economical and social entity which is represented by the total number of local contractors registered and classified at the PCU.

The PCU, being the chief representative of contractors in Palestine, is deemed as the backbone of the Palestinian construction sector according to its adopted objectives, which includes: Organizing the practice of the construction contracting profession, Encouraging capitals' investments in installing subsidiary industries to the construction projects, Cooperating with competent authorities for solving the professional disputes, Defending

its members' interests and goods, and maintaining the tradition and honor related to the construction contracting profession practices (PCU, 2003b).

## **2.4 Related studies**

The complex, fragmented and transient nature of the construction industry, coupled with many challenges and obstacles. The industry continues to struggle in finding the best possible solutions to leverage on the valuable intellectual asset in order to ensure long term growth and success (Khuzaimah and Hassan, 2012), (Ahamad et al, 2011).

In fact, there is a significant scarcity in the conducted studies related to the construction contracting sector in Palestine, searching for this sector challenges and best possible solutions, especially in the West Bank. A number of scholars studied factors affecting the construction industry in Palestine, while some of them studied a particular related aspect of this industry.

Abu Shaban (2008) studied the factors affecting the performance of the construction projects in Gaza Strip using Key Performance Indicators (KPIs). His KPIs were identified through a historical review of previous studies, and they were used to compare between the contract parties regarding the degree of agreement about the main affecting groups. In addition, Al-Hallaq (2003), Al-Hallaq et al (2006) determined the causes of construction business failure in Gaza Strip and investigated the severity of these causes from the contractor's point of view.

While, Enshassi et al (2010) identified and analyzed the factors which are believed to affect bidding and markup size decisions in the construction industry in Gaza Strip. Abdalaziz (2009) discussed the main factors affecting design and contracts' documents quality in the construction industry in Gaza Strip, in order to assist stakeholders to plan effectively before starting a project beginning with the design phase. Whereas, Osaily (2010) clarified the barriers against implementing sustainable construction in the West Bank from the contractors' point of views.

Several studies were carried out in Gaza Strip covering many aspects of the construction sector and assessing the status of this sector there, but few were conducted in the West Bank. Generally, most of these studies were primarily based on collecting information through reviewing books and global references for viewing the general factors and problems affecting the construction sector, not from the view and sufferance of local sector stakeholders. Also, most of these researches were analyzed only from the point of view of one construction sector stakeholder (mainly contractors), which may give biased non-holistic results. On the other hand, this study is distinctive by the way of collecting the research related data, that mainly depended on collecting real and practical problems faced by different construction sector stakeholders in the West Bank, through meetings held with some local contractors, owners and donor countries representatives. And during the various project cycle stages so as to give a comprehensive unbiased view of the parties' opinions.

Many related studies found that the bad political situation in Palestine due to the Israeli occupation was a major affect on the Palestinian construction sector. As an illustration, Osaily (2010) illustrated that the political situation was the major barrier that prevents implementing sustainable construction in West Bank. Also, Al-Najjar (2008) clarified that Strikes, Israeli attacks and border closures were the most critical factors affecting project delay in Gaza Strip.

Whereas, Elghandour (2006) found that the vagueness in project design and bill of quantities is the main claims causes in the construction industry sector in Gaza Strip. Where, Abdalaziz (2009) found that lack of qualified consultant's staff is the most severe factor affecting the designs and documents quality in the construction industry. Al-Hallaq (2003), Al-Hallaq et al (2006) showed that delay in collecting dibs from clients (donors) is the main cause of contractors' failure.

On the other hand, Karriri (2008) showed that the financial capabilities of contractors is the most critical factor affecting contractors' decision on participation in the construction tenders in Gaza Strip. While, Enshassi et al (2010) found that the most important groups which affects **bid-no-bid** and mark up size decisions were found to be "client and consultant of the project" group, and "project conditions contributing to profitability of the project" group. Also, Enshassi et al (2010) showed that, the current financial capability of the client, project size and financial status of the company were the main factors affecting bid no bid decisions. Regarding

mark up size decision, it was found that the duration of project, political environment, and terms of payment were the main factors affecting the mark up decision.

Adnan et al (2012b) found that the client attributes for the success of the Design and Build projects in public universities are: developing a clear understanding of project scope, a clear brief thorough assessment of the contractor's proposal, a clear understanding of project costs, fulfilling the end-user requirements, quality finish of the project, completion within the time frame as well as the budget allocated.

The construction industry plays an important role in the economic contribution for the development of the country. To obtain optimal benefits from the industry and ensure the smooth functioning of the industry itself, good ethical practices are vital Adnan et al (2012a). They found that the most common unethical conduct evidenced by the contractors are cover pricing, bid cutting, poor documentation, late and short payments, subcontractors' lack of safety ethics, unfair treatment of contractors in tender/final account negotiations, competitors' overstatement of capacity and qualifications to secure work, competitors' falsification of experience and qualifications and bureaucratic, government policy, which have lasting detrimental impact to construction and engineering companies.

It should be noted that, previous studies proposed some solutions and recommendations for the current situations based only on analyzing the

questionnaire results, researcher personal experience and/or asking experts in this domain. While, through this study a comparison was performed between the construction contracting sector in Palestine and other Arab adjacent countries which have obvious clear success in this sector such as KSA and Jordan, searching for effective solutions and procedures succeeded in those countries to be adopted by our local sector, enhancing its current performance.

## **2.5 The construction contracting sector obstacles in Palestine**

In Palestine, the construction contracting field did not take its deserved developments due to many constraints and obstacles. Most of these constraints can be traced back to the Israeli occupation and the difficulties imposed by this occupation. Some constraints referred to the construction field itself in Palestine, which the Palestinian people hold the possibility of solution and can be overcome.

Some Palestinian specialist in the construction contracting management tried to summarize the Palestinian construction sector problems, constraints and challenges through small published papers in some related local institutes. As an illustration, the PCU researches showing that the construction sector losses in Palestine can be generally classified into two main categories; namely, direct and indirect losses. The direct losses represented by the destruction of many facilities, such as destroying many



roads, sewage and water networks, under construction facilities, existing buildings and many construction sector supporting factories. (PCU, 2003a)

On the other hand, the indirect losses generally can be represented the obstacles against transportations and importations. According to the (PCU, 2003a) reports, these losses can be broken down as follows:

- Limiting the contractors, workers, entrepreneurs and engineers movements.
- Reducing the accessibility of transferring construction materials and goods between the Palestinian cities and villages and from abroad.
- Reducing accessibility of local raw materials extraction and provision such as the Palestinian stone.
- Detention of the imported construction materials and goods into the Israeli ports.

The Palestinian contracting companies mainly suffered significantly from the heavy losses in the construction sector. The PCU reports illustrated that its contractors members losses can be classified into direct and indirect losses. Direct losses such as: the destruction of many infrastructure constructions, under construction facilities, existing buildings and factories related to construction. Also, the resulted delays in projects execution due to the Israeli siege and closures can be considered as direct losses.

According to the indirect losses they can be represented by the administrative, operational and financing losses. The (PCU, 2003a) detailed its contractors' indirect losses as: Administrative Losses, Operating Losses and Funding Losses.

## **2.6 Summary**

- ❖ Contracting management is the process that enables contract parties to meet their obligations in order to deliver the objectives required by the contract.
- ❖ Construction is complex, and many factors influence the outcome of a construction project. Construction management entails the planning, scheduling, evaluating and controlling of construction tasks or activities to accomplish specific objectives by effectively allocating and utilizing appropriate labor, material, and time resources in a manner that minimizes costs and maximizes customer/owner satisfaction.
- ❖ The Palestinian construction sector is one of the key economic sectors and is the main force motivating the national economy. While it did not take its deserved developments due to many constraints and obstacles, which should be well studied to be solved and overcome.

- ❖ The research methodology in solving these related problems will be detailed in the next chapter.

## **Chapter Three**

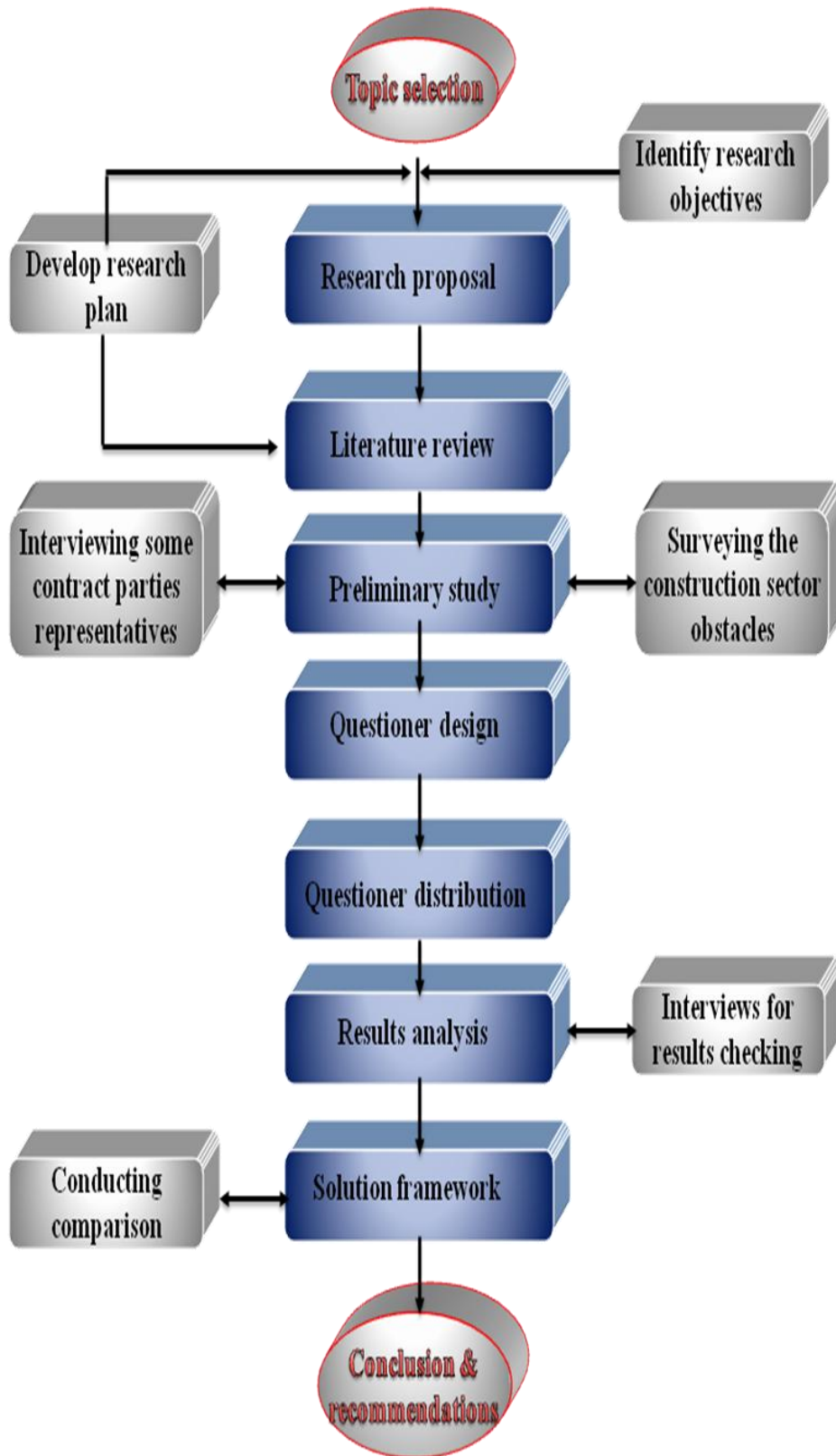
### **Research methodology**

#### **3.1 Introduction**

This chapter describes the researcher's methodology in studying the Palestinian construction contracting sector and its obstacles and problems. The adopted methodology, to accomplish this research, contains the following techniques: collecting information for the research design, specifying research population, sample size, location, designing a questionnaire and determining its validity contents.

#### **3.2 Research design**

This research consists of eight phases represented in Figure (3.1), that shows the methodology flowchart, which leads to achieve the research objective. The first Phase includes identifying and defining the research problems, establishing the study objectives and the research plan. The second phase of the research includes literature review to investigate researches and studies related to the construction contracting management. The third phase of the research includes conducting preliminary study for surveying the Palestinian construction sector obstacles, by interviewing some local firm owners, consultants, contractors and managers of donor countries' institutions to collect actual obstacles.



**Figure (3.1):** Methodology flowchart.

The fourth phase of the research focused on the questionnaire design, in this phase experts were contacted, to test if the questionnaire contents are clear and whether the information that would be obtained from answering its questions would be useful to achieve the target of this research, the questionnaire was modified according to these experts notes and recommendations as will be discussed later in this chapter.

The fifth phase of the research was distributing the questionnaire to collect the required data that will be analyzed to achieve the research objective. (310) questionnaires were distributed to the research sample; including (183) contractors, (21) project owners, (92) project consultants and (14) donor institutions. (209) questionnaires were collected, only (189) of them were able to be analyzed, where (8) questionnaires were submitted empty and (12) were excluded from analysis due to their answering inaccuracy.

The sixth phase of the research is data analysis using (SPSS) program to perform the required analysis. Interviews with some experts and professionals were held to enrich the research results. The seventh phase of this research was making comparisons between the local situation and other Arab countries in order to propose procedures enhancing the Palestinian construction sector performance. The final phase includes the research conclusions and the related recommendations based on the comparison results and contract parties recommendations.

### **3.3 Population and sample size determination**

Three different involved parties are targeted in this research, the first party includes the contracting projects owners and their representatives including consultants, the second party represents by the contractors companies and the third involved party represents by the donor institutions. In this research, we select the samples from these populations as follows:

#### **3.3.1 Projects owners and their representatives**

The first party is represented by the projects owners and their representatives such as their consultants. Unfortunately, there are no official reports mentioning the number of projects' owners in the West Bank. To overcome this problem, meetings with some large projects owners such as municipalities and ministries were held to list the names of projects' owners who have experience in the construction contracting sector. This step was taken to verify the expected output consistency and reliability as much as possible. In this research, the projects' owners include: government agencies, ministries, municipalities, international agencies, large public and private projects owners. As a result, the questioner was distributed to a random sample of (21) projects' owners, distributed in the research represented cities in the West Bank.

According to the owners' representatives only the consultants who have a valid membership in the engineering association were obtained. (92) 1<sup>st</sup>

class consultants were targeted; (49) of them located in Ramallah City, (24) in Nablus city and (19) in Hebron City.

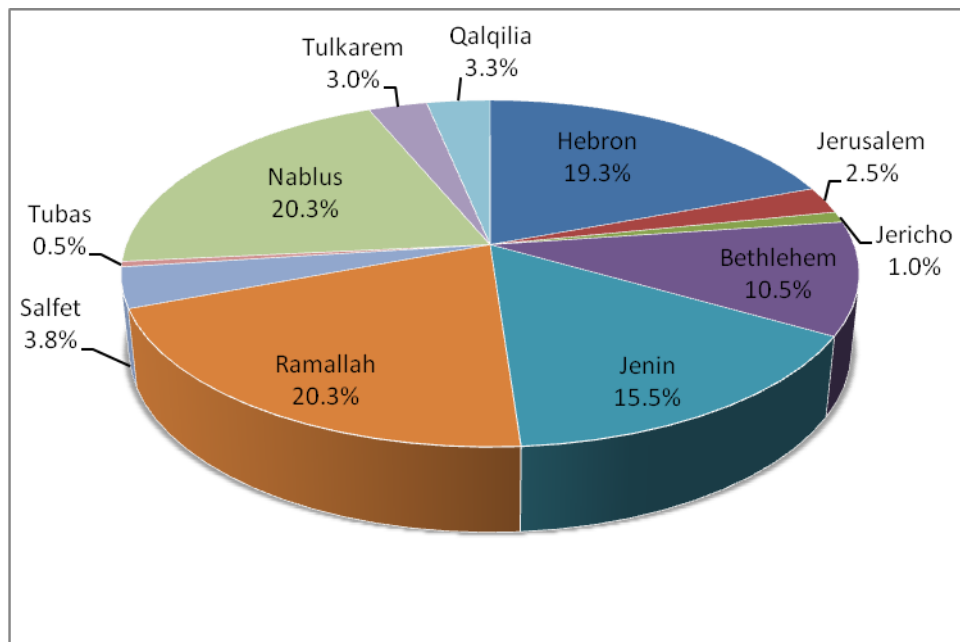
### **3.3.2 Contractors companies**

The second population is represented by the contractors companies, who have a valid registration according to the PCU records basing on the PCU recent list in its latest classification in 31 Mar 2011 for the following fields: building, water and wastewater, electromechanical and roads. According to (PCU, 2011a), the number of classified companies in the West Bank for all fields and classifications from the first to fifth degrees are (399) companies. In this study, the researcher decided to choose a sample from the contracting companies who are distributed in the main cities that contain the largest percentage of contracting companies. According to the (PCU, 2011a), it was found that the largest percentage of contractors was 20.3% exists in each of the two main large cities, Nablus and Ramallah. The second largest percentage was 19.3% in Hebron. Therefore, those three main cities were selected to represent the contractors sample in the West Bank. It could be noticed that these three cities represent large cities located in the northern, middle and southern parts of the West Bank. Figure (3.2) illustrates the percentages of the classified contractors with respect to their location in the West Bank (PCU, 2011a).

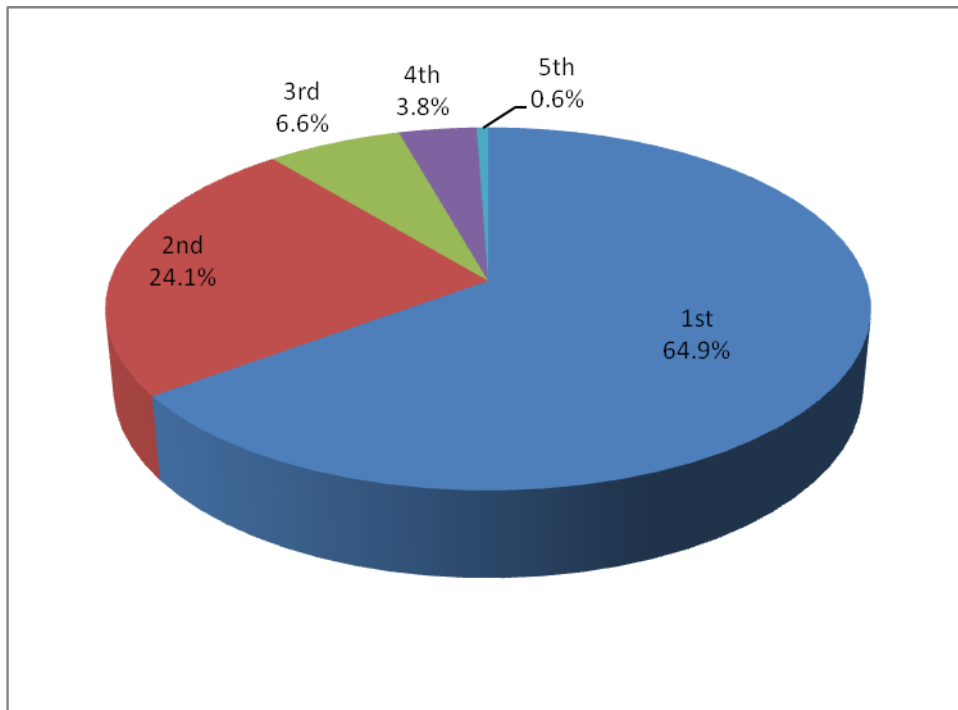
According to the PCU records achieved from their archives, the total value for the projects that was executed by the registered classified contractors



only who had recorded their executed projects values at the union since June 2009 until now is about 287.8 million dollars, the percentages of the values of executed projects according to the classification degree for the currently registered classified contractors are presented in Figure (3.3).



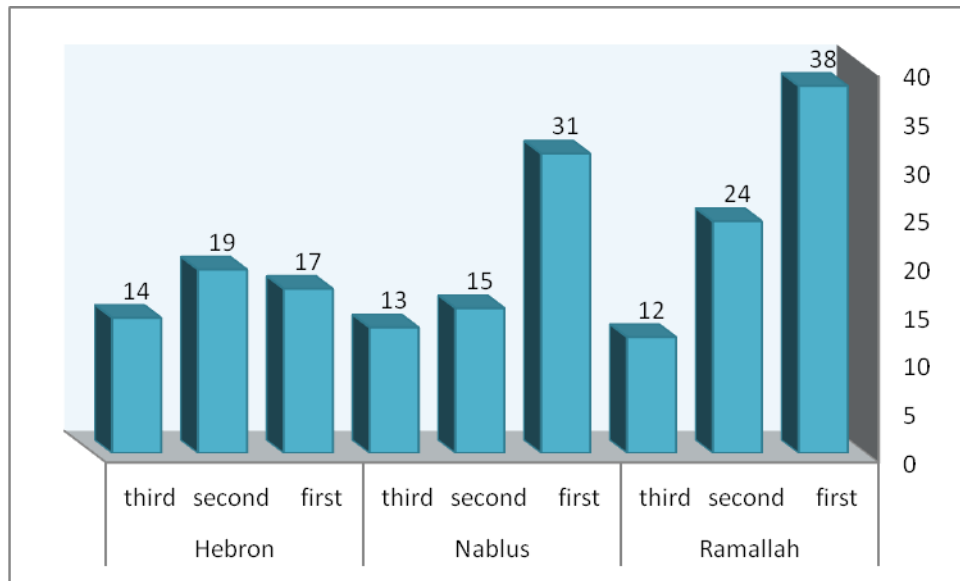
**Figure (3.2):** Percentages of the classified contractors with respect to the location in the West Bank in 31 Mar 2011. Formatted from classification lists (PCU, 2011a).



**Figure (3.3)** : The percentages of the values of executed projects according to the classification degree for the currently registered classified contractors. Formatted according to PCU records

From Figure (3.3) it was found that about 95% of the total projects' values were executed by the first three degrees of the registered classified contractors (PCU records). Therefore, the researcher decided to focus this study on the contractors of these three degrees because they have the most effect on the execution of the projects in the West Bank.

Specifying the size of the contractors sample was not easy because it is allowed for the contracting companies to have several classifications in different specializations, so one company may be counted several times. The researcher decided to calculate each company once according to its highest classification. Figure (3.4) shows the distribution of the classified contracting companies in the three targeted cities:



**Figure (3.4):** The distribution of the contracting companies population. Formatted from classification lists (PCU, 2011a).

According to the (PCU, 2011a) records, (183) contracting companies were classified First, Second and Third degree in the three targeted locations; namely, Ramallah, Hebron and Nablus. That will be the research contractors' sample.

### 3.3.3 Donor institutions

The third population is represented by the donor institutions, "the international bodies and organizations offering grants to the construction sector in the West Bank 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 institutions such as KFW and GIZ and Japanese institutions" (PCU, 2003a). The questionnaire was distributed to a sample of (14) donor institutions.

### **3.4 Research location**

The research was carried out in the West Bank. Three main cities were chosen they are: Hebron, Ramallah and Nablus, representing the three regions of the West Bank; Southern, Middle and Northern regions.

Gaza strip was not included in this research due to access difficulties to this location.

### **3.5 Data collection**

In this research, the following methods were used in data collection including:

- Reviewing existing literatures, publications, papers and M.Sc. thesis. Also reviewing (PCU) and (PCBS) records, publications and statistics.
- Interviews with construction contracting sector stakeholders to collect the related obstacles they faces.
- Questionnaire distribution; a questionnaire was distributed using many ways and techniques due to responses deficiency of the research sample. The used techniques are mentioned as follows:
  - ❖ Direct distributing by hand; questionnaire sample was phoning asking for meeting appointments. But it was so difficult to contact, many do not have time for meeting or do not have an

office, whereas their registered offices (especially consultants and contractors) were their homes.

- ❖ Making an electronic questionnaire to be filled electronically through a special website link, here is the questionnaire link:

<https://docs.google.com/spreadsheet/viewform?formkey=dEtheW1nZTRQakdwNWIUeDV5MTdIVkE6MQ>

Questionnaire link can be send by email and respondents' replies returned directly to a database without noticing sender information, for assuring respondents confidential. But it was surprising that many of the targeted sample do not have email or cannot use the email (especially in the contracting companies).

- ❖ Sending questionnaire by fax for those who cannot be met or use email.
- ❖ Telephone calls asking for meeting appointments, companies' emails, faxes and/or reminding them to fill the questionnaire.

- Data Analysis.
- Interviews with some experts and professionals to enrich the research results.

### **3.5.1 Questionnaire design**

The questionnaire was designed properly for assuring obtaining accurate results and high rate of return. Thus, this research questionnaire contents were constructed based on:

- Local publications reviewing.
- Several interviews with projects' owners, consultants, contractors and donor countries representatives to obtain different points of views, which can be useful for creating the questionnaire questions.
- Checking the validation of the designed questionnaire; using pilot study.

#### **The questionnaire content :**

The research questionnaire was built mainly using both closed and opened questions, it was divided into three parts:

Part One: General Information, which includes two sections of 9 items.

Part Two: The construction contracting problems in Palestine, which includes 11 main items.

Part Three: General Questions, which includes 8 questions.

The questionnaire was developed and distributed in Arabic language as in Appendix (B) to be more understandable by the research sample. An

English version was prepared as in Appendix (C) to help in documenting this research and to be understood by the foreign bodies and donor's representatives.

### **Pilot Study**

During the creation of any questionnaire, it is advised to complete a pilot study before collecting the final data from the whole sample. “A pilot study provides a trial run for the questionnaire, which involves testing the wording of the question, identifying ambiguous questions, testing the technique that you use to collect the data, measuring the effectiveness of your standard invitation to respondents, etc.” (Naoum, 2007).

To verify the questionnaire feasibility and validity, a pilot study was performed after the preparation of the questionnaire initial draft by distributing the questionnaire to some experts and professional arbitrators who have sufficient experience to amend and correct the questionnaire. The selected arbitrators list is attached in Appendix (D), who were selected as follows:

- University lecturers who have a strong practical experience in the construction contracting field, to assess the questionnaire content and language.
- A statistical specialist to audit the questionnaire statistically to indicate if its questions have a statistical significance, make

questions filtration, test the validity of the expected questionnaire outputs and indicate how the expected outputs could be statistically analyzed.

- The Palestinian Contracting Union (PCU) to assess the questionnaire content. The PCU issued a certification that it agrees the questionnaire content as attached in Appendix (E).
- Contractors and consultants to assess the questionnaire contents are clear and precise.

### **3.5.2 Interviews**

Two sets of interviews were conducted:

First, a group of unstructured interviews: A preliminary study was held with some involved stakeholders in the construction contracting sector to collect its related problems. Open conversations were held with interviewees, asking them about the obstacles and problems they are facing during their work in this sector. The collected problems were used in formulating the questionnaire to assess their importance degrees.

Second, a group of structured interviews: After analyzing the questionnaire outputs, interviews with some stakeholders' experts and professionals were held to check the outputs reliability and enrich the research results. Interviewees were asked for explanations about the extreme results and unexpected results.



A list of the mentioned interviewees had been attached in Appendix (F).

### **Interviews analyzing methods**

Here is a set of analytic moves followed in this research (Huberman et al, 1994), (Creswell, 2009):

- Organize and prepare the data for analysis. This involve transcribing interviews and typing up field note.
- Read through all the data, to obtain a general sense of the information and reflect on its overall meaning.
- Affixing codes to a set of field notes, i.e. organizing the material into chunks and segments.
- Sorting through these materials to identify similar phrases and relationships between variables.
- Gradually elaborating a small set of generalization that cover the consistencies discerned in the database. Here we used the interviews results to be the database if the conducted questionnaire to assess the interviews results.

### **3.5.3 Mixed methods procedures**

In this research mixed methods procedures were used in data collection, which entails a combination of quantitative and qualitative approaches. The following strategies were adopted:

“The sequential transformative strategy, which has two distinct data collection phases, one following the other” (Creswell, 2009). In this research the initial phase was qualitative followed by the second phase which was quantitative that’s build in the earlier phase. Where by this strategy the researcher can be able to explore the problem from diverse perspectives and ends with call for action (Creswell, 2009).

Then the sequential explanatory strategy was used, which characterized by the collection and analysis of quantitative data in a first phase followed by collection and analysis of qualitative data in the second phase that builds on the results of the initial quantitative results. This design is typically used to explain and interpret quantitative results, especially when unexpected results arise from a quantitative study (Creswell, 2009).

### **3.6 Data analysis and validation procedures**

Discussion of the plan for analyzing the data might have several components. The process of data analysis involves making sense out of text and image data. Data analysis in mixed methods research is related to the type of research strategy chosen for the procedure. Thus, the used analysis approaches in this research are the following:

- Explore outliers: “an analysis of quantitative data in the first phase can yield extreme or outlier cases. Follow-up qualitative interviews with these outlier cases can provide insight about why they diverged from the quantitative sample” (Creswell, 2009).

- Instrument development: “obtain themes and specific statements from participants in an initial data collection. In the next phase, use these statements as specific items for scales to create a survey instrument that is ground in the views of the participants. A third, final phase might be to validate the instrument with a large sample representative of population” (Creswell, 2009).

### **3.7 Summary**

This research followed methodology steps and methods in data collecting will be the basis for the required expected outputs. Where, by analyzing the collected data the main research aim is expected to be achieved; which is proposing solutions for the current construction contracting problems in Palestine. The following chapter will include how the collected data were analyzed.

## **Chapter Four**

### **Data collection, analysis and discussion**

#### **4.1 Introduction**

This chapter aims to analyze the empirical data collected through the conducted interviews and distributed questionnaire. The chapter is divided into six sections:

1. Surveying and categorizing the construction contracting sector problems.
2. Questionnaire sample characteristics analysis.
3. Construction contracting problems analysis and discussions.
4. The general questions analysis and discussion.
5. Bivariate analysis.
6. Analysis of the highest disparity, the most and least importance problems.

#### **4.2 Surveying and categorizing the construction contracting sector's problems**

In this research, the problems and obstacles that may be faced in managing the construction contracting sector in the West Bank were surveyed, sorted and classified into eleven major problems, in order to facilitate their study and collect the related information about them. Every major problem includes several minor problems related to the major one. These problems have been surveyed and compiled through making interviews with some

related contract parties, including: projects' owners, contractors, consultants and some donor countries institutions, also by reviewing some local publications that reflect local stakeholders' problems in the construction sector. Those collected problems do not reflect the researcher opinion, they are according to the interviewees sample sufferings, and they will be studied later in this research to assess their real importance.

This research aims to prepare a holistic view of the problems that might face the construction sector stakeholders in Palestine, especially in the West Bank, assessing their importance degree according to the contract parties' views through a conducted questionnaire, and then generating proposals for solving the most important problems. The compiled collected problems are classified as follows:

#### **4.2.1 Financial problems**

The financial problems main category includes the following related problems' statements:

1. Currency exchange rate fluctuation.
2. Fluctuation of construction materials prices due to inflation.
3. Owners' payments' delay.
4. Taxes' problems.
5. Non-provision of the appropriate budget required for project implementation before tender launching.
6. Advanced payment is not paid to contractor.

7. Problems due to change and variation orders.
8. Problems rising due to including provisional items in the contract.
9. Not using the Palestinian Index in tenders pricing.
10. Contractors' difficulties in achieving bank facilities.
11. High cost of transportation and materials transfer due to barriers.

#### **4.2.2 Problems related to the tender documents (contracts, drawings)**

Which include the following related problems:

1. The implementation of the Unified Palestinian Contract unobligated legally.
2. Weakness of drawing layouts due to lack of clarity, completeness, detailed designs or drawings integration.
3. Weakness of the competent agencies' role in checking all drawing layouts before tendering: many tenders' drawings and documents full of mistakes and contradictions.
4. Weakness of designing offices.
5. Copy and paste from similar previous projects to reduce time and efforts.
6. Conflicts between tender documents.

7. Lack of communication between the owner side and contractor with the designing office during the project executing phase: for reviewing and inquiring about unclear designs and drawings.

### **4.2.3 Problems related to specifications and materials adaptation (Quality)**

Include the following related problems:

1. The absence of local specifications obligation
2. Imported materials problems in terms of classification, adoption and origin certification.
3. Weakness of the Palestinian Standards Institution's role.
4. Shortage in providing the necessary materials for the construction sector.
5. Deficiency in developing the local industries that support the construction sector.
6. Undeveloped system responsible for project's quality control and assurance.
7. Laboratories' weakness for samples testing and approval.
8. Non-storing sufficient quantities of necessary materials at the site.

#### **4.2.4 Political problems**

Include the following related problems:

1. Cities' entrances closure due to occupation.
2. Israeli restrictions on imports: prevention of certain goods from entry to the country
3. Barriers against foreign investment, importing labors and materials.
4. Goods retention at ports.
5. Non-adoption and application of the Unified Palestinian Contract in all contracted projects.
6. The absence of competent executive authority responsible for law enforcement.
7. Donor countries funding governing projects' guidance.
8. Legislative framework weakness of the Ministry of Finance.

#### **4.2.5 Administrative problems**

Include the following related problems:

1. Poor structures and organizations of companies.
2. Some contractors' dispersion due to increasing his projects' numbers and sizes over his technical and administrative capabilities.



3. Owner deceleration in decision making: mainly in samples and materials adoption, replying on contractor's claims or any other matter that needs the owner approval before execution.
4. Owner dereliction in following up the supervision team.
5. Policy adoption of awarding the tender to the lowest evaluated bidder not to the most accurate one: which is technically the best and nearest to the estimated price.

#### **4.2.6 Problems related to the contract parties**

Include the following related problems:

1. Non-complementary relationship between contract parties: where the relationship between parties dominated by distrust between project's owner and his representative on one side and the contractor on the other side.
2. Tense relationship between contract parties due to previous disputes: which adversely reflect on their current project.
3. Current contractors' classification weakness and inconvenient.
4. The contractor reliance on a recently graduated engineer to follow-up the site responsibilities.
5. Supervision team lack of readiness: due to its staff weakness of expertise, technical and administrative skills.

6. Authority weakness of supervision engineer on contractor at site: specially in the supported projects where donor countries owed payments arrival on specific times weakening the supervision role and authority in controlling the performance.
7. Contractor's team unpreparedness to the project type.
8. Negligence of necessary trainings to the involved parties on the project.

#### **4.2.7 Problems related to the environment of the construction sector**

Include the following related problems:

1. Current economic situation deterioration.
2. The number of available contractors is high compared with the size of tendered projects.
3. The prevention of open global market to transfer and exchange experiences.
4. Interventions of some nearby residents to some projects against the implementation of some works.

#### **4.2.8 Problems related to the natural environment**

Include the following related problems:

1. Unfavorable weather conditions.

2. The high level of noise.
3. The high level of pollution and getting rid of projects waste in unorganized ways.

#### **4.2.9 Problems related to the arbitrations and disputes' settlement**

Include the following related problems:

1. Non-activation of the Palestinian Arbitration Law and Chambers.
2. Non-adoption and application of the Unified Palestinian Contract in all contracted projects.
3. Not selecting the Dispute Adjudication Board (DAB) mediators before initiating project execution phase.
4. Non specialization of the judicial courts.
5. Time length of the judicial courts' procedures.
6. Foreign agencies following their originating countries judiciary in solving judiciary problems.
7. Interpretations of some contract items which has no reference in the Palestinian law.
8. Solving problems in a clannish/ tribal way without resorting to arbitrations or courts.

#### **4.2.10 Problems related to the technology use**

Include the following related problems:

1. The use of traditional methods in construction is preferred.
2. High cost of technology acquisition and staff training.
3. Difficulties in importing technology.
4. Not effectively use the electronic tenders.
5. Shortage in using modern techniques in designing.

#### **4.2.11 Problems related to the career ethics**

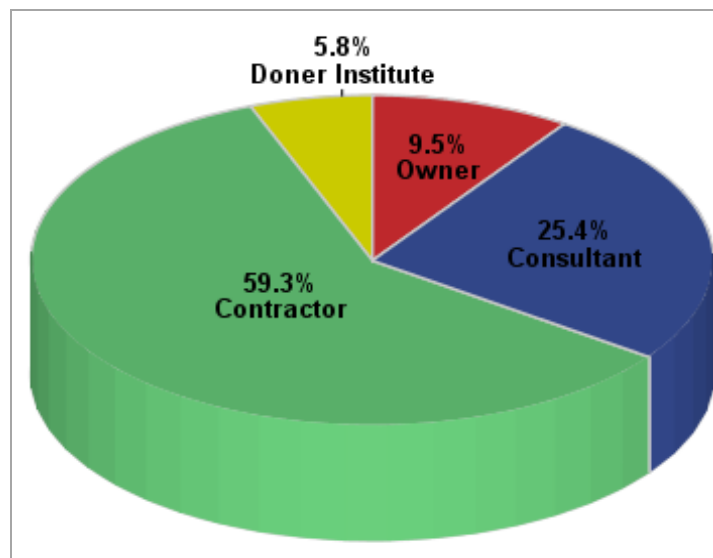
Including the following related problems:

1. Intense competition between contractors, to the extent of bidding at cost prices or by losses.
2. Some contractors maneuvers by downloading some prices on other items.
3. Lack of confidence in preparing the budgets' adoption.
4. Lack of commitment to the minimum prices that subjected by the Palestinian Engineers Association.
5. Engineering office defends the design errors, if the office designs and supervises the same project.
6. Fraud contractor's documents to obtain a higher degree in the Contractors Association Classification.

### 4.3 Questionnaire sample characteristics analysis

Sample characteristics of the person who filled the questionnaire and the employed company were analyzed. The sample distribution will be presented with respect to the following questionnaire respondents' and companies' characteristics:

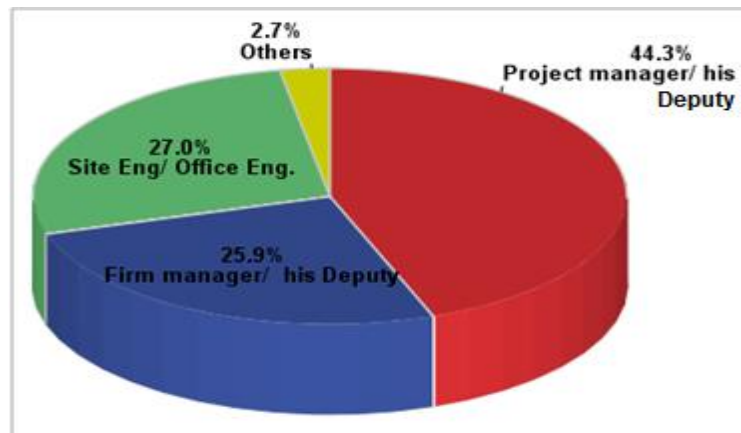
#### 4.3.1 Respondent work type.



**Figure (4.1) :** Type of work.

Figure (4.1) shows that 59.3% of the research sample subjects were contractors, 25.4% were consultants, 9.5% were owners and 5.8% of the sample subjects were donor institutions.

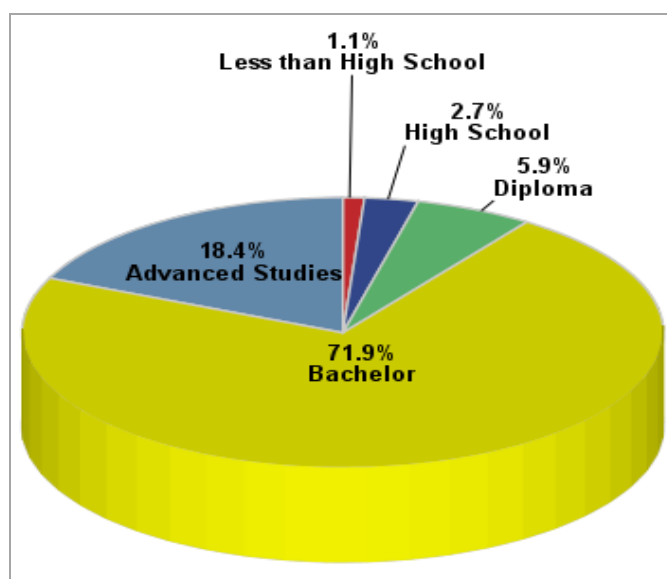
### 4.3.2 Respondent position



**Figure (4.2) :** Respondent position.

It can be seen from Figure (4.2) that 44.3% of the respondents were project managers, 27% of them were site engineers and 25.9% of them were firm managers, this is an indication that the questionnaire respondents were key persons in their firms.

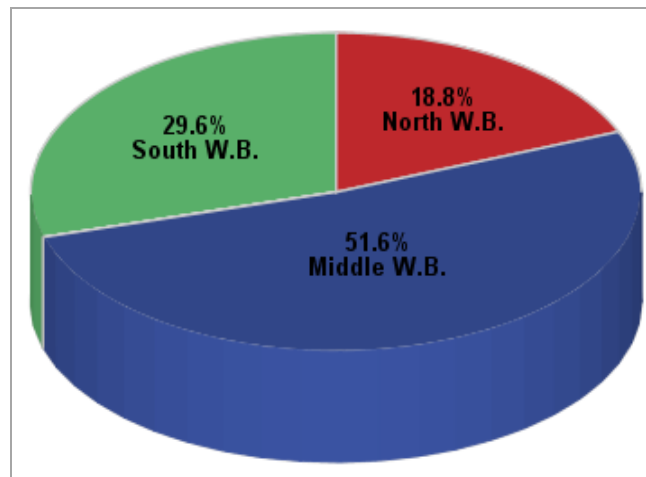
### 4.3.3 Respondent education level.



**Figure (4.3) :** Respondent education level.

According to Figure (4.3), we can say that the sample respondents are well educated, where 71.9% of them had just completed a Bachelor's degree, 18.4% of them hold certificate of advanced studies, and 5.9% of them had just completed a diploma degree, while 1.1% of them have less than high school, this indicates that the majority of Palestinian contract parties are well educated persons.

#### 4.3.4 The company location in the West Bank.

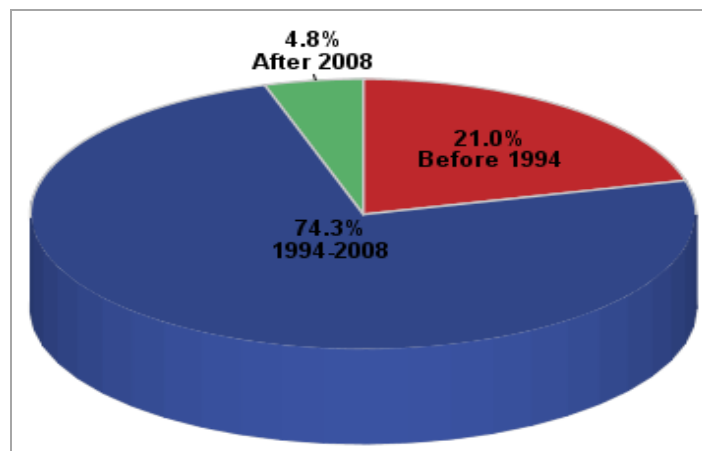


**Figure (4.4) :** Company location in the West Bank.

Figure (4.4) shows that most of the companies in the sample (51.6%) were in the middle of the West Bank, 29.6% of the companies in the sample were in the south of the West Bank, and just 18.8% of them were in the north of the West Bank. This demonstrates the construction prosperity concentration in the West Bank middle cities, especially in Ramallah.

#### 4.3.5 The company year of establishment.

According to Figure (4.5), we can say that most of the companies in the sample (74.3%) were established between 1994 and 2008, 21% of them were established before 1994, and only 4.8% of them were established after 2008.



**Figure (4.5) :** Company year of establishment.

Interviews with a number of contract parties in the studied sample indicates that, the PNA entry in the year 1994 created opportunity to many new projects and infrastructure, that creates many job opportunities for engineers and contractors. Thus, it is clear from Figure (4.5) that the greatest portion of companies' year establishment was after the year 1994. While, by the year 2008, due to the global financial crises influences, inflation, intense competition, currency and construction materials prices' fluctuations, many contractors' companies declare bankruptcy, thus the lowest portion of companies' year of establishment was after 2008.



#### **4.3.6 The number of the company's constant workers.**

Results show that the minimum number of constant workers of the companies in the sample is 2 workers and the maximum is 1500 worker, the average number of constant workers in the companies is 36. Interviews with a number of contract parties in the studied sample indicate that this result seems to be exaggerated. This unreality result will be detailed and discussed later in this chapter.

#### **4.3.7 The number of the company's executed projects through the past five years.**

From questionnaire analysis we found that the minimum number of executed projects in the construction companies included in the sample is 2 projects and the maximum is 300 projects through the past five years. The average number of the executed projects is 33 projects through the past five years.

#### **4.3.8 The cost of the company's executed projects through the past five years.**

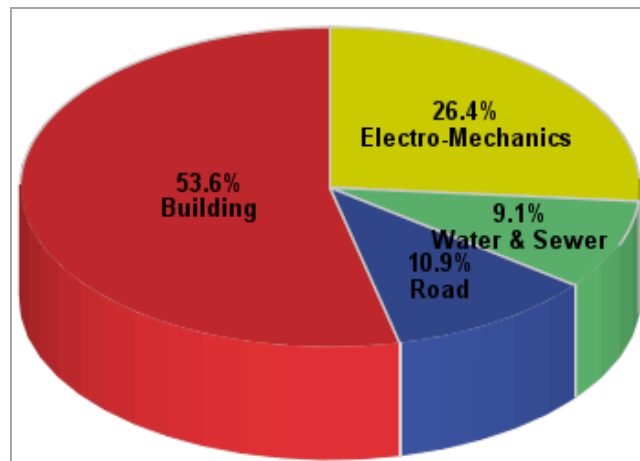
Questionnaire analysis found that the minimum cost of the companies executed projects through the past five years is 5000 dollar, the maximum is 400 million dollar, and the average is about 21 million dollar for each company. Interviews with a number of contract parties in the studied

sample indicate that this result seems to be exaggerated. This unreality result will be detailed and discussed later in this chapter.

#### **4.3.9 The contractor's company classification under PCU category.**

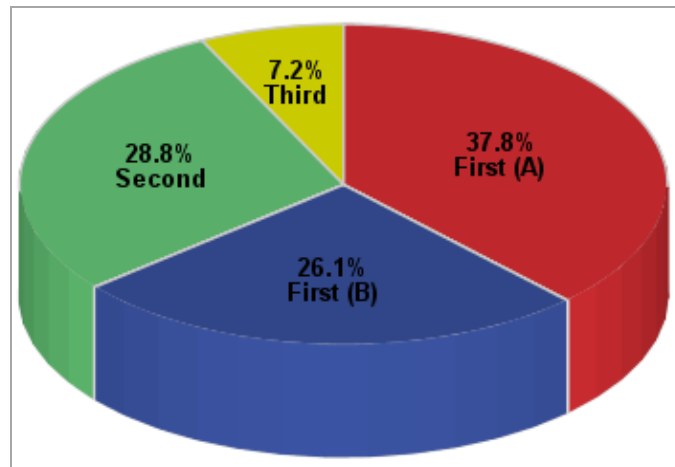
##### **Classification specialization.**

Analysis presented in Figure (4.6) show that 53.6% of the companies in the sample are classified as building companies, 26.4% of them are classified as electro-mechanics companies, 10.9% of them are classified as road companies and 9.1% of them are classified as water& sewer companies.



**Figure (4.6):** Contractor's classification under PCU specializations categories

Interviews with a number of contract parties in the studied sample indicate that: most of projects are tendered for the building specialization, which implies other specialization as subcontractor for other work. Thus, most of contractors choose to be specialized in the building field, and then adding other specializations for the main one.

**Classification degree.**

**Figure (4.7) :** Contractor's classification under PCU degree categories.

According to Figure (4.7), it has been found that 37.8% of the companies in the sample classified in the First (A) category, 26.1% were classified in the First (B) category, 28.8% were classified in the Second category and only 7.2% of the companies were classified in the Third category.

Interviews with a number of contract parties in the studied sample indicates that: the great portion of contractors classified in the first class indicates that the current contractor's classification depends mainly on the executed projects' areas not on true means of qualifications, and that there is no follow-up and reclassification system for the current classified contractors to decrease the classification degree of companies' unsatisfying requirements.

#### **4.4 Construction contracting problems analysis and discussion**

In order to analyze each construction contracting problem, a four-point Likert scale was used ranging from “Does not matter” to “high” Importance according to the questionnaire arbitrators recommendations. According to the SPSS analysis, if the problem statement mean was ranging from 1 to 1.74, then it will be considered according to this scale in the whole stated as “Does not matter”. If it's mean was ranging from 1.75 to 2.49 then it is considered to be of “Low importance”, and so on. From 2.5 to 3.24 is of “Medium importance”, and from 3.25 to 4 considered to be of “High importance”.

On the other hand, each statement had been ranked for each main problem according to the value of its average, starting from the largest average to the smallest average by giving the value 1 for the statement that has the largest average value, 2 for the statement that has the second largest average value, and so on. Continuing in the same way until reaching the smallest average value among all statements included in the main problem. That is because according to the SPSS analyzing by the four-point Likert scale, as the statement mean's increase, then its importance will be increased. Thus, the statement that has the ranking number of value (1) means that it has the highest importance among the other problem statements in the main one. The point that has the ranking number of value

(2) means that it has the second highest importance among the other problems related to the main one, and so on for the rest problems.

Following, we will analyze each main problem and its included problems' statements, and determining their importance ranking.

#### **4.4.1 Financial problems analysis.**

For the purpose of financial problems analysis, each included problem statement responses were categorized and stated according to its importance, i.e. stating each statement number of respondents voting's according to each related importance degree category. Then the importance percentage and the arithmetic mean for each statement were calculated. Finally, the arithmetic mean of all included statements were calculated and stated as the mean of the financial problems. The SPSS resulted calculation tables are attached in Appendix (G).

The following diagram Figure (4.8) showing all the financial problems represented in a bar diagram allocating the importance distributions for responses, their percentages and ranking numbers according to their importance.

According to SPSS analysis; the resulted mean value for the financial problems equal 3.11. Basing on the 4-point likert scale, that means this in whole considered to be of medium importance.

Ranking No.

2 3 1 5 4 6 8 11 9 10 7

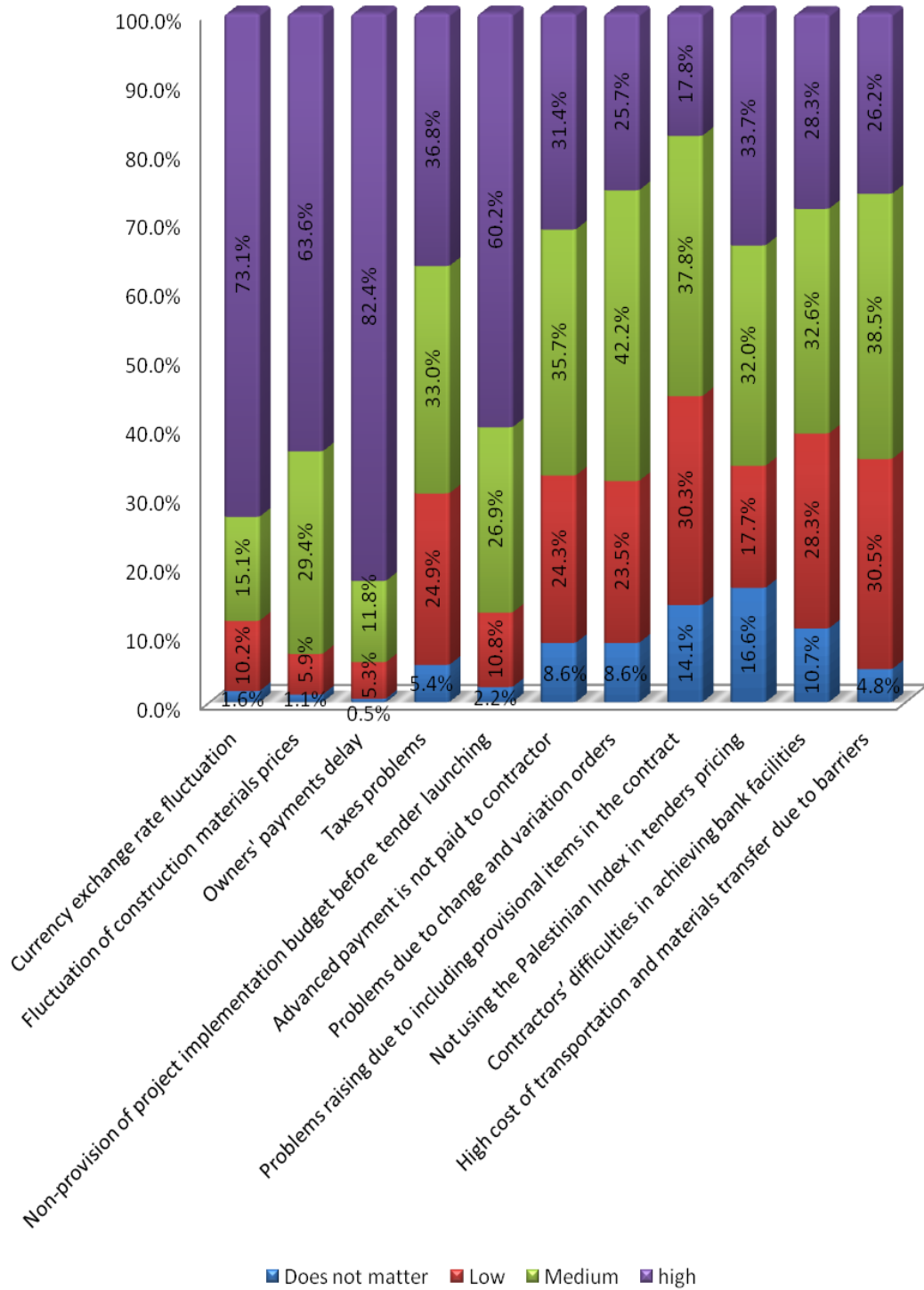


Figure (4.8) : Financial problems analysis.

Analytical results show that problem number (3), “Owners' payments delay” is the most important problem among the financial problems.

Interviews with a number of contract parties in the studied sample illustrates that, many projects are owned by the Ministry of Works. While, the PNA is suffering from financial crises due to its political circumstances, this situation complicates fulfilling its financial commitments and lead to delay paying its dues to contractors. Thus, causing great losses and incredibility to the contracting companies.

Another critical problem can be inferred from the analysis was problem number (1): “Currency exchange rate fluctuation”. This problem is attributed to the currency high fluctuation during the project duration and leading to huge losses for the contracting companies. This is problem is particular in some financed projects by foreign donor countries, which do not comply with compensation due to currency fluctuation, where tenders pricing are in dollars.

Also, from analysis problem number (2) “Fluctuation of construction materials prices due to inflation” is shown as high degree important problem. Which is also a global problem, but in Palestine it is mainly affected by the high fluctuation in the reinforcing steel prices during the project duration. This is a main problem in some funded projects by foreign countries, which do not comply with compensation due to prices fluctuations.

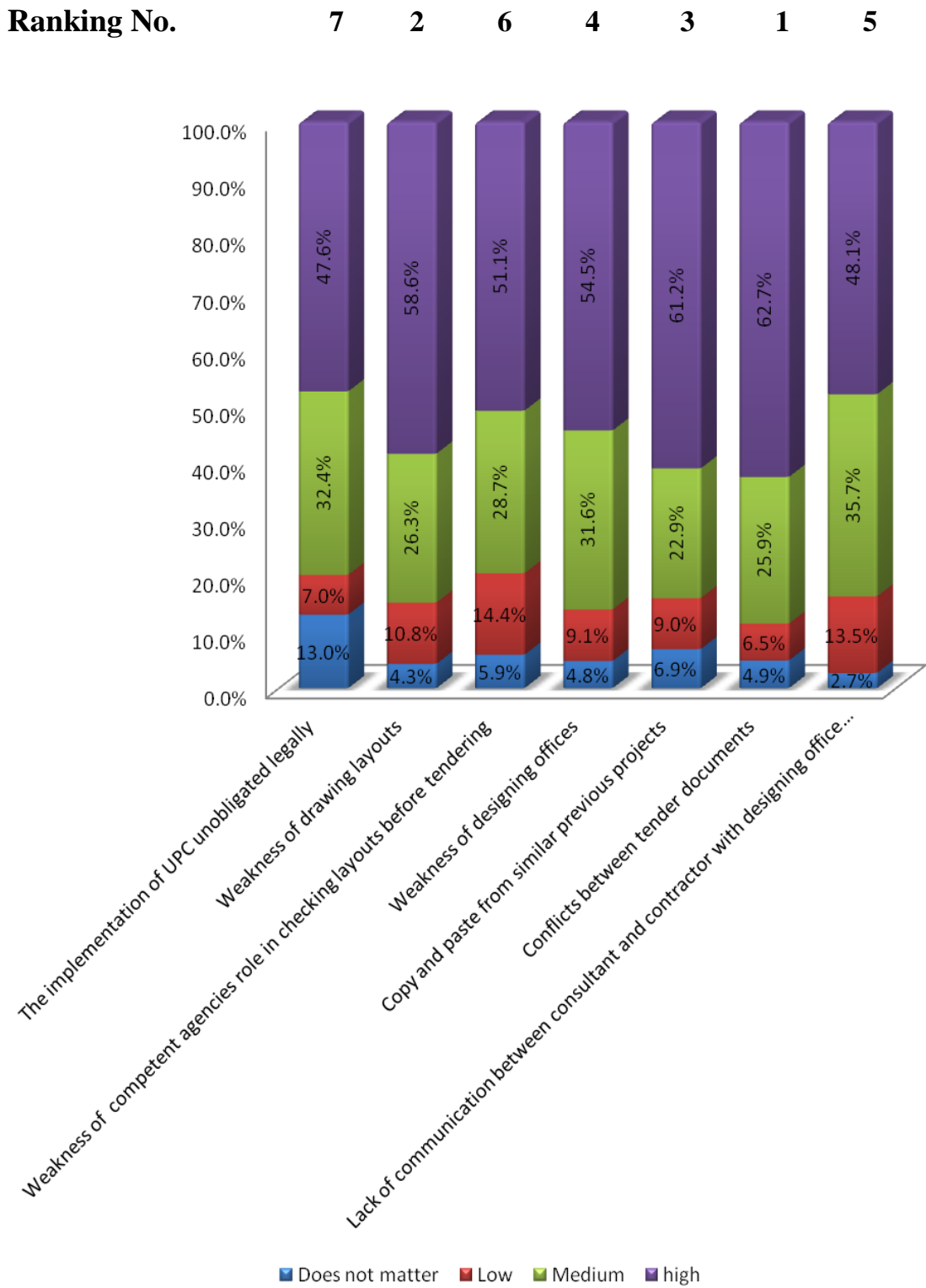
#### **4.4.2 Analysis of problems related to the tender documents (contracts, drawings).**

Analyzing the problems related to the tender documents, including stating each problem statement arithmetic mean for responses, its overall importance category and ranking number.

Analysis of these problems are presented in Figure (4.9) in a bar diagram allocating the importance distributions for responses, their percentages and ranking numbers.

The problems related to the tender documents (contracts, drawings) resulted mean is 3.32, therefore it is of high importance. Results show that problem number (6), “Conflicts between tender documents”, is the most important problem among other problems related to the tender documents. Interviews with a number of contract parties in the studied sample refers this problem to the inaccuracy, deficiencies in preparing tender documents and weakness of competent agencies for tenders' documents revision before tendering.

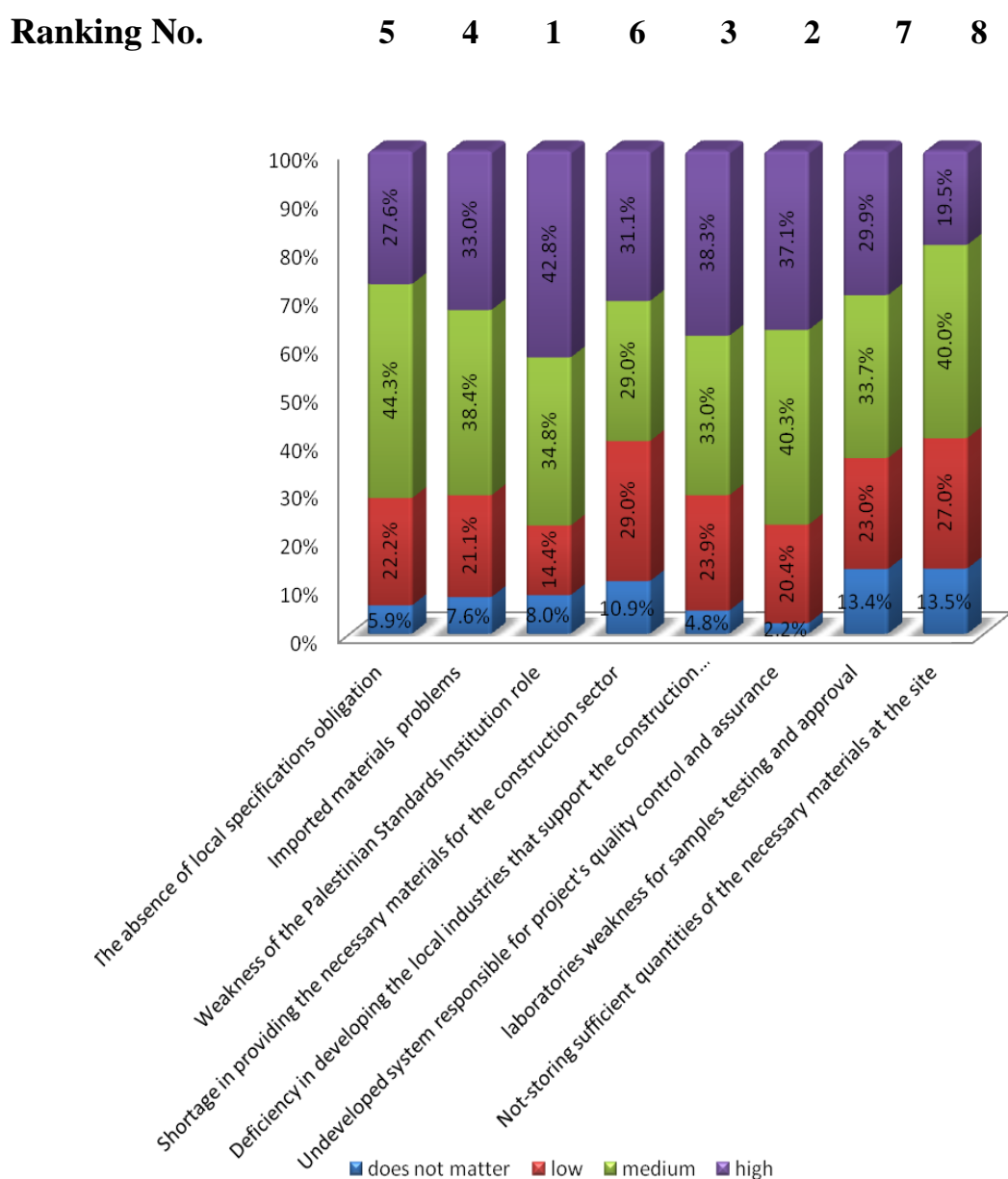




**Figure (4.9) :** Problems related to the tender documents (contracts, drawings) analysis.

### 4.4.3 Analysis of problems related to specifications and materials adaptation (Quality).

Figure (4.10) representing all the problems related to specifications and materials adaptation, showing the importance distributions for each one.



**Figure (4.10):** Problems related to specifications and materials adaptation (Quality) analysis.

Analysis shows that the mean of the problems related to specifications and materials adaptation (Quality) equal 2.931 which means that it is of medium importance. Also, analysis shows that problem number (3), “Weakness of the Palestinian Standards Institution role”, is the most important problem among the problems related to specifications and materials.

Interviews with a number of contract parties in the studied sample indicates that, not specifying Palestinian specifications for materials and equipments to be adopted in projects, leads to consultants diversity in describing the required equipment and material according to their experience. Also, difficulties appear in tender pricing due to the lack of clarity in specifying items properly. On the other hand, many consultants avoid precise describing so as not to be accused by bias to a specific company products. Therefore, if there is a clear description in the Palestinian specifications, then consultants embarrassment will be avoided in such cases.

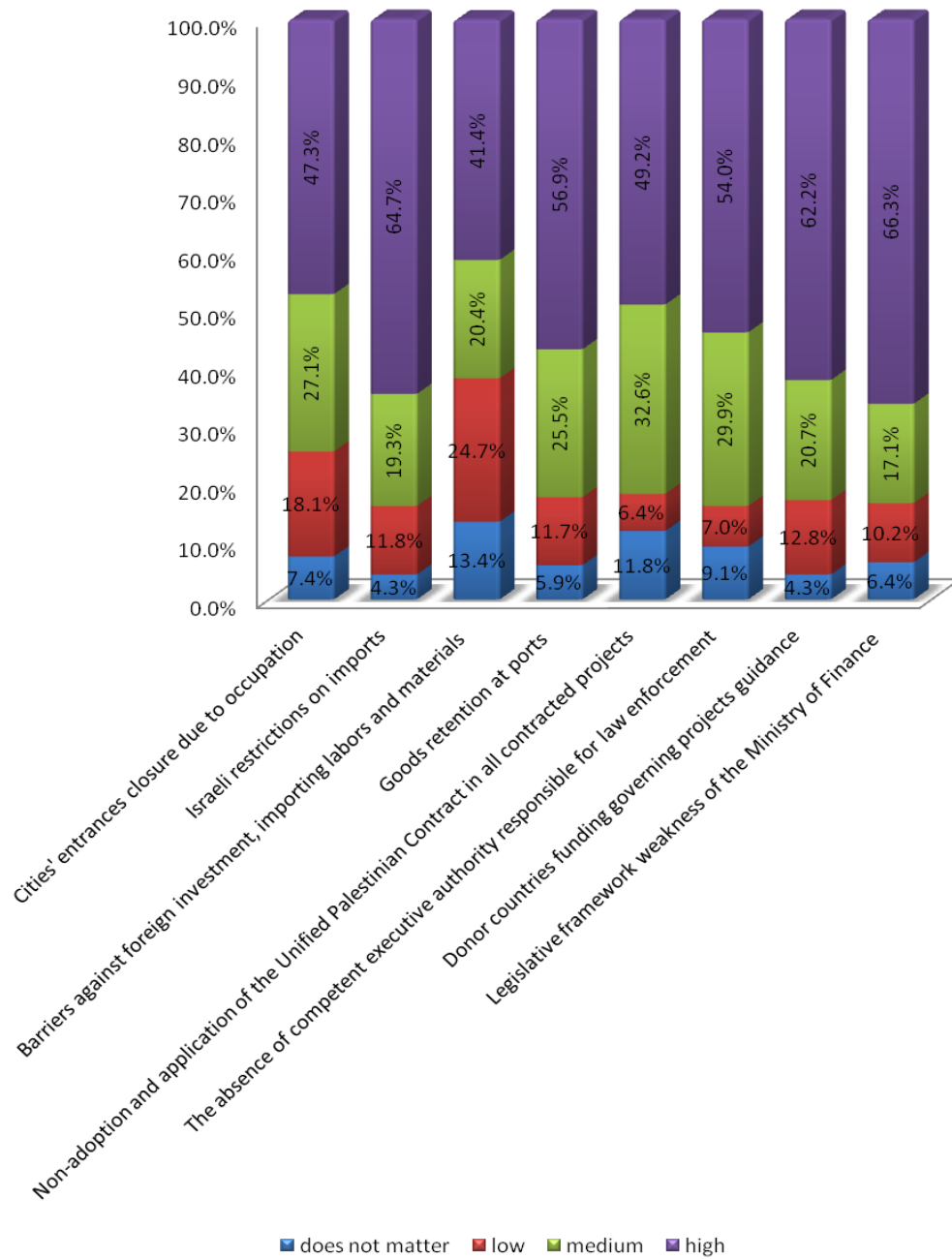
#### **4.4.4 Analysis of political problems.**

The following Figure (4.11) illustrates the political problems analysis, showing each problem statement importance percentage and ranking number.

By the 4-point Likert Scale, the mean of the political problems is equal 3.27 which means that it is of high importance. Analysis shows that

problem number (2), “Israeli restrictions on imports”, is the most important problem among the studied political problems.

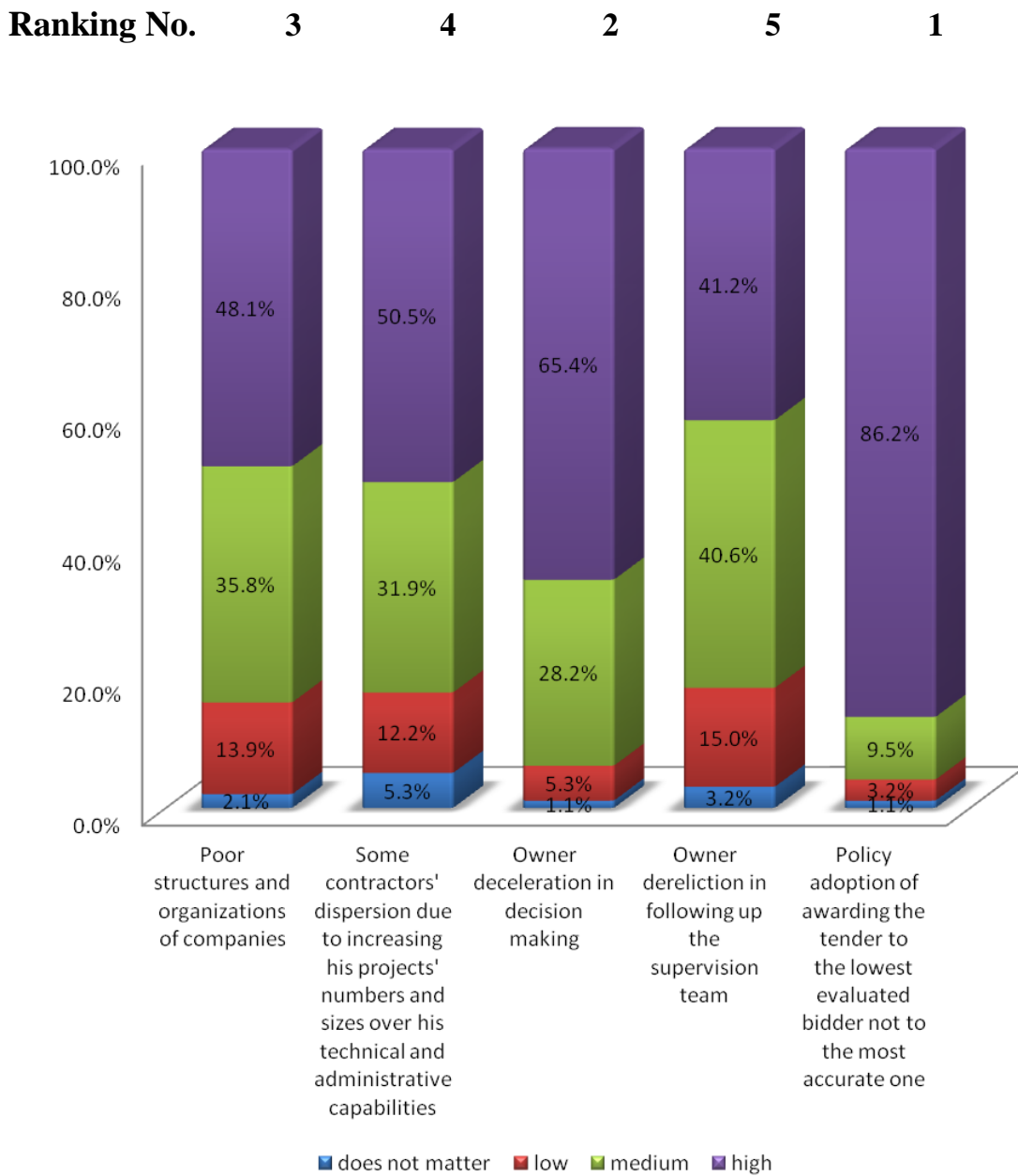
**Ranking No.**                    **7**    **1**    **8**    **4**    **6**    **5**    **3**    **2**



**Figure (4.11):** Political problems analysis.

### 4.4.5 Administrative problems Analysis.

Figure (4.12) shows all the administrative problems represented in a bar diagram allocating the importance distributions for responses, their percentages and ranking.



**Figure (4.12):** Administrative problems analysis.

Results from the analysis found that the mean of the administrative problems is equal 3.43 which imply that it is of high importance, also that problem number (5), “Policy adoption of awarding the tender to the lowest evaluated bidder not to the most accurate”, is the most important problem among the administrative problems.

Interviews with a number of contract parties in the studied sample indicates that, the lowest evaluated bids mainly which values are under the project's estimated cost, may be occurring due to the lowest evaluated bidder poor experience or faults. And then, referring to that bidder may leads to delay in project execution, inability in paying his obligations to suppliers, contractor financial losses or bankruptcy which adversely affecting the general financial situation in Palestine.

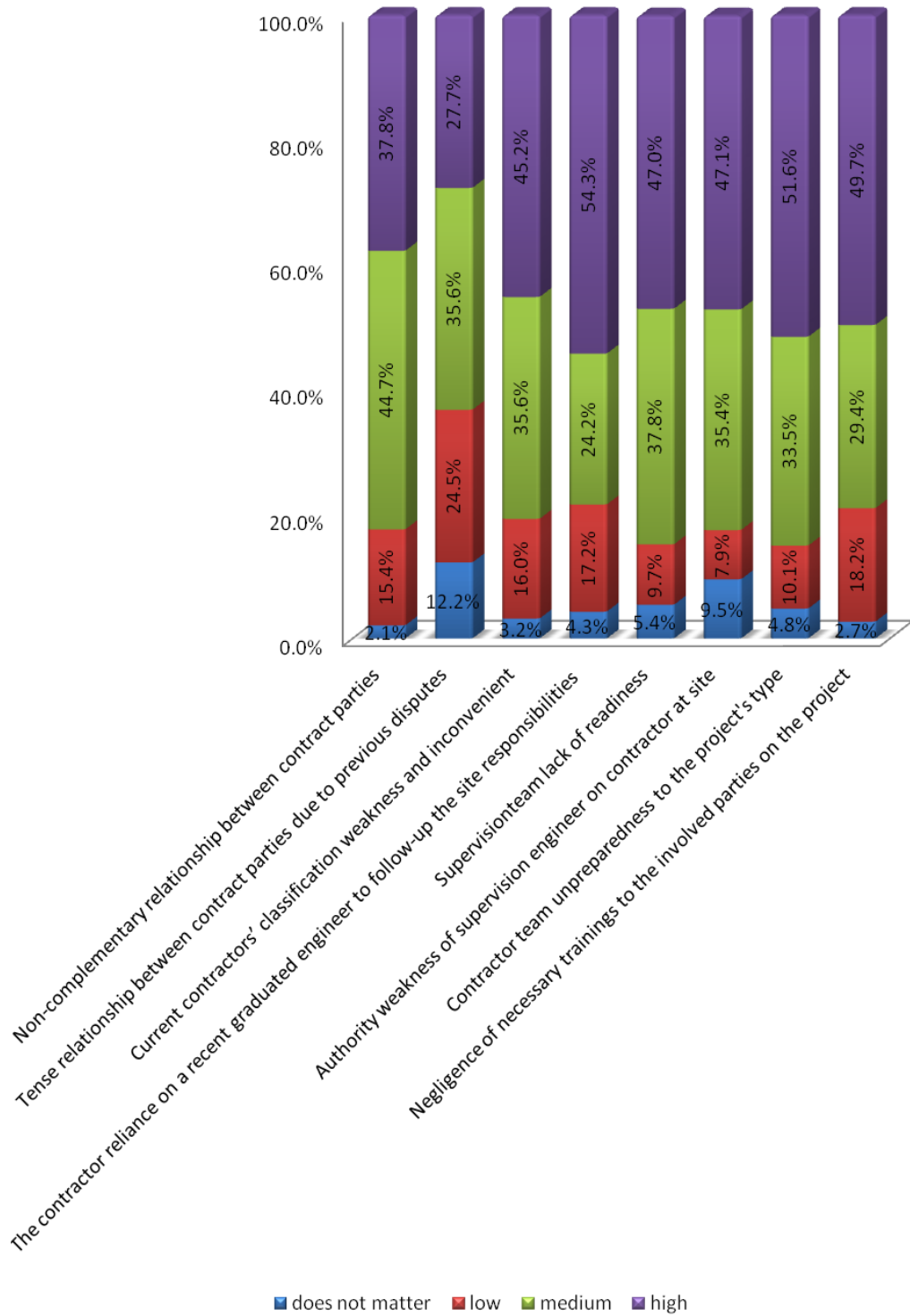
Also analysis results found that problem number (3), “Owner deceleration in decision making”, is the second most important among these problems. This problem may occur due to the owner or his representative not attending the project meetings regularly or due to their bureaucracy in decision making and project management which leads to delays in project execution.

#### **4.4.6 Analysis of problems related to the contract parties.**

Problems related to contract parties are represented in Figure (4.13) in a bar diagram allocating the importance distributions for responses, their percentages and ranking.

**Ranking No.**

**7 8 5 2 4 6 1 3**



**Figure (4.13):** Analysis of the problems related to the contract parties.

The resulted mean of the problems related to the contract parties equal 3.19 which means that it's of medium importance. Also, results show that problem number (7), "Contractor's team unpreparedness to the project's type", is the most important problem among the problems related to the contract parties.

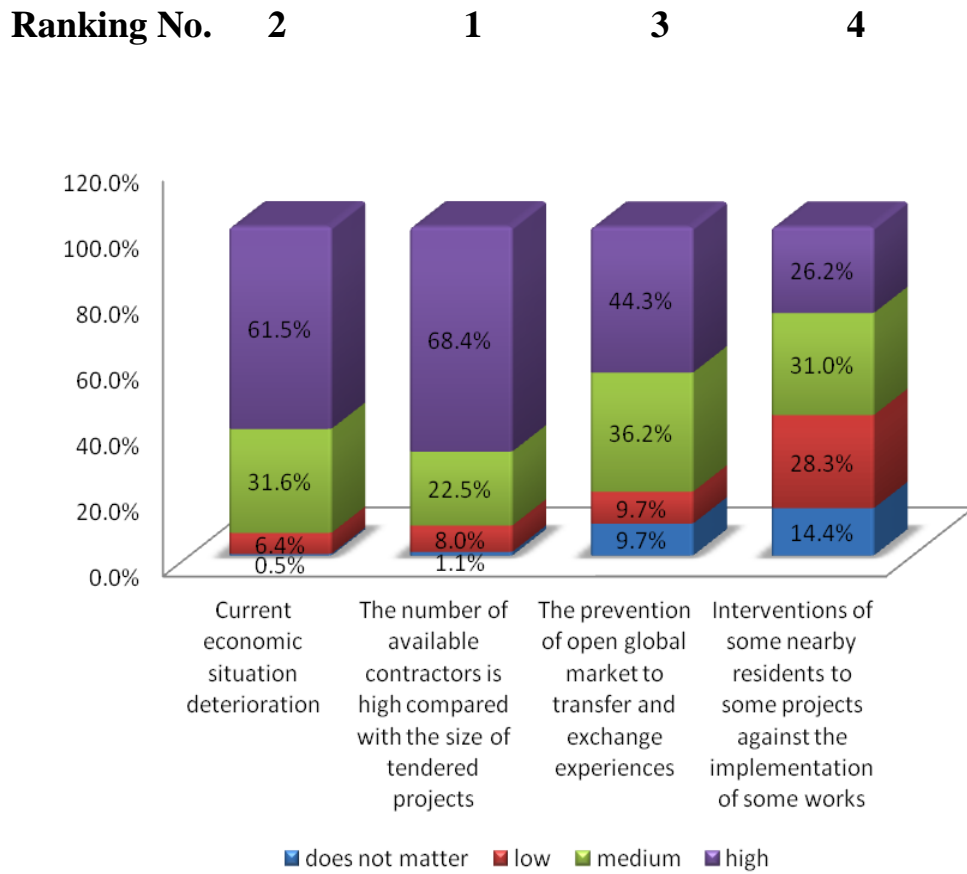
Interviews with a number of contract parties in the studied sample indicates that: contractor's team unpreparedness may be referred to the instability of this team members, that contractor continually change his team members without training the new employed ones. Also, contractor depend on recently untrained graduated engineers to follow up the site matters, which causing the appearance of this problem and other problems.

#### **4.4.7 Problems related to the environment of the construction sector analysis.**

Analysis results are shown in the following diagram Figure (4.14). All the problems related to the environment of the construction sector are represented in a bar diagram allocating the importance distributions for responses, their percentages and ranking.

Results found that the problems related to this problems category's mathematical mean is 3.24, which means that it is of medium importance. Also, results show that problem number (2), "The number of available contractors is high compared with the size of tendered projects", is the most important problem among other problems.



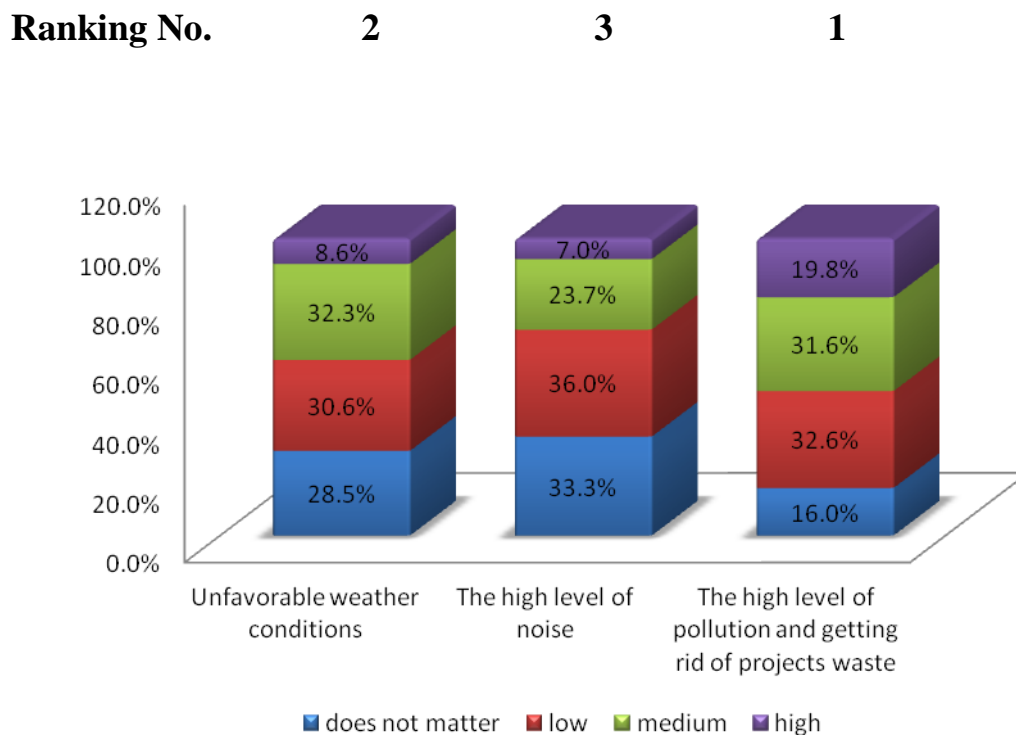


**Figure (4.14):** Problems related to the environment of the construction sector analysis.

Interviews with a number of contract parties in the studied sample indicate that: this highest importance problem appears due to bad financial and political situation of the country. Also, it may be due to the improper contractor classification that leads to ineligible contractors' appearance, and thus improper competition.

#### 4.4.8 Problems related to the natural environment analysis.

Figure (4.15) shows all the problems related to the natural environment, represented in a bar diagram allocating the importance distributions for responses, their percentages and ranking.



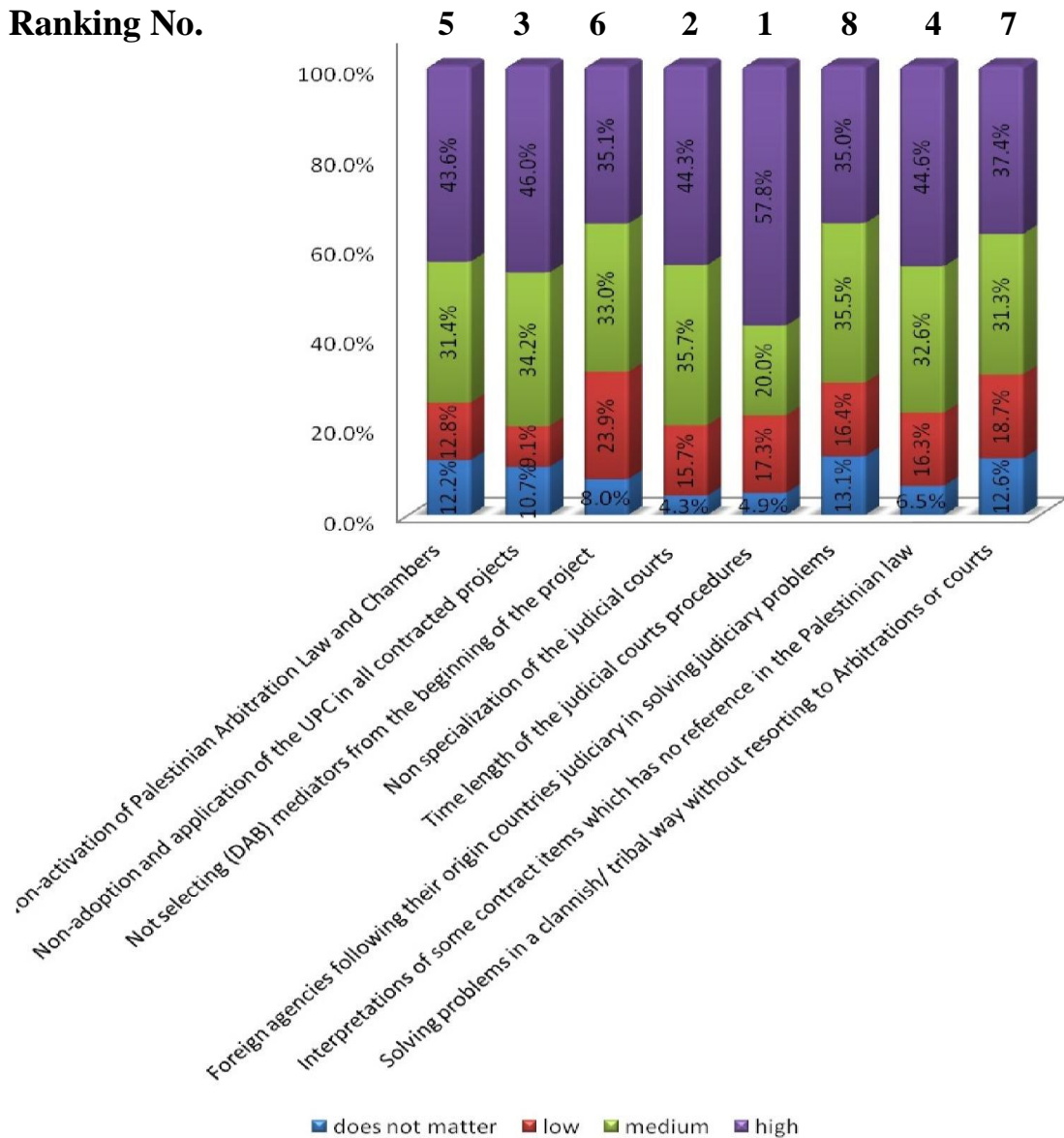
**Figure (4.15) :** Problems related to the natural environment analysis.

The resulted mean of the Problems related to the natural environment equal 2.27 which means that it has a low importance. Results show that problem number (2), “The high level of noise”, is the lowest important problem among the problems related to the natural environment, and among all other research problems in all categories.

### 4.4.9 Problems related to the arbitrations and disputes settlement Analysis.

Analysis results are shown in the following diagram Figure (4.16), showing all problems related to the arbitrations and disputes settlement, represented in a bar diagram allocating the importance distributions for responses, their percentages and ranks.

**Ranking No.**

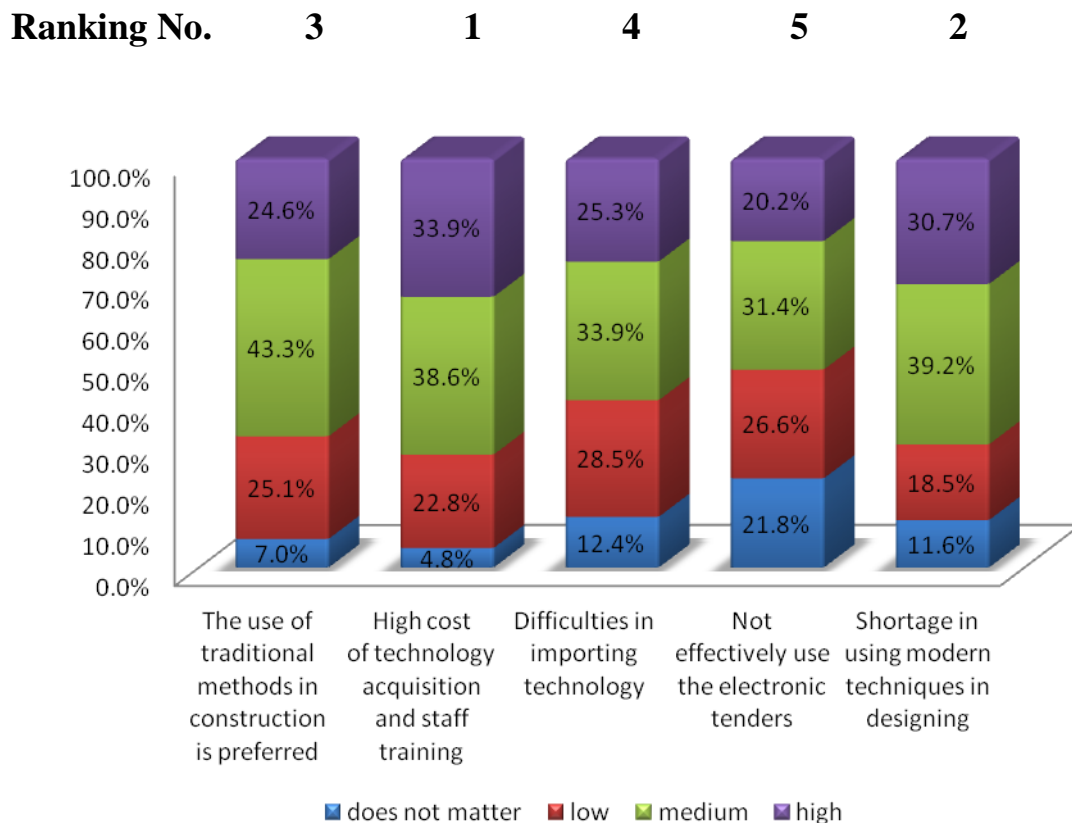


**Figure (4.16) :** Problems related to the arbitrations and disputes settlement analysis.

This problems' category mean equal 3.09 which means that it's of medium importance. Results show that problem number (5), “Time length of the judicial courts procedures”, is the most important problem among the problems related to the arbitrations and disputes settlement.

**4.4.10 Problems related to the technology use analysis.**

Follows Figure (4.17) showing all the problems related to the technology use, represented in a bar diagram allocating the importance distributions for responses and their percentages.



**Figure (4.17) :** Problems related to the technology use analysis.

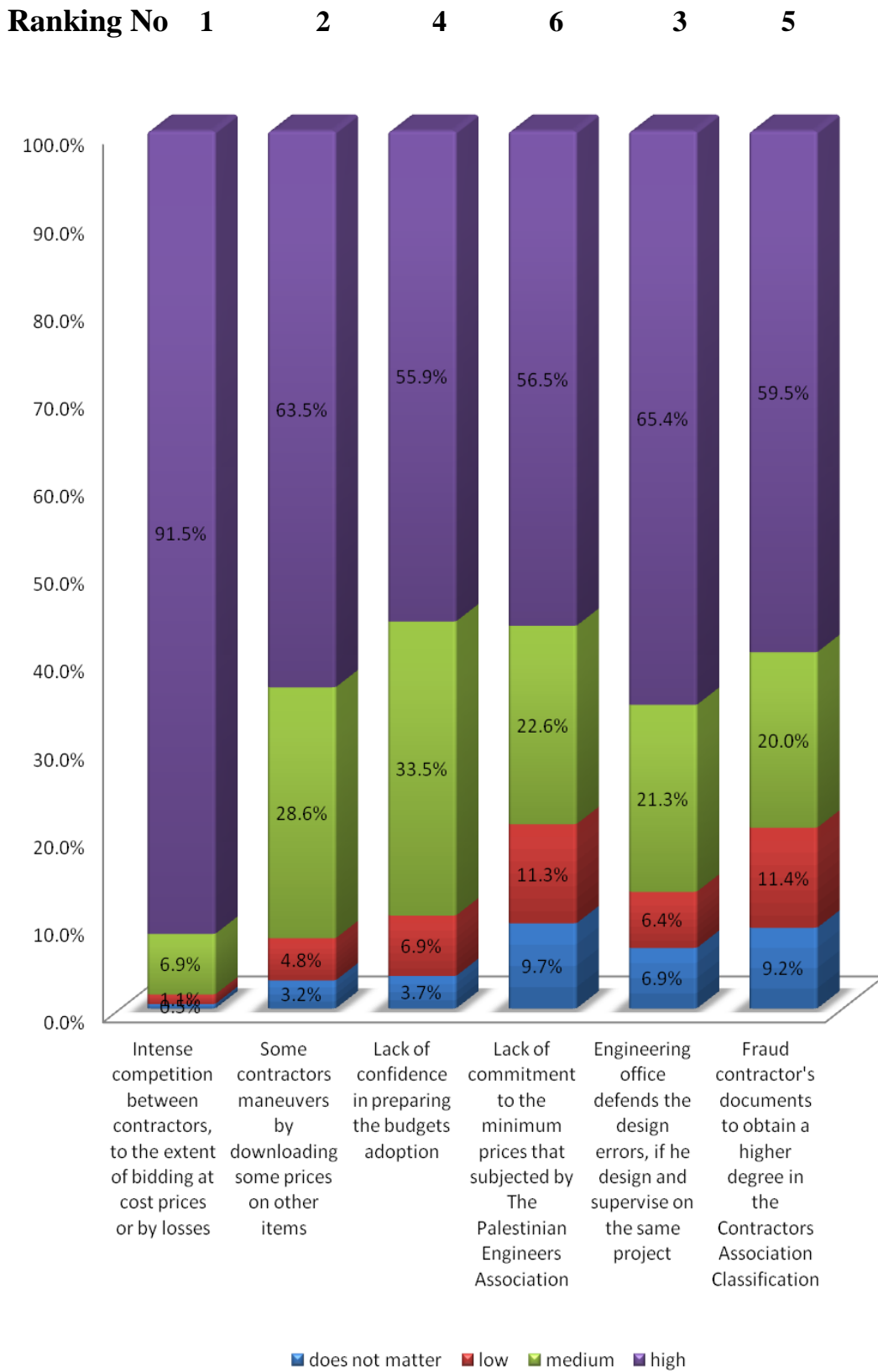
The mean of Problems related to the technology use is 2.80 which means that it's of medium importance. Results show that problem number (2), "High cost of technology acquisition and staff training", is the most important problem among others problems related to the technology use. This result is consistent with (Osaily, 2010), who indications that "technology will be another barrier due to the high cost to attain technology for large numbers of employees".

#### **4.4.11 Problems related to the career ethics analysis.**

The problems related to the career ethics are represented in a bar diagram as shown in Figure (4.18), where importance distributions of responses, their percentages and ranking are allocated.

Using the 4-point Likert scale, the resulted mean of Problems related to the career ethics equal 3.47 which means that it's of high importance. Results show that problem number (1), "Intense competition between contractors, to the extent of bidding at cost prices or by losses", is the most important problem among the problems related to the career ethics.

Interviews with a number of contract parties in the studied sample indicates that, this intense competition between contractors featured due to the low number of tendered projects, therefore competition will increase up normally in order to survive on the contracting sector.



**Figure (4.18) :** Problems related to the career ethics analysis.

Another high rated importance problem in this category which is number (2), “Some contractors maneuvers by downloading some prices on other items”. Many reasons drives contractors to do this such as, seeking high cash liquidity at the beginning of the contract, so contractor raises items prices that carried out firstly. Or, due to his previous knowledge; he expect that some items quantities will increase from what it is destined for, thus he increases the items' prices which expected to be affected.

#### **4.4.12 Main problems categories ranking**

From the previous analysis, the arithmetic means of the main problems were calculated, their degree of importance were allocated, and then these problems were ranked according to their importance from the higher rated importance that has the rank number (1) to the lowest rated importance that has the rank number (11). Results are as shown in Table (4.1)

Through checking Table (4.1), it is clear that “the problems related to the career ethics”, have the greatest importance among the other main problems. Interviews with a number of contract parties in the studied sample indicates that this mainly referred to the absence of the censorship and the competent authorities from organizing the construction contracting profession and obligating its regulating laws. Also, it refers to the poor communication between the contract parties which leads to conflicts between parties and misunderstand satisfying the contract documents' requirements. Thus, this result illustrates the importance of caring about

raising awareness among the contract parties to create an ethical work climate in all related organizations.

Also this result confirmed by the results of a conducted study included in (Levy, 2007) to gauge the contract parties concerns about ethics in the construction industry. It showed that “there is plenty of blame to go around, indicating the need to maintain and enforce ethical business practices by owner, architect, and contractor alike”.

**Table (4.1): The degree of importance of the main problems.**

<b>Rank No.</b>	<b>The main problems category Number</b>	<b>The importance</b>	<b>Mean</b>
1	<b>Eleventh: Problems related to the career ethics</b>	High	3.47
2	<b>Fifth: Administrative problems</b>	High	3.43
3	<b>Second: Problems related to the tender documents (contracts, drawings)</b>	High	3.33
4	<b>Fourth: Political problems</b>	High	3.27
5	<b>Seventh: Problems related to the environment of the construction sector</b>	Medium	3.24
6	<b>Sixth: Problems related to the contract parties</b>	Medium	3.19
7	<b>First: Financial problems</b>	Medium	3.11
8	<b>Ninth: Problems related to the arbitrations and disputes settlement</b>	Medium	3.09
9	<b>Third: Problems related to specifications and materials adaptation (Quality)</b>	Medium	2.93
10	<b>Tenth : Problems related to the technology use</b>	Medium	2.80
11	<b>Eighth: Problems related to the natural environment</b>	Low	2.27



The second greatest importance main problems' category was “the administrative problems”. Interviews with a number of contract parties in the studied sample indicate this may be referred to the weakness of the administrative system and the poor organizational structures that controls most of our contracting companies. Also, this may refer to the companies' unfixed administrative staff mainly in the contractors' companies who change's their staffs after getting classification.

Peculiarly, results show that “the financial problems” had been ranked as the seventh problems' category according to its importance, while during our pre-questionnaire interviews almost all interviewers were complaining about the bad financial situation that they are suffering from, but the results of this research found that the financial problem is not a real problem as all parties complains, there are too many more important real problems that we must deal with and solve. On the other hand, this result may be attributed to the whole dominating bad economical situation in Palestine, which push contractors to work even without earning, just to work and remain in the labor market. Also, these problems are considered instantaneous problems, where the contractors will have their dues at the end.

#### **4.5 The general questions analysis and discussion**

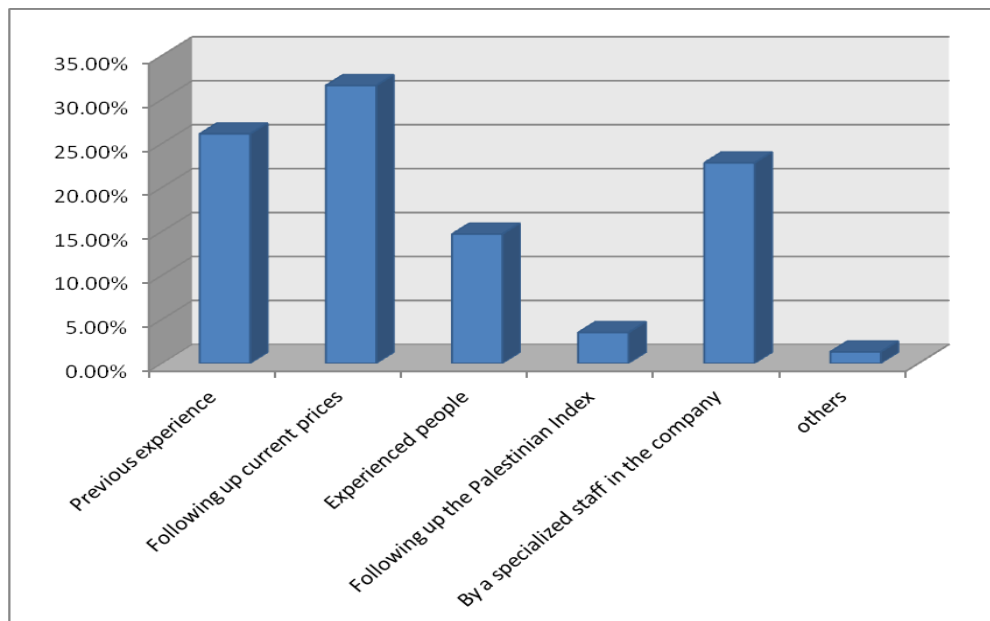
In this section, third part of the questionnaire, “General Questions”, will be analyzed. This part includes some questions that can be applied by choosing more than one answer. Therefore, the total sum of the percentages

of the different choices for the one question will be more than 100%. For facilitating the analysis and comparison, the total percentage had been modified by the SPSS program to be at the base of 100%. Calculation tables are attached in Appendix (G).

#### 4.5.1 The tenders' pricing methods followed during the tendering stage

The followed methods in tenders' pricing and their using percentages are presented in Figure (4.19).

Respondents can enumerate the different methods that they followed in estimating the project's items prices when tendering. Therefore, the total sum of the percentages of the different methods will be more than 100%. The total percentage had been modified by SPSS program to be at the base of 100% for facilitating comparison between these different methods.

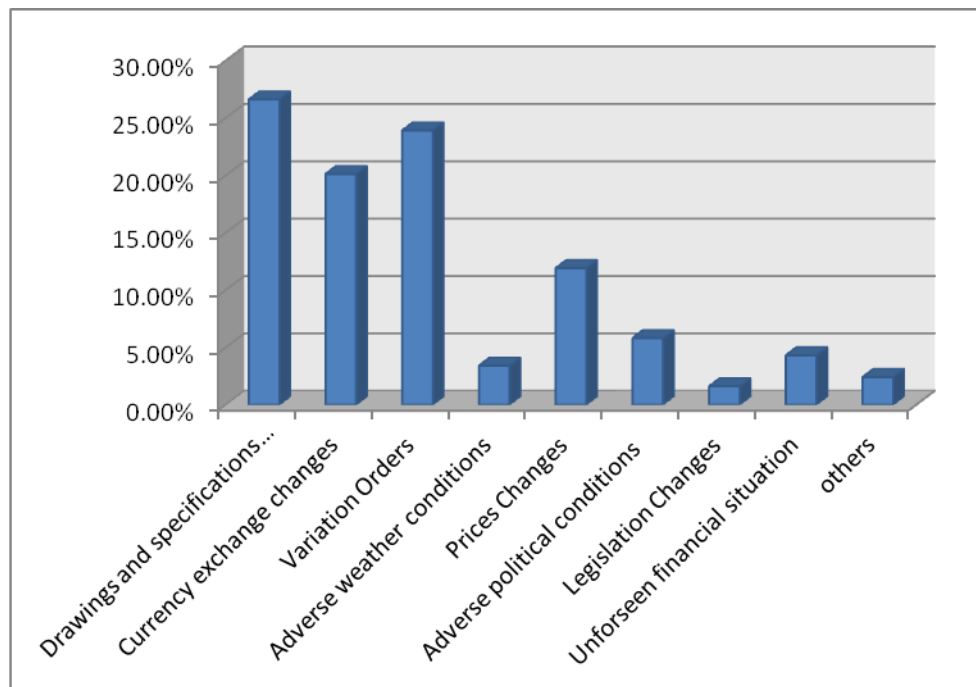


**Figure (4.19):** The tenders' pricing methods followed during the tendering stage.

It can be seen from Figure (4.19), that most of the sample subjects (31.6%) agreed that they are following up current prices in tenders' pricing during the tendering stage, 26.1% of the sample subjects agreed that they use their previous experiences in pricing. 3.2% of them mentioned other used methods, such as: utilizing from at hand materials agents, following up prices in the local and international market, following up increases and decreases in the currency exchanging values, making price breakdown for each item and tender appropriateness for the company specialization and its experiences gives it preference in costing.

#### 4.5.2 The most causes of claims and disputes

Figure (4.20) representing the most causes of claims and disputes and their responses voters percentages.



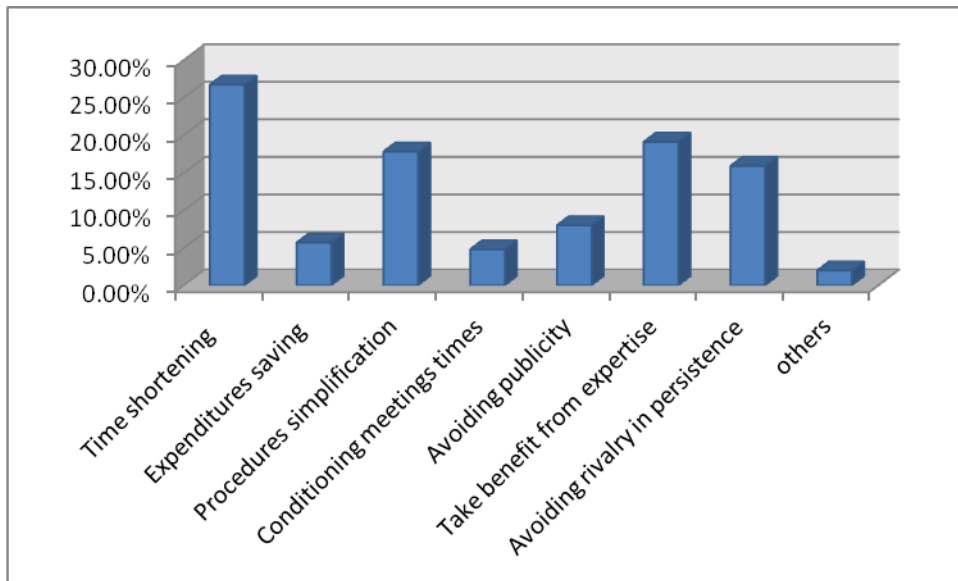
**Figure (4.20):** The most causes of claims and disputes.

As shown in Figure (4.20) most of sample subjects (26.6%) agreed that the most causes of claims and disputes are “drawings and specifications modifications”, 23.9% of them agreed that the most causes of claims and disputes are “variation orders”. 2.4% of them mentioned others causes, such as: delaying owed payments and owner deceleration in decision making especially in adopting samples of materials and equipments that should be imported from abroad.

Interviews with a number of contract parties in the studied sample refereed the reason why the most causes of claims and disputes are “drawings and specifications modifications”, that in most cases tenders' drawings particularly the plan levels are not well studied when tendering, that leads to BOQ modifications and thus quantities and prices' changes which mainly causes disputes between parties on the agreement of considering these changes. This occurred mainly in the electromechanical drawings and specifications that needs precise designing and specifications, modifications in these systems causes tremendous increasing in the project cost.

#### **4.5.3 The benefits of arbitration**

The arbitration most important advantages and their importance percentages are shown in the following figure.



**Figure (4.21) :** The benefits of arbitration.

Figure (4.21) shows that most of the sample subjects (26.7%) agreed that the most important benefit of arbitration is “time shortening”, 19.1% of them agreed that “taking benefits from expertise” is the most important one, 5.1% of them mentioned others important benefits, such as: placing solutions for disputes without referring to the courts.

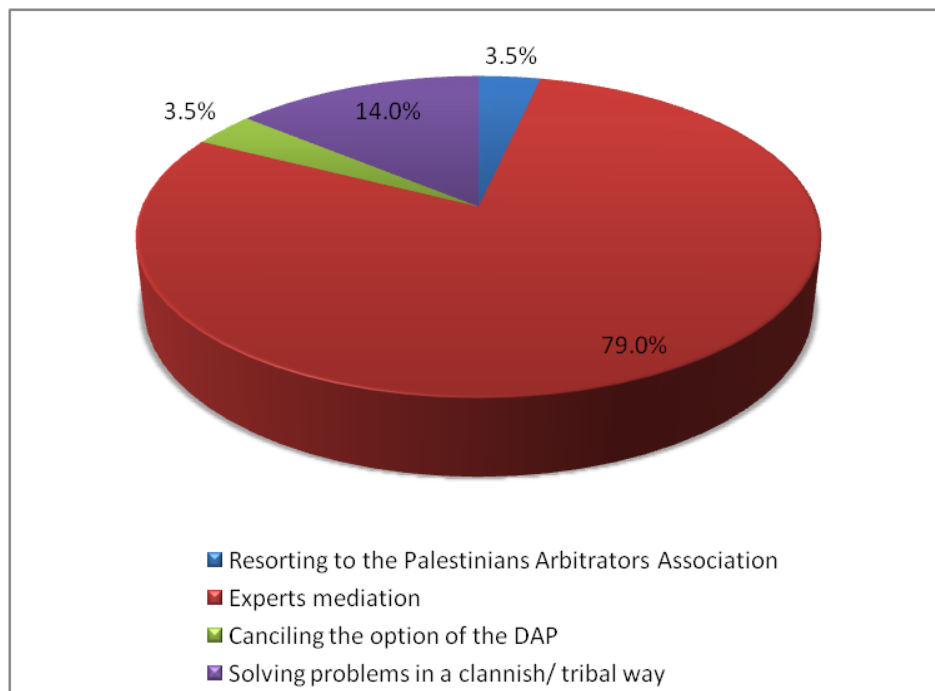
The benefits of arbitration can be ranked from the highest to the lowest importance as follows: time shortening, take the benefit from expertise, procedures simplification, avoiding rivalry in persistence, avoiding publicity, expenditure saving and then conditioning meetings times.

#### **4.5.4 Appointing the Dispute Adjudication Board (DAB) members.**

According to the questionnaire responses, 67.4% of the sample subjects never get agreed on appointing the Dispute Adjudication Board (DAB)

members in the early stages of the project, and just 32.6% of them get agreed on appointing the (DAB) members.

If contract parties did not agreed on choosing the (DAB), then they may resort to the Palestinian Arbitrators Association, asking for experts' mediation, canceling the option of putting (DAB) members or resorting to solve problems in a clannish/ tribal way. Follows Figure (4.22) shows how sample respondents treat this matter



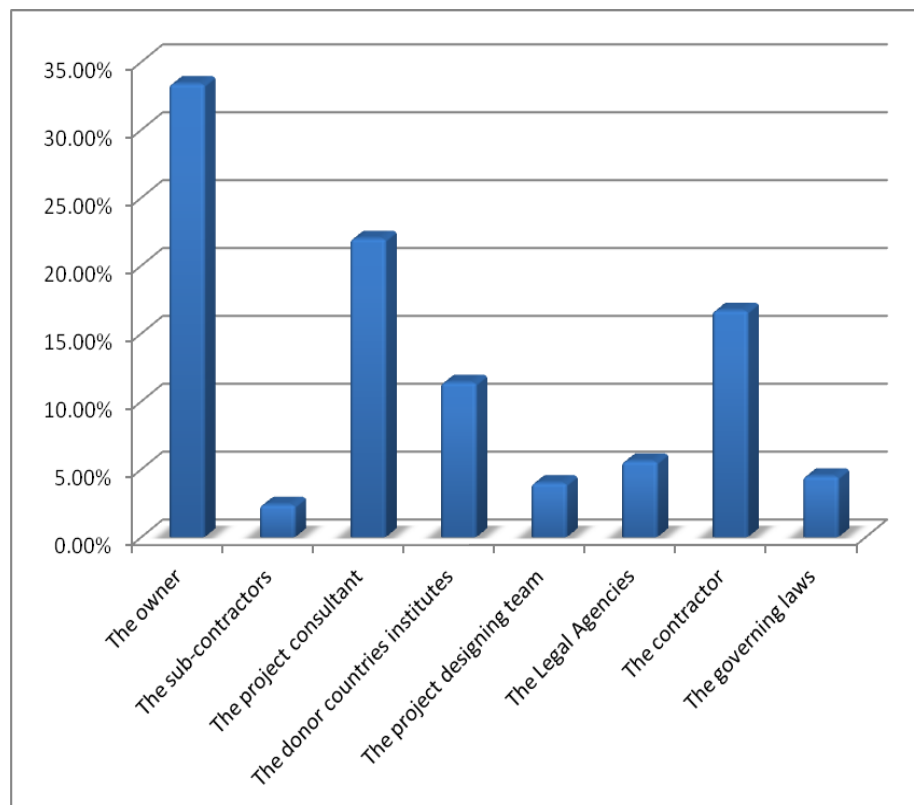
**Figure (4.22):** Treating the matter of not getting agreed on appointing the (DAB) members.

In accordance with Figure (4.22), it can be seen that most of the sample subjects (78.9%) agreed that they will ask for experts' mediation and 14% of them says' that they will resort to solve problems in a clannish/ tribal way. This result indicates the absence of the Palestinian Arbitrators Association role in solving such problems and other construction sector

related problems, which may be referred to the inactivating and obligating of its role as the only legal side in solving any sector related disputes and disagreement, also due to the lack of awareness among the contract parties about its role.

#### 4.5.5 The greatest influential on the construction projects performance

Figure (4.23) shows the persons who have influence on the performance of the construction projects associated with their associated voting percentages.



**Figure (4.23) :** Who has the greatest influence on the construction project performance.

According to Figure (4.23), 33.4% of the sample subjects agreed that “The project owner” is the one who has the greatest influence on the construction

project performance, 22% of them agreed that “the project consultant” is the one who having the greatest influence.

Interviews with a number of contract parties in the studied sample refer that to the owner's financial capacity and decision making dominance. Where, project owner can affect the project performance mainly by paying dues' on time, adopting material, making variation and change orders. In addition to, selecting the other contract parties including consultants and contractors. Thus, it could be concluded that project's owner has the major influence on the project performance, who had to take care in managing the project and making decisions.

#### **4.5.6 Project Work Plan and its role in solving problems**

In this section, respondents' views about the project Work Plan are investigated. They define the “Work Plan” as: a flexible plan (can be modified), developed by the contractor after studying the project and before starting project execution which provides a clear idea about the project and organize the work. It serves as a "how to work" plan, specifying the required work activities and staff. This plan also includes schedule, cash flow, materials, shop drawings and submittals before work commences.

Questionnaire results showing that there is lack of commitment and obligation by the contractor to develop such plan i.e. Work Plan from the beginning of handing the project and working according it in the performance stage. Some respondents justify their development of such



plan was only due to the tender requirements however, it is not updated throughout the project life cycle. Others referring that most of the plans are placed and updated in projects that are funded by foreign countries due to its clear and organized work procedure.

Work Plan is essential in regulating the project progress and dealing with changes if any contingency event occurs during execution. Its role in regulating works performance and solving problems has been summarized from the responses point of views as follows:

1. Contributes in managing the project through identifying work activities, their sequences, priorities, making sure that there are no conflicts among these activities and specifying the project critical path (CP) to determine critical activities affecting the project performance and developing a time schedule to complete the project on time.
2. Its main role in anticipating problems that may exist before their occurrence, thus solutions for any problems or faults with the concerned party are developed before their occurrence in the early project stages to get a satisfactory resolution.
3. Ensuring the presence of a reference and legitimacy for executing the project within the given period without incur to many obstacles, and thus enhancing rapid execution of the project, minimize time delays if happens.

4. In case of contractor failure in following up the work plan it requires him to update his plan without exceeding the actual project duration.
5. Helps in finding out any delays in activities and working on resolving them either by increasing of working forces or increasing working hours.
6. Working progress according to such plan reduces future disputes and clashes causes.
7. Enhancing project owner and consultant in monitoring work progress.
8. Gives a clear picture about the contractor performance and his responsiveness with the supervision team.
9. Considered as part of the tender documents and a reference in case of dispute occurrence and resolving.
10. Saving financial, administrative efforts and time.
11. Enhance project earnings and avoid losses.
12. Leads to a planned work proficiency and improves quality.

According to the respondents' views there are many reasons for delays, slowdown or lack of commitment to the work plan in the contracting projects in Palestine, including the following:

1. Contractor financial capacity weakness due to the owner's lack of commitment in paying his due payments on time.
2. Contractor weakness in terms of commitment in time and project stages.
3. Its application difficulties due to parties lack of commitment or due to the occupation obstacles.
4. The leniency in imposing penalties in case of not preparing and updating project Work Plan.

And here, due to the Work Plan important role in managing and regulating the work performance, dealing with contingencies, resolving disputes and solving problems, its developing and updating should be obligated in all construction projects.

#### **4.5.7 The Unified Palestinian Contract**

In this section the Unified Palestinian Contract is going to be investigated. It was unexpected that many respondents did not have any idea about the Unified Contract, announcing that they have no idea or declaring that they did not read it.

Unexpectedly, responders' opinions on the Unified Contract were widely varied between excellent, comprehensive, equitable, inequitable, unfair, obligatory and non obligatory contract. This wide diversity in views mainly

referred to the significant weakness of the contract parties majority in finding out and understanding the Unified Contract and its application.

Respondents who found the Unified Contract excellent and comprehensive conditioned that in case of activating its application. However, unfortunately it does not have a mandatory application in the current time. Respondents considered that its generation and application is an important step in the contracting work development and making it easier for institutions to draft the contractors' contracts, in addition to its contribution in solving many problems in case of all relevant parties' commitment in its terms and adopting it as a reference in works execution. Also, the unified contract is seen by some respondents equitable in most cases, preserves contractors rights and to some extent serving contractor interests. Whereas, some respondents claim that donor institutions and the Ministry of Finance is not committed by applying the unified contract in its projects, replacing it by the conditions of the signed contract between them and the contractors.

On the other hand, respondents who find the Unified Contract inequitable and unfair commentate that they found it unbalancing between owner and contractor rights, it is unfair in some cases of contractor rights, making him the weakest link through which the owner can blackmail him and there are some items categories oppressive contractors and need to be modified.

While, some respondents who believe that the Unified Contract needs to be modified, updated, improve and revised to suit our working conditions, some significant gaps need to have clarifications and statements.

Some respondents give reasons for the current limitation or prevention of the Unified Contract application and compliance:

- The contract parties unfamiliarity with what the Unified Contract stipulates.
- The general country laws need to be regulated by the legislative authorities, so as to make control and influence for the PCU on the sector.
- The adverse political conditions and its effects on the projects performance and laws obligations.
- Owed payments are not on a regular base, so the included adjustments for the currency prices and the imposed fines laws cannot be effectively applied.

Consequently, it can be concluded from the previous results the importance of raising the contract parties awareness by The Unified Palestinian Contract. This can be achieved by conducting related training courses and publications. Also, the Unified Contract application must be obligated in all Palestinian contacting companies and construction projects.

## **4.6 Bi-variate analysis**

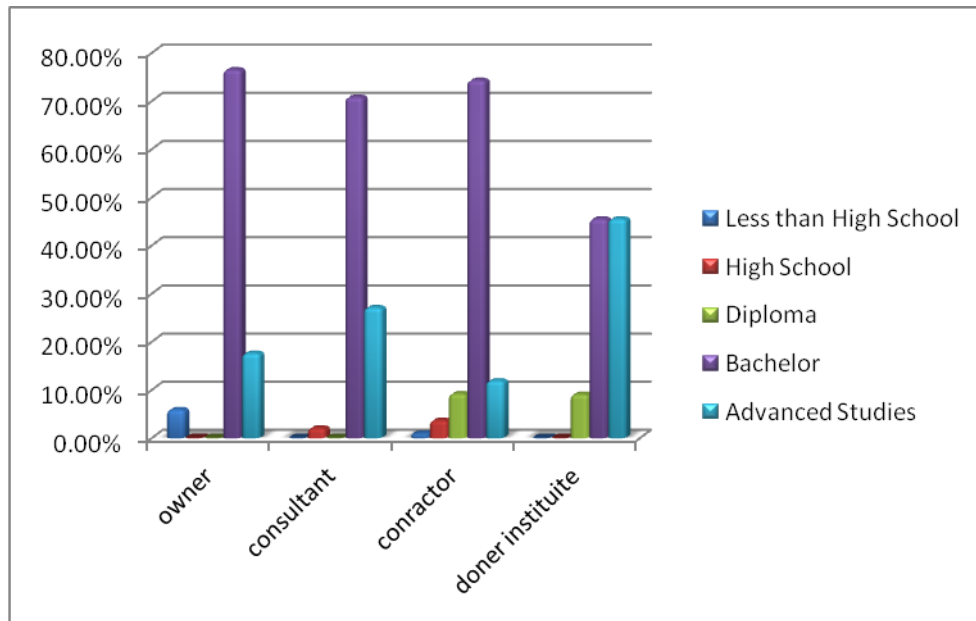
In this part of analysis, main questionnaire analysis will be linked together for getting some useful relationships among variables. Bi-variate means linking two questionnaire variables together, to study the effect of the one variable on the others. Many Bi-variate analyses had been conducted, according to questionnaire variables, to investigate some useful results. Some distinctive results obtained from the Bivariate analysis will be addressed as follows:

### **4.6.1 Bivariate analysis of the work type.**

In this section, we choose to study the variable of "work type", to study and distinguish between the different contract parties opinions in the questionnaire contents. Responses will be analyzed according to their work type, i.e. whether they are project owners, consultants, contractors or donor countries representatives. Many related relations were conducted, but only the ones who have distinctive relations will be included.

#### **Work type Vs. Respondent education level**

The following Figure (4.24) shows the respondents' education level of the different work types.



**Figure (4.24)** : Work type Vs. Respondent education level.

According to Figure (4.24) it can be concluded that most of the sample subjects (owners, consultants, contractors, & donor institutions) their highest qualification is Bachelor degree. This means that the contract community is well educated. It is worth noting that most of the contractors are highly educated, who have a Bachelor or postgraduate certificates, this result is consistent with (Osaily, 2010) thesis result who found that “most of the Palestinian contractors are highly educated. And who justified, that Palestinians are well known for their persistence, hard work and ambition and this may clarify the fact that most of the Palestinian contractors are highly educated”, however this result is inconsistent with the other contract parties complaining about contractors ignorance and lack of education. Interviews with a number of contract parties in the studied sample justifies this result, that most of current contractors educate their sons and employ

them in their companies, so the result was the high education of contractors, but companies still managed by the old mentality of the uneducated parents.

### **Work type Vs. The number of the company's constant workers**

The following Table (4.2) shows the number of the company's constant workers in the different work type companies.

**Table (4.2) : Work type Vs. The number of the company's constant workers.**

		<b>The number of the company's constant workers</b>			
		<b>Mean</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Stakeholder</b>	Owner	196	470.46	4	1500
	Consultant	11	9.77	2	45
	Contractor	15	16.00	3	120
	Donor Institution	224	372.70	9	1200

Interviews with a number of contract parties in the studied sample commentate that: the above obtained values mainly the contractors and consultants number of company's constant workers seems to be exaggerated. That there is no contracting company in the West Bank contains 120 constant worker, some of them may also suppose the inconstant workers, such as the site workers. On the other hand, some



consultants may exaggerate when filling the questionnaire, there is no consulting company in the West Bank contains 45 constant worker.

**Work type Vs. The cost of the company's executed projects through the past five years.**

Following Table (4.3) shows the cost of the company's executed projects through the past five years in the different work type companies.

**Table (4.3) : Work type Vs. The cost of the company's executed projects through the past five years.**

		The cost of the company's executed projects through the past five years			
		Mean	Standard Deviation	Minimum	Maximum
Stakeholder	Owner	6013000	6099628	30000	15000000
	Consultant	10337500	13308132	30000	50000000
	Contractor	14951179	24337771	5000	160000000
	Donor Institution	121666667	118357509	13000000	400000000

Interviews with a number of contract parties in the studied sample commentate that: the above obtained values mainly the contractors cost of executed projects through the past five years seems to be exaggerated. That there is no contracting company in the West Bank constructed projects during the past five years with a total cost of 160 million, this may be due to some contractors' exaggerating when filling the questionnaire. Whereas,

the mean price of the contractors' executed projects about 14 million seems to somewhat realistic.

### **Work type Vs. The construction contracting problems**

This section clarifies relation between the “work type” and some construction contracting problems that have significant differences in views according to the respondent work type. The following table showing the different views of the different work types in the different construction contracting main categories problems.

**Table (4.4) : Work type Vs. Construction contracting problems.**

<b>Problems category</b>	<b>Work type/ Importance</b>			
	<b>Owner</b>	<b>Consultant</b>	<b>Contractor</b>	<b>Donor</b>
<b>Problems related to the tender documents (contracts, drawings)</b>	High	Medium	High	Medium
<b>Political problems</b>	High	Medium	High	High
<b>Problems related to the contract parties</b>	High	Medium	Medium	High
<b>Problems related to the environment of the construction sector</b>	Medium	Medium	High	Medium
<b>Problems related to the natural environment</b>	Low	Low	Low	Medium

From Table (4.4) it is clear that the owner and contractor are highly affected by “the problems related to the tender documents (contracts, drawings)”. Interviews with a number of contract parties in the studied sample indicate that the presence of problems in the contract documents causes both parties financial losses. On the other hand, some consultants gain their salaries regularly regardless any emerged of these problems, also donor is a benefactor side not affected by any of those problems.

Also, it could be noticed that the consultant is lower affected by “the political problems” from other parties. That may be interpreted by the consultant limited site visiting and meeting, so political problems including closures and imports limitations will not affect him a lot.

It can be found that owner and donor institutions affected higher than the other parties by “the problems related to the contract parties”. That is because owner and donor institutions like to perform the project without troubles, clashes or claims. On the other hand, many contractors take these problems and claims to achieve his desires to get less work approval and get extra payments. Unlikely the consultant considers himself as a free-party causes these problems do not affect his salary.

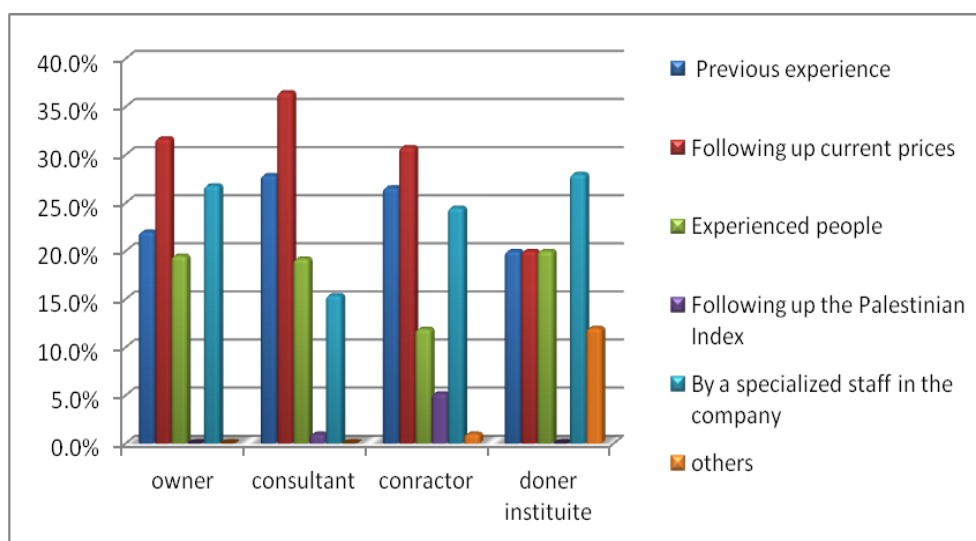
Also, results show that the contractor is highly affected by “Problems related to the environment of the construction sector”. This is because the contractor work is the major affected due to these problems, that bad sector

environments deprives him from work opportunities and affects his owed payments especially in the projects that are financed by the government.

Table (4.4) also shows that the Donor Institutions are the highest contact parties affected by “the problems related to the natural environment”. Contract parties in the studied sample indicate that the Donor Institution representative works linked with budget adoption regularly, a fixed budget has to be paid in a specific time, any delays due to those problems requires a new revised budget.

### **Work type Vs The tenders' pricing methods followed during the tendering stage**

The different methods followed in estimating the project's items prices when tendering are presenting in Figure (4.25) according to the different work types.

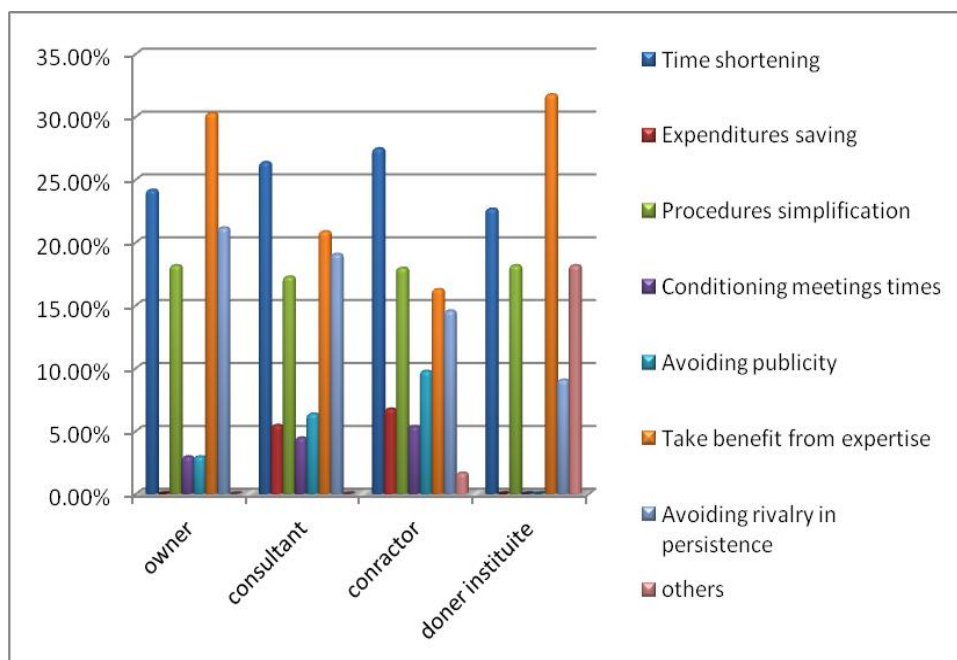


**Figure (4.25) :** Work type Vs The tenders' pricing methods followed during the tendering stage

Figure (4.25) shows that owner, consultant and contractor respondents mostly followed methods in estimating the prices are: following up current prices and due to their previous experience. On the other hand, donor institutions mostly having a specialized staff responsible for estimating projects' prices. Interviews with a number of contract parties in the studied sample show that this result is because the donor institutions mostly have a clear system and staff classification.

### Work type Vs. Benefits of arbitration

The following Figure (4.26) shows the arbitration most important benefits from different points of views of work types.



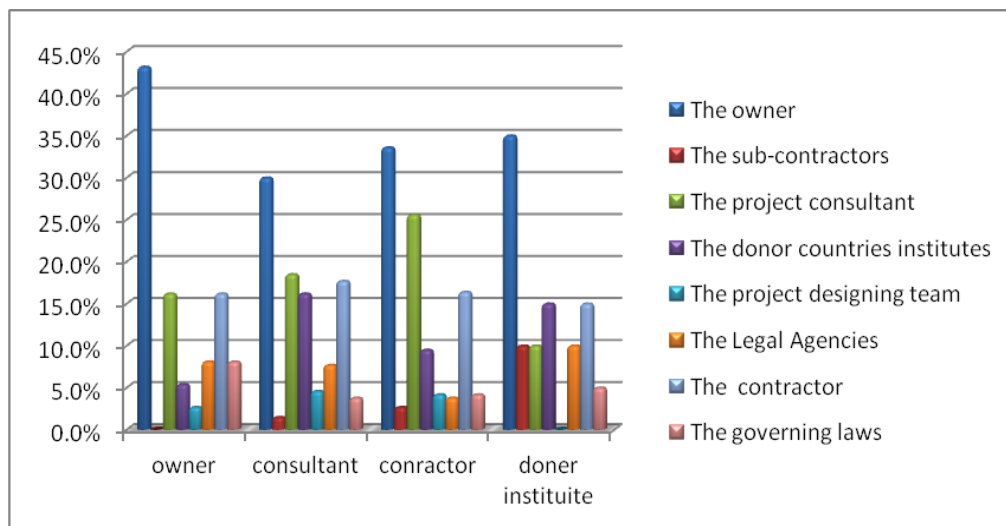
**Figure (4.26) :** Work type Vs. Arbitration most important benefits.

From Figure (4.26), it could be concluded that owner and donor institutions most important arbitration advantage is taking benefit from expertise.

Interviews with a number of contract parties in the studied sample indicate that: donor institution can be considered as a permanent owner for the project, where owners interested in performing the project efficiently, so they can benefit from the expertise. On the other hand, both consultants and contractors mainly vote for time shortening because they want to finish the project as soon as possible and receive their dues.

### **Work type Vs. The greatest influential on the construction projects performance.**

The different work type opinions for whom they think having the greatest influence on the construction projects' performance are shown in Figure (4.27).



**Figure (4.27) :** Work type Vs. The one who has greatest influence on the construction projects performance.

According to the analysis presented in Figure (4.27), it was found that most contract parties agreed that the owner is the greatest influential on the

construction projects' performance due to his financial authority on the project.

#### **4.6.2 Bivariate analysis for the contractors responses**

In this section, the sub-variable “The contractor” was chosen from the variables of “Work type”, to study and concentrate on some contractors' related matters. Many related relations were conducted, but only one distinctive relation worth noticing and explaining, that is:

##### **The contractors Vs. Company year of establishment.**

The contractor's company different years of establishment categories are shown in Table (4.5).

**Table (4.5): Contractors Vs. Company's year of establishment.**

		Company year of establishment					
		Before 1994		1994-2008		After 2008	
		Count	Row N %	Count	Row N %	Count	Row N %
Type of Work	Contractor	20	18.5%	83	76.9%	5	4.6%

According to Table (4.5), it is clear that most of the contracting companies in the sample (76.9%) were established between 1994 and 2008, 20% of them were established before 1994, and only 4.6% of them were established after 2008. This table results match with the results of the previous Figure (4.5): "Company year of establishment", this means that

the contractors sample corresponds to the whole contracting parties situation.

#### **4.6.3 Bivariate analysis according to the company location in the West Bank**

It is clarified in this section if the problems' importance vary among the different locations and cities in the West Bank. Thus, many relations were conducted linked to the variable “Company location in the West Bank”, follows the distinctive relations that were obtained:

##### **Company location in the West Bank Vs. The construction contracting problems:**

In this section, the relation between the company location in the West Bank and some construction contracting problems that have significant differences in importance according to the respondent location was studied.

The contract parties opinions about the “political problems”, “problems related to the contract parties” and “the problems related to the environment of the construction sector” in the different locations and cities in the West Bank are shown in Table (4.6).



**Table (4.6): Company location Vs. Construction contracting problems.**

<b>Problems category</b>	<b>Company location/ Importance</b>		
	<b>Southern</b>	<b>Middle</b>	<b>Northern</b>
<b>Political problems</b>	High	Medium	High
<b>Problems related to the contract parties</b>	High	Medium	High
<b>Problems related to the environment of the construction sector</b>	High	Medium	High

From viewing Table (4.6), it could be found that the middle region of the West Bank have been lower affected by the political problems, problems related to the contract parties and to the construction sector environment. Interviews with a number of contract parties in the studied sample referred this result, that the West Bank's middle specially Ramallah city, considered as the capital of the PNA, therefore projects and works are concentrated their, and thus many organized companies have been established and succeed in Ramallah, and manpower is attracted to work in from other cities. On the other hand, the West Bank northern and southern areas have been exposed to more Israeli closures and barriers than the middle, which affect negatively on their construction companies' performance.

## **4.7 Analysis of the highest disparity, the highest and lowest importance problems**

### **4.7.1 Problems that have the highest disparity in responses**

Problems that have the highest standard deviations have the highest disparity in responses and views. A distribution for the sample with respect to the problems that have the highest standard deviations was prepared in order to analyze these problems, and to know the disparities reasons in considering the importance ratings of these problems.

**Distribution of the sample with respect to the problems that have the highest standard deviations.**

The following table shows the problems that have the highest standard deviations, their arithmetic means and standard deviations.

**Table (4.7): Problems that have the highest standard deviations.**

<b>Problem</b>	<b>mean</b>	<b>Standard deviation</b>
1. Not using the Palestinian Index in tenders pricing	2.82	1.09
2. The implementation of the Unified Palestinian Contract unobligated legally	3.13	1.05
3. Barriers against foreign investment, importing labors and materials	2.95	1.11
4. Non-activation of the Palestinian Arbitration Law and Chambers	3.04	1.06
5. Not effectively use the electronic tenders	2.51	1.05

**Bivariate analysis: Work type Vs. Problems that have the highest standard deviation.**

In this section, the relation between the “work type” and “the problems that have the highest standard deviations” will be studied, so as to examine the differences in views according to the respondent work type that causes the highest disparity in responses.

**A. Work type Vs. Not using the Palestinian Index in pricing**

The following figure shows the different views of work types about the importance of the problem “Not using the Palestinian Index in pricing” and their percentages.

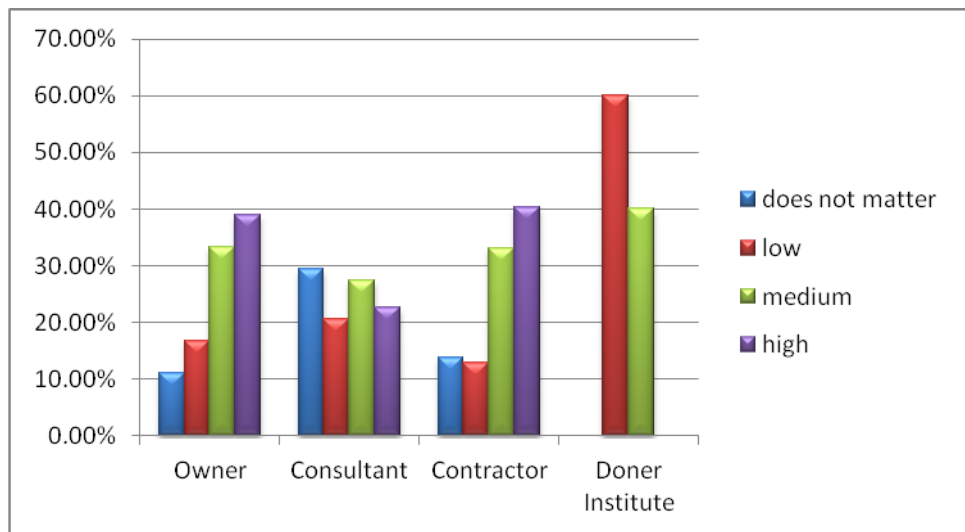


Figure (4.28): Work type Vs. Not using the Palestinian Index in pricing.

**B. Work type Vs. The implementation of the Unified Palestinian Contract unobligated legally**

Figure (4.29) represents the different views of work types about the importance of the problem “The implementation of the Unified Palestinian Contract unobligated legally” and their percentages.

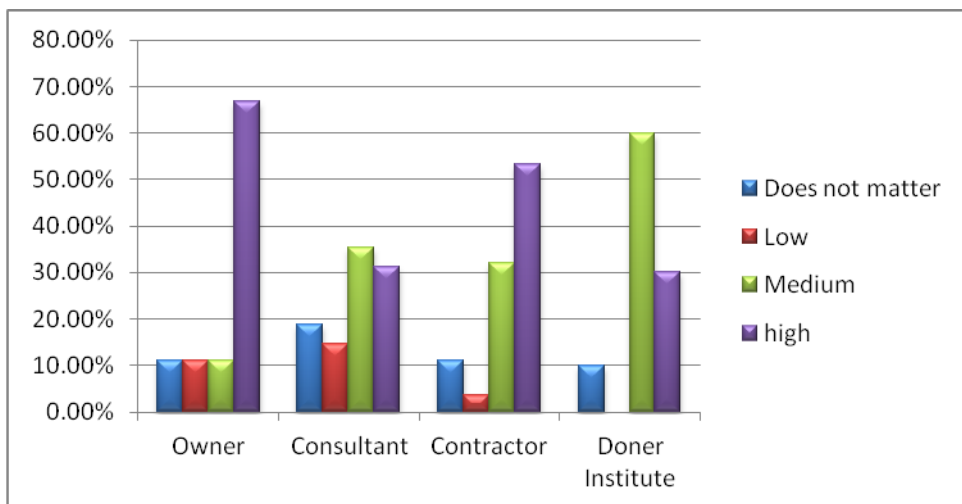
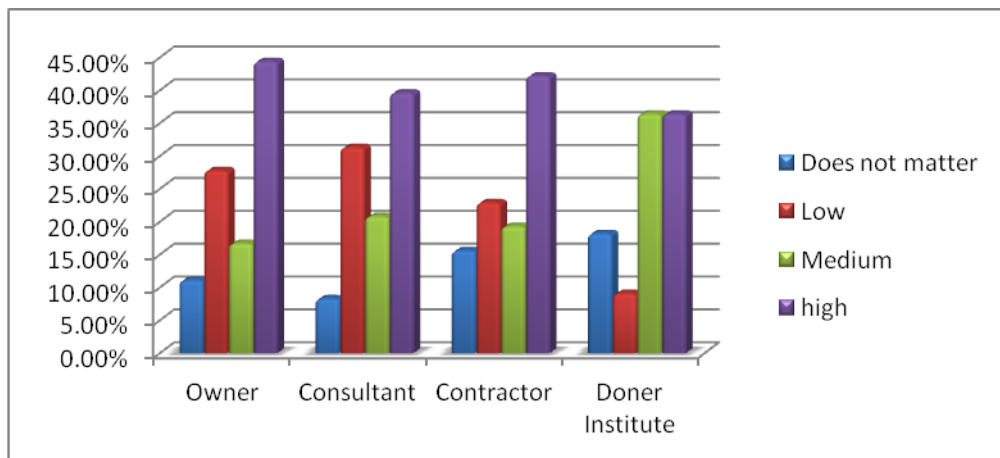


Figure (4.29): Work type Vs. The implementation of the Unified Palestinian Contract unobligated legally.

### C. Work type Vs. Barriers against foreign investment, importing labours and materials

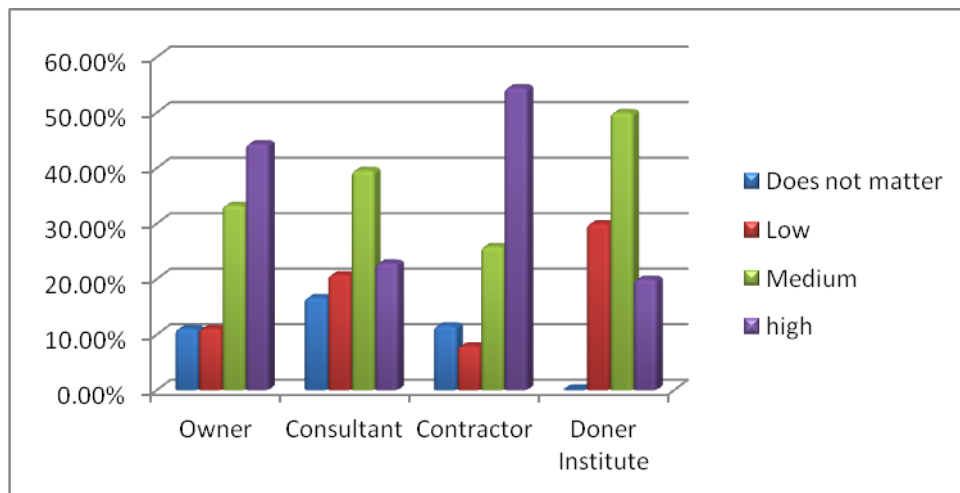
The different views of work types about the importance of the problem “Barriers against foreign investment, importing labours and materials” and their percentages are presented in Figure (4.30).



**Figure (4.30):** Work type Vs. Barriers against foreign investment, importing labours and materials.

### D. Work type Vs. Non-activation of the Palestinian Arbitration Law and Chambers

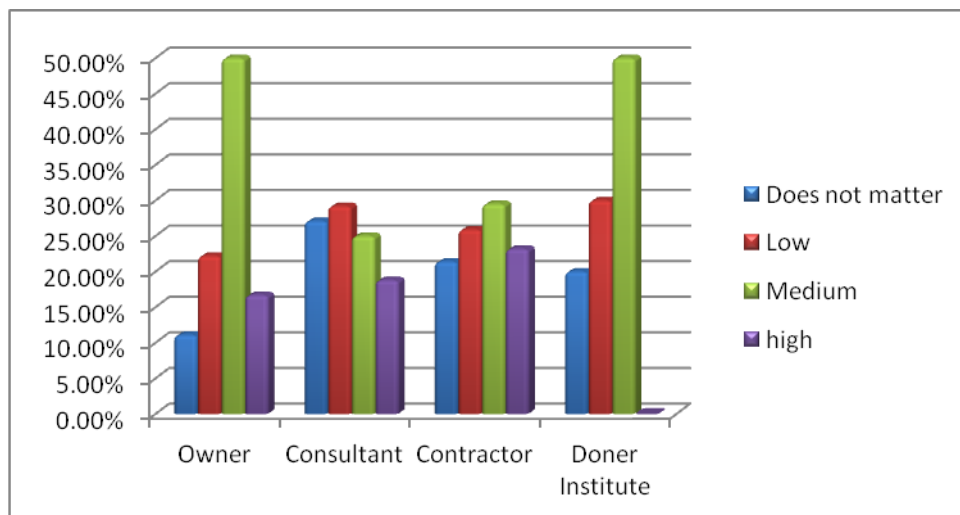
The different views of work types about the importance of the problem “Non-activation of the Palestinian Arbitration Law and Chambers” and their percentages are shown in the following figure.



**Figure (4.31):** Work type Vs. Non-activation of the Palestinian Arbitration Law and Chambers.

### E. Work type Vs. Not effectively use the electronic tenders

The following figure shows the different views of work types about the importance of the problem “Not effectively use the electronic tenders” and their percentages.



**Figure (4.32):** Work type Vs. Not effectively use the electronic tenders.

It can be obviously seen from Figures (4.28), (4.29), (4.30), (4.31) and (4.32), the wide variation among the different respondents working types in

rating the importance of the different previous problems. Interviews with a number of contract parties in the studied sample explains that, this wide diversity in responses indicates contract parties lack of awareness of some main construction contracting terminologies i.e. the Palestinian Index, the Unified Palestinian Contract, the Palestinian Arbitration Law and Chambers and the electronic tender.

Hence, the importance of raising contract parties' awareness by these important terminologies have been manifested, as well as by training courses and publications.

#### **4.7.2 Problems that have the highest importance.**

Problems that have the highest arithmetic statistical mean have the highest rated importance degree. A ranking has been made for the top ten rated problems as shown in Table (4.8).

The followed problems' statements are considered the main problems that the Palestinian construction contracting sector suffers from. Thus, solutions will be proposed for solving or avoiding the occurrence of such problems will be presented in details in the next chapter.

**Table (4.8): Problems that have the highest importance.**

<b>Rank No.</b>	<b>Problem</b>	<b>The Importance</b>	<b>mean</b>
1	Intense competition between contractors, to the extent of bidding at cost prices or by losses	High	3.89
2	Policy adoption of awarding the tender to the lowest evaluated bidder not to the most accurate	High	3.81
3	Owners' payments delay	High	3.76
4	Currency exchange rate fluctuation	High	3.60
5	Owner deceleration in decision making	High	3.58
6	The number of available contractors is high compared with the size of tendered projects	High	3.58
7	Fluctuation of construction materials prices due to inflation	High	3.56
8	Current economic situation deterioration	High	3.54
9	Some contractors maneuvers by downloading some prices on other items	High	3.52
10	Conflicts between tender documents	High	3.46

**4.7.3 Problems that have the lowest importance.**

The distribution of the sample with respect to the problems that have the lowest importance is given in Table (4.9).



**Table (4.9): Problems that have the lowest importance.**

<b>Problem</b>	<b>The Importance</b>	<b>mean</b>
Adverse weather conditions	Does not matter	2.21
The high level of noise	Does not matter	2.04

The previous statements have been chosen by the help of the 4- points Likert scale. Statements which have the lowest average among other problems are specified and located as the lowest importance problems.

#### **4.8 Summary**

The research main findings were as follows:

- ❖ Seventy three problems were considered in this research and were grouped in eleven main groups; namely :financial, political, administrative problems, and problems related to the tender documents (contracts, drawings), specifications and materials adaptation (Quality), Contract parties, environment of the construction sector, natural environment, arbitrations and disputes' settlement, technology use and career ethics.
- ❖ The Palestinian contract community is well educated.
- ❖ The need of reconsidering the current contractors' classification procedures to be more precise and appropriate. Following chapter

includes some proposed procedure to improve and enhance the current PCU classification procedure.

- ❖ The problems related to the career ethics is the highest importance main problems' category. Procedures to ensure ethical work climate will be proposed in the next chapter.
- ❖ The contract parties lack of awareness of some main construction contracting terminologies. Next chapter will include some proposed procedures for raising their awareness in such terminologies.
- ❖ The middle region of the West Bank represented by Ramallah city is the least affected among other regions by the political problems, the Problems related to the environment of the construction sector and the contract parties.
- ❖ The top ten highest important problems that the Palestinian construction contracting sector suffers from. Wherever, solutions should be proposed for solving or avoiding these main problems. Such solutions will be presented in the next chapter.

## **Chapter Five**

### **Construction contracting sector problems and obstacles proposed solutions**

#### **5.1 Introduction**

From the previous chapter, it was found that many significant and important problems and obstacles require effective actions to be avoided and solved, so as to enhance the performance of this effective construction contracting sector. On the other hand, many neighbouring Arab countries witnessed a renaissance in the construction sector. Thus, it is important to study the situation of some countries which have significant performance in their contracting sector, searching for some important highlights to be adopted in our sector, which can be useful in solving or avoiding our sector main and most important problems and trying to improve this sector performance.

In this regard, two neighbouring Arab countries were studied; namely, Kingdom of Saudi Arabia and Hashemite Kingdom of Jordan. KSA construction sector “the largest and most growing construction contracting market in the Middle East” (UK Trade & Investment, 2010) was studied by reviewing the Saudi construction sector related regulations, documents and contracts. However, it was found that its construction sector's practice regimes, regulations and circumstances are to some extent far away from our Palestinian situation. Thus, the Jordanian construction sector was

chosen to be studied due to its nearby and somewhat its circumstances similar to the Palestinian one. The JCCA (Jordanian Construction Contractors Association) main office was visited at Amman – Jordan, and a meeting with the Secretary-General was held, who provides all the JCCA related regulations, laws, procedures and documentations. Whereby, enriching the comparison and the proposed solutions for the current Palestinian problems.

Thus, in this chapter proposed problems solutions and obstacles avoiding procedures, passed on the performed comparison will be presented. Then, a solution listing and a framework will be performed to represent and summarize the conducted proposals.

## **5.2 Proposed solutions for the top ten rated construction contracting problems**

The resulted top ten most important problems were compared with the related situation in the other Arab countries. Set of proposed solutions were conducted, trying to solve such related problems. The top ten most important problems associated with the related conducted solutions are discussed below.

### **5.2.1 Intense competition between contractors, to the extent of bidding at cost prices or by losses**

In this regard, there must be a complete and accurate study for prices by the owner representative, determining properly the tender price before tendering and awarding the tender to the nearest price of the real estimated one. So as, not to affect adversely companies which extremely turned away in their pricing. Where, referring to contractors bidding with losses, leading to their inability in executing projects properly and safely, inability in paying their obligations to subcontractors and suppliers, projects' execution delays and/or projects withdrawal, which negatively impacting the owner side.

Also, for solving this problem a legislation should be enacted that obligate tenders opening committees rejecting any tender offer reduced by more than 25% from the estimations, just like the stipulated legislation in the Saudi Arabia executive regulation of the competition system and the government procurement (Royal Decree, 1427h.).

In addition, such problem can be avoided by tender awarding using cost plus contracts as the prevailing contracts type in KSA.

### **5.2.2 Policy adoption of awarding the tender to the lowest evaluated bidder not to the most accurate.**

For overcoming this problem, offers examination commissions should be instructed to comply with bid referring to the best evaluated offers that having the most appropriate prices. Taking into account the bidder ability to confirm the required quality degree, execute the project within the specified period, and perform the required work according to the conditions and specifications. All that similar to what instructed in the Jordanian Contractors Classification Instructions (The Governmental Works System, 1986).

Also, tenders' commissions are recommended to condition receiving of all tenders' offers during bidding in two envelopes; technical proposal envelope and BOQ envelope, so as to assure offers technically responding first, then those best technical's offers can be competed according to their offered prices. Adopting the application of this procedure will assure awarding the lowest price and technically the best. Where, the technical proposal contains projects' related technical aspects including: time schedule, safety plan, cash flow, method of statement, similar projects, concerned institutions and the bidder company C.V.

Furthermore, tenders' commissions may conditioned prequalification of contractors, for assessing the suitability of contractors on a basis of factors such as: firm's experience, equipments' availability, financial and

managerial ability, reputation and work history. So as to develop a list of qualified bidders before inviting them to bid

On the other hand, offers examination commission has to make sure of price moderation of "the lowest price offer" which corresponding to the conditions and specifications. In addition, the commission must be guided by the latest prices used in former deals, market prices and the competition guiding estimated prices, as stipulated in (Sub-clause Thirty-fourth-A) (Royal Decree, 1427h.).

### **5.2.3 Owners' payments delay**

In order to reduce this problem bad effects on the contractor, there should be compliance by the competent authorities with imposing fines on project owners (employers) if any due payment had been delayed. As set out in the Unified Palestinian Contract, which defines the allowed payments' periods for each case and the financial charges entitled to the contractor in case of delaying his owed payment, as detailed in the two sub-clauses 14.7 & 14.8 of the Unified Palestinian Contract (MPWH, 2006). It should be noted that these regulating clauses are almost identical to those in KSA and Jordan according to (FIDIC, 1999) & (MPWH, 2010).

In this regard, intensive following-up from the PCU is required to pay its members' dues, and it should be on the top of its priorities due to its negative impact on many parties and aspects including; contractors, projects' execution on time, the construction process and the national

development. PCU may also call the Prime Minister and the Ministry of Finance to work on including in the 2012 budget Annex and the country general budget for 2013, sufficient fund provisions to pay the contractors accumulated dues, as performed by the JCCA in paying its members' dues (JCCA council, 2012).

Here, it can be said that project's owner is the main responsible for this problem and hence, projects' owners are recommended not to tender any project before ensuring its required budget. On the other hand, a legislation must be passed to insure the contractor financial solvency with a specified value, so as not to be adversely affected by the owner payments delays, analogous to the stipulated legislation in the Jordanian Construction Contractors Licensing Instructions which implies that "The licensed applicant must attach what proves his financial solvency with a value not less than 10000 JD" or by one many listed booster. Noteworthy the following ones:-

- "Banking balance on behalf of one of the partners (3 months before applying license application)
- Banking deposit on behalf of one of the partners conditioned and tied for three months and only can be lifted with a letter from the department" (Construction Contractors Law, 2008).



#### **5.2.4 Currency exchange rate fluctuation**

In this regard, we recommend obligating fixing and identifying currency convert rate for all project at the tender bid opening date, where it is not identified in some tendered projects specially the foreign funded ones. Just like Article (9) setting out in the Bidders Instructions of the Jordanian Unified Contract (MPWH, 2010), which provides: “The bidder has to provide his prices in Jordanian Dinars, unless otherwise provided in the tender invitation conditions. If there were other payment currencies provided in the tender offer form, then those currencies and their convert rates must be identified at the Opining Date”.

Also, it is recommended to obligate compensations due to currency exchange rate fluctuation, and not to participate in tenders which do not identify fixed currency convert rate or compensate for losses due to currency changes.

#### **5.2.5 Owner deceleration in decision making**

If the owner declares in his decision making, then the contractor should claim about this matter to ensure his rights and gains his owed compensations by law, as mentioned in sub-clause 20.1 of the Unified Palestinian Contract (MPWH, 2006), as follows:

“20.1 Contractors claims

Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as maybe proposed by the Contractor and approved by the Engineer, the Contractor shall send to the Engineer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim,
- (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require” (MPWH, 2006).

It should be noted that this regulating sub-clause is the same regulating and obligating one in KSA and Jordan according to (FIDIC, 1999), (MPWH, 2010).

### **5.2.6 The number of available contractors is high compared with the size of tendered projects**

In this regard, PCU should intensify its efforts for solving this problem by calling the Prime Minister and the Ministry of Finance to work on including in the 2012 budget Annex and the country general budget for 2013, sufficient fund provisions to launch adequate capitalist projects in the construction sector. This action is similar to what was done by the

JCCA council trying to solve this analogous related problem (JCCA council, 2012).

### **5.2.7 Fluctuation of construction materials prices due to inflation**

Whereas some projects' owner do not comply with compensating contractors due to prices fluctuation, then the application of sub-clause 13.8 “Adjustments for changes in cost” of the Unified Palestinian Contract should be activated and obligated, and the “table of adjustment data” should be attached with the “Appendix to Tender” for applying this sub-clause provisions, which includes equations for calculating the overall compensation dues for contractor resulting from prices changing according to this sub-clause provisions. As well as/or the “Adjustments for changes in cost” statement should be stipulated in the project “Additional Special Condition” to pay attention to the special conditions of each project. Although, this sub-clause 13.8 is cancelled from the second part of the Unified Palestinian Contract; The Special Conditions and Forms, it is obliged in KSA and Jordan according to (FIDIC, 1999), (MPWH, 2010).

Moreover, to avoid such problem PCU is recommended to develop Prices Monitoring and Documenting Department similar to the existing one established in the JCCA (JCCA council, 2012). Which is responsible for dealing with materials changing prices, publishing the main materials prices updates on the PCU website, answering contractors' inquiries related to materials price amendment calculations and methods of calculation.

Also, following up the National Price Index and utilizing from it in tenders costing and anticipating main changing prices would be useful in avoiding the occurrence of such problem.

### **5.2.8 Current economic situation deterioration**

On this issue, PCU has to intensify its efforts trying to limit the negative effects of the global financial crises and the bad economic situation due to occupation and debts, and searching for solutions to provide opportunities and new working areas for the sector.

Stimulating the JCCA actions in its attempts to overcome the current negative economic effects on the construction sector as mentioned in the JCCA Report for the years (2010-2012) (JCCA council, 2012). Thus, it is recommended the competent authorities and the PCU to conduct researches which develop solutions for the different issues of the construction sector. PNA should provide the concerned authorities with their recommendations and proposals to upgrade this sector, while government has to study these researches and put them into action.

The government is required to deal with this sector as a real and a fundamental partner in decision making, planning, plans implementation and enacting the sector governing legislations. In addition, the government is required to increase the capital investment in new projects that open job opportunities for contractors and at the same time enhance the national development (JCCA council, 2012).

### **5.2.9 Some contractors maneuvers by downloading some prices on other items**

In this case, if the bidder had priced an item in a wrong or exaggerated way, then the concerned tenders commission have to take an action of the following:

1. "Offer rejection.
2. Price adjustment within the contractor knowledge, making use of the market and other bidders' prices, provided that the total offer value after modification remains equal or less than the value of the offer after the audit"

Similar actions are listed in Bidders Instructions "Part I: Bidders Instructions –G" of the Jordanian Unified Contract (MPWH, 2010).

Here, contractors should take into their consideration not relying on this method; it is an undesirable consequence adventure. Contractor is recommended to conduct scientific and accurate study of tender documents when bidding, also taking into account applying the principle of offer responding to the requirements contained in the contract documentation.

### **5.2.10 Conflicts between tender documents**

According to this matter, the Palestinian Unified Contract specifies in sub-clause 1.5 the Priority of Contract Documents:

“The several documents forming the Contract are to be taken mutually explanatory of one another, but in the purpose of contract explanation the priority of the documents forming the Contract shall be as follows:

- (1) The Contract Agreement (if completed);
  - (2) The Letter of Acceptance;
  - (3) The Tender;
  - (4) The Special Conditions
  - (5) The General Conditions
  - (6) The Specifications
  - (7) The Drawings
  - (8) The Tables; and any other document forming part of the Contract"
- (MPWH, 2006).

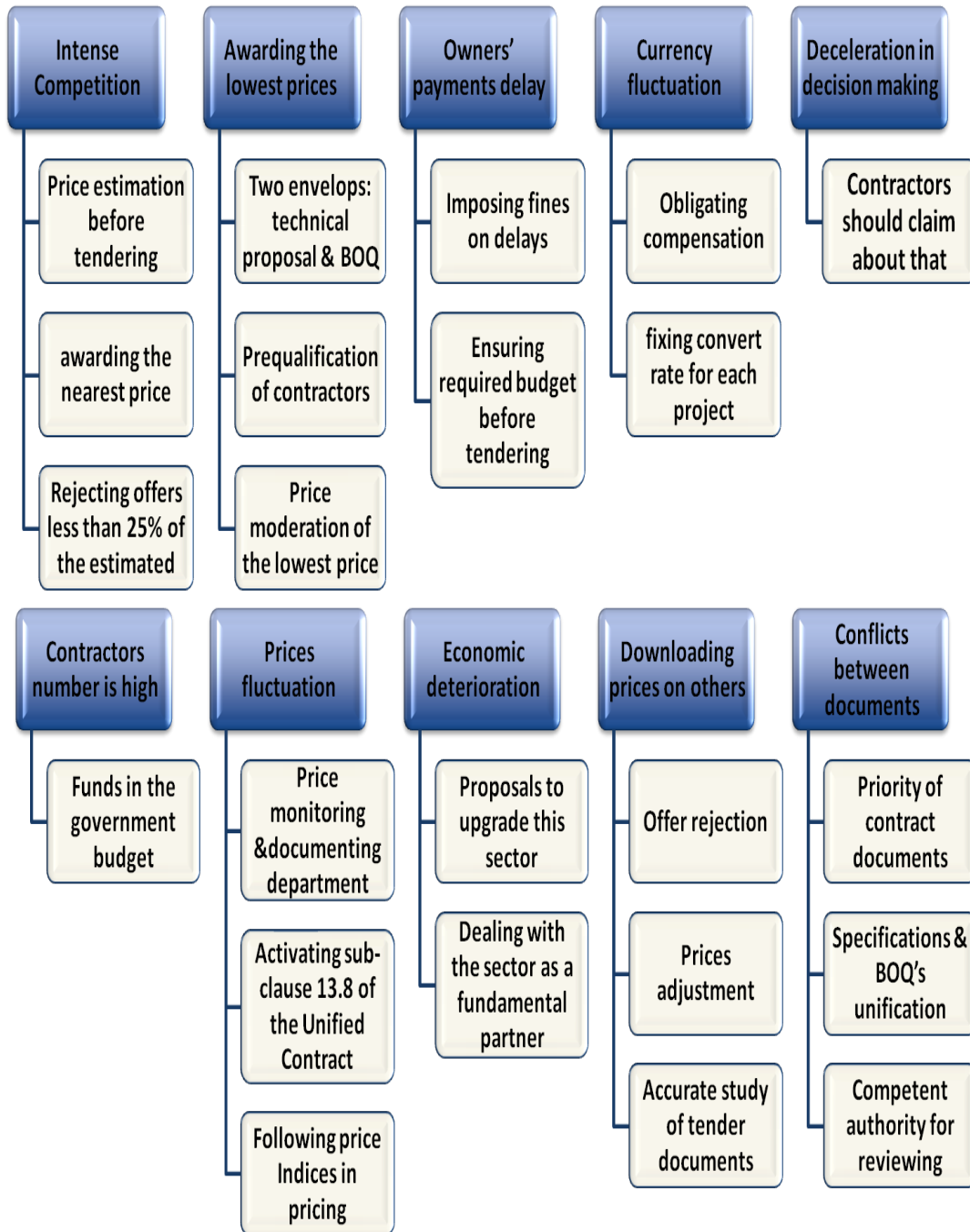
Thus, contractor is responsible for studying tender documents accurately before tendering and inquiring about any included conflicts among them.

In addition, the presence of competent authority for drawings and specifications for reviewing and checking before tendering will assist in solving such problem. Thus, it is recommended the Palestinian Engineering Association in cooperation with the PCU to carry this responsibility of reviewing and checking the engineering offices drawings and other related documents before tendering. This step will also assist in preventing many associated problems that may appear during the project execution period.

Also, there is a necessity of preparing special studies describing items and reckon methods of buildings, roads and electromechanical fields, general BOQ, measurement methods and technical specification. That is because standardizing the tender documents structure and contents will help in regulating and facilitating its preparation and reducing conflicts appearance among them. Thus, it is recommended the Palestinian Engineering Association in cooperation with the PCU, the Palestinian Standers Institution and other researchers to work on preparing these studies, then circulating them on the engineering offices in order to adopt and obligate their applications. This is comparable to the JCCA achievements as mentioned in its report for the years (2010-2012) (JCCA council, 2012).

### **5.3 Solutions listing**

Figure (5.1) shows a conducted listing of solutions representing the Top Ten highest rated important construction contracting sector problems in Palestine and their proposed solutions.



**Figure (5.1):** Listing of solutions for the main construction contracting sector problems.



## **5.4 Proposed procedures to avoid the Palestinian construction sector obstacles**

In this section, some proposed procedures for the Palestinian construction contracting sector obstacles avoidance will be presented, according to the research findings in the previous chapter.

### **5.4.1 Enhancing the PCU contractor's classification mechanism**

Previous analysis showed that a great portion of the Palestinian contractors is classified in the first class in the PCU, which seems to be illogical and inconvenient portion to the Palestinian current projects levels and construction situation. Results indicate the need of reviewing and enhancing the PCU contractors' classification procedures, classifying according to more precise and appropriate conditions, and taking into account contractors' real qualifications, experiences and previous projects performances. Thus, consisting with the PCU objectives (as mentioned previously) of organizing the contracting profession and developing the national construction sector.

In this regard, the classification mechanisms and procedures that followed in KSA and Jordan were reviewed, for highlighting some important interesting points that can be utilized to improve and enhance the current classification procedure in Palestine. And thus, PCU is recommended to adopt the following proposed procedures:

- ❖ Contractor's main office visiting, checking and assuring their adherence to the conditions and potentials that they were classified upon, as followed by the Saudi contractors' classification procedures (Contractors Classification Agency, 1393h), which aim to check the matching of the financial, technical and administrative information that was introduced by the contractor, with the contractor's records. The evaluation should include the following criteria:
  - Accounting procedures and regimes
  - Financial reports.
  - Cash monitoring
  - Authorities, responsibilities definition and internal monitoring
  - Accounting and managerial staff evaluation.
- ❖ Site visiting and inspection, as followed by the Saudi contractors' classification procedures (Contractors Classification Agency, 1393h), for evaluating contractor performance of an under construction project in order to obtain a true impression about his capability and efficiency. The site inspection report should include the following criteria: Organization, Work progress evaluation and Performance.
- ❖ Reconnaissance of project owner opinion, as followed by the Saudi contractors' classification procedures (Contractors Classification Agency, 1393h), to assure the accuracy of the projects' data submitted

by the contractor. Also, to represent the owner view according to the work quality, contract items compliance, organization, effectiveness, contractor collaboration, work progress and contractor's capabilities in implementing the required work in the agreed period. Attached in Appendix (H) the used application for project owner opinion recognizing in KSA.

- ❖ PCU may require contracting company founder to be an engineer or a partner with an engineer. This may help in solving many of the contracting sector problems. Such action is followed by the Jordanian Construction Contractors Licensing Instructions which listed the adopted qualifications for the founder partner for the licensing purposes, deducing from them what follows:
  - “Founder partner must have a portion not less than 30% of the company's capital or 100 thousand dollars, whichever is lower.
  - Partner should be an engineer; a full-time engineer registered in the Jordanian Engineers Association and at least having two years experience for one partner.
  - If the partner was a campaign of Engineering Diploma after high school, then it is conditioned that his practical experience must not be less than 10 years in his specialized field after graduation” (Construction Contractors Law, 2008).

- ❖ It may be required from contractors when submitting the technical documents for classification, to submit all of his constructed and under construction projects contracts, with revenues and expenditures details, for checking and recording similar to what conditioned in KSA (Contractors Classification Agency, 1393h).
- ❖ Imposing penalties in case of contractor defaults, violation, introducing false certifications or documents for classification request, by performing a technical committee responsible for complaints consideration and proven about contractors. In case of defaults proven, then competent authorities and upon the committee recommendations may take one of the following set procedures, similar to what set in the Jordanian Governmental Works System (The Governmental Works System, 2007).
  - Not referring any tender on the contracting company or institution until after the completion of the defaulting project or lifting default's causes.
  - Contractor deprivation for a specific period from participation in government tenders that have been advertised within the deprivation period in case of contractor being reported to more than one complaint from the project owner in any tender or for the same tender, also if the project site was entered by its owner.
  - Lessening the company or institution classification category.

- Classification reconsideration if the contractor did not practice contracting work for more than two years without justifiable reasons.
- Contractor classification cancelling in case of withdrawing more than one project during five years after withdrawing his first project.
- Deleting the contractor classification from the classification records and forwarding him to the Public Prosecutor, if it was proven that the contractor introduced false certifications.

#### **5.4.2 Raising contract parties awareness to ensure ethical work climate**

Research analysis investigates the importance of raising awareness among the contract parties to ensure ethical and less hassle work climates. This can be gained by:

- ❖ Giving special training courses and workshops for contract parties, focusing on Code of Business Ethics, how to use this code at work and how to ensure ethical cultural with others. Also, clarifying the contract parties complementary relationship and its importance for success of the project and the whole construction sector, and its role in resolving the current associated problems.
- ❖ Contractors must take ethics compliance seriously

- ❖ For assuring ethical work climate, we recommend imposing punitive actions, penalties and fines in case of any contract parties' fraud, cheating or non-compliance with the profession ethics.
- ❖ Also, obligating the application of the regulating regimes and rules to regulate work climate, assuring parties' compliance and preventing career regimes transgressions.
- ❖ In addition, preventing projects designing office from supervising on the same designed project, so as to assure unbiased views for their designs, defending and trying to cover their designs defaults.

#### **5.4.3 Increasing awareness in some construction contracting terminologies**

Previous analysis manifested the importance of raising contract parties' awareness in some main construction contracting terminologies, this can be gained by adopting the application of the following procedures:

- ❖ Conducting training courses for the contract parties "mainly contractors, supervision teams and consultants" to increase their qualifications and knowledge in the different construction contracting management related matters.
- ❖ Issuing regular publication and professional journals and distributing them on contractor, engineers and consulting offices and institutes.

❖ Getting contracting classification certification should be conditioned by passing a capability exam for assuring contractor's qualifications. Such exam can be similar to the General Exam in Construction Capability that followed by the JCCA (GECC, 2011). The exam instruction may include the following:

- The exam covers the main themes related to the construction contracting such as: laws and legislations related to building and regulations in Palestine, the Palestinian Unified Contract, the PCU laws and instructions, the Palestinian Arbitration Law, Building codes, Building specifications, Projects management fundamentals.
- The exam requires an applicant answering a specified number of closed questions for each theme of the exam main themes.
- Exam questions to be electronically chosen without any human intervention, all questions to be included in the exam booklet that given to the applicant.
- The ability of re-examining for persons who did not pass from the first time, in exchange of paying fees and only for limited times.

Here, it is worth noting that increasing contract parties' awareness and knowledge of construction contracting terminology, will help in avoiding other sector related problems.

#### **5.4.4 Obligating Work Plan's developing and updating**

Results show that there is lack of commitment and obligation on contractors to develop and update the Work Plan from the beginning of handing the project. Regarding this problem, the following actions are proposed:

- ❖ Passing a law, obligating all contractors to develop Work Plan in all construction projects.
- ❖ The prepared schedules for all construction contracts must be updated according to their variables, developing strategies to avoid execution delays, overcoming implementation difficulties and obstacles that cause delays, developing plans and extra means to catch up with deadlines predestined on the schedule.
- ❖ Non leniency in imposing sanctions penalties if the Plan was undeveloped or not updated.

#### **5.4.5 Obligating construction sector regulating laws and regulations**

Previous analysis in the previous chapter showed that some constructing sector related regulations are not activated and obligated. For assuring regulating this sector and solving its problems, following actions should be considered:

- ❖ Activating the construction sector regulating laws and regulations, and obligating their applications in all Palestinian contracting companies and



construction projects, including: the Unified Palestinian Contract, Arbitration Law and Changers and Price Indices.

- ❖ Modifying, detailing and enacting some laws convenient and consistent with the current sector situation and encouraging investment in it.
- ❖ Strengthening the authority of the PCU and its mandatory. Activating its role in stopping some contractors transgressions; mainly in tenders prices and rates burnings.
- ❖ The general country laws need to be regulated by the legislative authorities.
- ❖ Activating the Arbitration Law legally and mandatory and not refereeing to clannish ways in solving contract parties' problems.
- ❖ Obligating currency and prices' changes compensating.

Here, according to all previous recommended actions, procedures and rules trying to enhance and improve the current status of the Palestinian construction contracting sector; it is proposed to formulate an urgent high council for this sector, especially during this period and these current conditions. This council should include representatives from this sector influencing and regulating parties, such as: the Palestinian Ministry of Public Works and Housing, Ministry of Finance, Standards Institution, Engineering Association, Contractors Union and other related institutions. That Formulated Council should be responsible for directing the

positioning of a comprehensive strategy for enhancing this sector performance, including adopting all related conducted researches and studies and conducting the required studies searching for effective solutions and procedures to be implemented.

## **5.5 Framework presentation**

In this section, a framework will be constructed for presenting and summarizing the previous recommended actions, procedures and enacting laws, for solving and avoiding the current situation problems and obstacles facing the Palestinian construction contracting sector. This framework is helpful for assisting contract parties in visualizing the current situation and how to solve or prevent it.

From all previous conducted proposals, the procedures for avoiding the construction contracting sector main obstacles and problems, can be summarized and categorized in the following six main categories:

1. Enacting and issuing some regulating laws and instructions for solving the current problems, and obligating the applications of the current governing and regulating laws and legislations.
2. Conducting researches and studies searching solutions for the construction sector different issues, describing items and reckon methods of buildings, roads and electromechanical fields, general BOQ, measurement methods and technical specification. Then

submitting these them to the competent authorities for adoption and circulation.

3. Ensuring ethical work climate, by imposing punitive actions, penalties and fines in case of any contract parties fraud, cheating or non-compliance with the profession ethics.
4. Reviewing and reconsidering the current PCU contractors' classification procedures. Classifying according to more precise and appropriate conditions, taking into account contractors' real qualifications, experiences and previous projects performances.
5. Increasing contract parties' awareness and according to some construction contracting terminologies and qualifications, by arranging training courses, specializing magazines and workshops.
6. Obligating developing the Work Plans it in all construction projects, update them according to variables, developing strategies to avoid execution delays, overcoming implementation difficulties and obstacles that cause delays.

For enhancing achieving the six previous procedures, the proposed urgent high council should be formulated as mentioned previously, for activating and enforcing the proposed procedures actions.

Figure (5.2) represents a conducted framework for the main proposed procedures that assist in avoiding the construction contracting sector obstacles in Palestine. These procedures are classified into six main categories.



**Figure (5.2):** Construction contracting sector obstacles avoidance procedures framework.

## 5.6 Summary

In this chapter, solutions and procedures were proposed aiming for solving and overcoming the current construction contracting sector obstacles, they were presented as follows:

- ❖ Proposing solutions for solving the ten top most important construction contracting sector problems.
- ❖ Some proposed procedures that should be put into action in order to avoid the existence of the current construction sector obstacles.
- ❖ Proposed solutions were presented in figures, summarizing all proposed solutions and procedures for the current sector status.

- ❖ Urgent high council should be formulated in the construction sector for getting this sector out of its crises and enhancing its performance.

Those proposed solutions and procedures will be translated into recommendations in the following chapter, for the different construction sector stakeholders aiming for assisting them in overcoming their current related obstacles.

## **Chapter Six**

### **Conclusions and recommendations**

#### **6.1 Introduction**

From all previous chapters, it can be concluded that the local construction sector facing many important problems and obstacles, which limit its economical achievement and ability. In addition, it would obstruct this sector from its pioneering role as influential and effective link in the local economy. Previous situation necessitates accelerating in limiting the expansion of this sector problems and obstacles.

Thus, through this chapter; research summary and conclusions will be reviewed, and recommendations will be presented to help in enhancing the Palestinian construction contracting sector performance and solving its remarkable problems. Also, some further studies will be proposed for completing and strengthen this work.

#### **6.2 Summary and conclusions**

The Palestinian construction sector is one of the key economic sectors and is the main force motivating the national economy. While it did not take its deserved developments due to many constraints and obstacles, which should be well studied to be solved and overcome.

Therefore, this research was conducted which aims to survey the construction contracting problems in Palestine from the different local

contract stakeholders' point of view, making comparison with other Arab countries and searching for solutions for the current contracting sector main problems. Thus, seventy three problems were collected and considered in this research and grouped into eleven main groups.

A questionnaire was conducted to evaluate the importance of the construction related problems, then the collected data were analyzed. The research main findings were as follows:

- ❖ The Palestinian contract community is well educated. As well as, most of the Palestinian contractors are highly educated, where (85%) of them carry Bachelor and postgraduate certificates.
- ❖ The need of reconsidering the current contractors' classification procedures to be more precise and appropriate.
- ❖ The problems related to the career ethics is the highest importance main problems' category.
- ❖ The financial problems group was ranked as the seventh top rated importance among other problems, while almost all interviewers were complaining about the bad financial situation that they are suffering from in this sector.
- ❖ The contract parties lack of awareness of some main construction contracting terminologies, which should be advanced.

- ❖ The middle region of the West Bank represented by Ramallah city is the least affected among other regions by the political problems, the Problems related to the environment of the construction sector and the contract parties.
- ❖ The top ten highest important problems that the Palestinian construction contracting sector suffers from are: intense competition between contractors to the extent of bidding at cost prices or by losses, policy adoption of awarding the tender to the lowest evaluated bidder not to the most accurate, owners' payments delay, currency exchange rate fluctuation, owner deceleration in decision making, the number of available contractors is high compared with the size of tendered projects, fluctuation of construction materials prices due to inflation, current economic situation deterioration, some contractors maneuvers by downloading some prices on other items and conflicts between tender documents.

Proposed solutions and procedures were conducted for solving and avoiding these main problems. A framework was presented, summarizing all conducted and proposed solutions for the current sector status, the framework was presented in six main categories, namely; Enacting and obligating regulating laws, Conducting more related researches and studies, Reconsidering the current PCU contractors' classification procedures, Increasing contract parties awareness, and Obligating projects Work Plans.



## **6.3 Recommendations**

Based on the research findings and the proposed procedures for solving the current construction contracting sector problems, recommendations were collected and classified according to the concerned party to whom they are targeted. Follows the recommendations details associated with their targeted parties:

### **6.3.1 Recommendations for the Palestinian Contractors Union (PCU)**

- ❖ Reviewing and reconsidering the current PCU contractors classification procedures and mechanisms.
- ❖ Following up the currently classified contractors by: visiting and inspecting his main office and work site, evaluating contractors' performance of under construction projects and reconnaissance of the constructed projects owners' opinions.
- ❖ Applying punitive actions in case of defaults, violation, introducing false certifications or documents for classification request.
- ❖ Raising contractors' qualifications and awareness of the construction contracting related terminologies.
- ❖ Improving the Union website including: main construction materials updated prices, main prices indices.

- ❖ Activating its role in stopping some contractors' transgressions; mainly in tenders pricing and intense competition.
- ❖ PCU may require the contracting company founder to be an engineer or a partner with engineer.
- ❖ Getting a contracting classification certification should be conditioned by passing a capability exam for assuring contractors' qualifications.

### **6.3.2 Recommendations for the government and high policies agencies**

- ❖ Activating the construction sector regulating laws and regulations, and obligating their applications.
- ❖ Regulating the contracting sector by modifying, detailing and enacting some laws convenient and consistent with the current sector situation and encouraging investment in it.
- ❖ Activating Arbitration Law legally and mandatory and not refereeing to clannish ways in solving contract parties' problems.
- ❖ The necessity of preparing special studies describing items and reckon methods of buildings, roads and electromechanical fields, and circulating these studies to the engineering offices in order to implement them.

- ❖ Activating the Rule of the Palestinian Standards Institution, for clear describing and specifying of materials and equipments' items to be obligated in projects.
- ❖ Strengthening the authority of the PCU and its mandatory.
- ❖ Obligating compensations due to currency exchange changing value and construction materials changing prices.
- ❖ Requiring the government to deal with the construction sector as a real and a fundamental partner. In addition, increasing the capital investment and provisions in new construction projects.

### **6.3.3 Recommendations for the contract parties**

#### **Recommendations for projects' owners, their representatives and donor countries institutions**

- ❖ There must be a complete and accurate study for tender prices by the owner side before tendering and awarding the tender to the nearest price of the real one.
- ❖ Recommending offers examination commissions to make sure of price moderation for the lowest price offer corresponding to the conditions and specifications.
- ❖ Compliance with paying contractors owed payments on time and paying fines when delays.

- ❖ Fixing and identifying currency converts rate for each project.
- ❖ Tender documents should be studied and checked carefully before tendering and budgets should be provided before tendering.
- ❖ Transparency in dealing with contractors, without favoritism for assuring ethical work climate.

### **Recommendations for contractors**

- ❖ Cautions against contractors relying on the method of downloading some prices on other tender items and intense competition because they are undesirable consequences adventure.
- ❖ Scientific and accurate study of tender documents when bidding, and responding to the contract documents' requirements.
- ❖ Preparing “Work Plan” schedule for the construction contracts and updating it according to variables.

Finally, it is recommended to repeat such studies every 5 years to keep up with contract sectors trends and needs, and to repeat the research in more normal and governor political conditions which affects pulling down this sector performance. It is also recommended to study the main problems of this research each in more details. Whereas, each main problem can be studied and detailed in a whole specific study; this will enhance conducting more and more proper and purposive solutions and recommendations for the current status.

Hence, the following future research studies are suggested:

- Strategic planning for the construction contracting sector in Palestine.
- SWOT analysis for the construction contracting sector in Palestine.
- Proposals for upgrading the Palestinian construction contracting sector.
- Surveying and studying the tenders' documents related problems in Palestine and proposing solutions.
- Studying construction sector claims and disputes' causes in Palestine, and proposing avoidance framework.
- The Palestinian Arbitration role in solving the construction contracting problems.
- Donor countries projects and its effects on the construction strategic planning in Palestine.

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## Appendix (A)

# Construction Contracting Management Obstacles in Palestine

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**Abstract** The construction industry is complex, widely varying and many factors influencing its projects' outcome. As construction projects become larger and more complex, managing these projects and their challenges become more complicated and core element for success. During the past few years, many of the construction projects in West Bank went beyond time line with extra cost overruns, many obstacles faced the contracting process, and generally the contracting career failed to take what it deserved of commensurate development. The objectives of this paper are to study the construction contracting sector in Palestine, highlighting this sector problems and obstacles from the perspective of local contract parties (project owners, consultants, contractors and donor countries institutes), investigating their importance and comparing these observations with those in other more governor and profitable surrounding Arab countries, in order to develop solutions and improve the current sector situation. Results from the study showed that the problems related to the career ethics are the most important problems that the Palestinian construction sectors suffers from. The results also showed that the major construction contracting problems are: policy adoption of awarding the bid to the lowest prices not to the most accurate, delaying contractor owed payments, currency exchange changing value, owner deceleration in decision making, little projects size in relation to contractors number, construction materials changing prices due to inflation, declining in the country economic situation, contractors manoeuvres by downloading some prices on other items and presence of conflicts between tender documents. Based on these findings, proposed solutions are developed for solving and improving the current state. Also, a proposed framework solution was developed for solving and avoiding the resulted most important problems and improving the current sector state. Finally, recommendations for the Palestinian National Authority (PNA) and the competent authorities, the (PCU) and the different local contract parties are presented in this paper helping them in overcoming the current sector related obstacles.

**Keywords** Contracting, Consultant, Contractor, Contract Management, Construction Industry

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## 1. Introduction

With construction contracts becoming larger and more complex, managing these contracts become a core element for the success of any project. For a successful project, it is crucial that the requirements of the construction contract and obligations are understood and fulfilled by all involved parties to achieve all contract expected benefits as efficiently and effectively as possible.

Managing the construction contracting goes much further than ensuring that the agreed terms of the contract are being met. It is expanded to cover the whole process of "systematically and efficiently managing contract creating, execution, and analysis that made with customers, vendors, partners, or employees for the purpose of maximizing

financial and operational performance and minimizing potential risk"[1]. Contracting management also entails negotiating the terms and conditions in contracts, ensuring compliance with the terms and conditions, charges and cost monitoring, ordering and payment procedures, documenting and management reporting, contract maintenance and agreement on any changes that may rise during its implementation or execution.

During the past few years, many of the construction projects in the West Bank went beyond schedule and cost, and many obstacles faced the contracting process for reasons believed to be outside the control of both contractors and owners. Such problems and obstacles have given rise to many claims and conflicts. Therefore, this study investigates that widespread phenomenon and its associated problems from the perspective of the local contract parties. Comparing the current contracting situation with other surrounding Arab countries, where the contracting sector is considered to be more profitable and governed, provides feedback for future improvements in the

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ongoing construction contracting management.

### 1.1. The Construction Sector in Palestine

The construction sector is one of the key economic sectors and the main force motivating the Palestinian national economy. The Palestinian construction sector is considered to be one of the most productive sectors. Its contribution to the Palestinian GDP is increasing since the PNA establishment to reach 11.1% in 2010[2]. In addition, construction is one of the most important sectors in the assimilation of labour force throughout Palestinian cities and towns. Where, in 2010, the construction sector employed about 13.2% of labourers directly, and a higher percentage indirectly in factories, other services and productive sectors related to this sector[3]. Also, construction sector activates many other sectors such as the construction supporting industries and the construction materials trading and it constitutes an important element in attracting investments.

### 1.2. Previous Studies

In fact, there is a significant scarcity in the conducted studies related to the construction contracting sector in Palestine, especially in the West Bank. A number of scholars studied factors affecting the construction industry in Palestine, while some of them studied a particular related aspect of the construction industry.

Abu Shaban[4] studied the factors affecting the performance of construction projects in Gaza Strip using Key Performance Indicators (KPIs). His KPIs enabled a comparison between parties regarding the degree of agreement about the main affecting groups. In addition, Al-Hallaq[5],[6] determined the causes of construction business failure in Gaza Strip by using a questionnaire survey and reviewing case studies.

Several studies were carried out in Gaza Strip covering many aspects of the construction sector and assessing the status of this sector there, but few were conducted in the West Bank. Generally, most of these studies were primarily based on collecting information through reviewing books and global references for viewing the general factors and problems affecting the construction sector, not from the local sector stakeholders point of view and sufferance. Also, most of these researches were analyzed only from the point of view of one construction sector stakeholder (mainly contractors), which may give biased non-holistic results. While, this study is distinctive by the way of collecting the research related data, that was mainly depending on collecting real and practical problems faced by the different construction sector stakeholders in the West Bank, through meetings held with some local contractors, owners, consultants and donors countries representatives, so as to give a holistic unbiased views of the parties opinions.

Many previous related studies found that the bad political situation in Palestine due to the Israeli occupation has the major effect on the Palestinian construction sector. As an

illustration, Osaily[7] illustrated that the political situation was the major barrier that prevents implementing sustainable construction in West Bank. Also, Al-Najjar[8] clarified that Strikes, Israeli attacks and border closures were the most critical factors affecting project delay in Gaza Strip.

While, Elghandour[9] found that the vagueness in project design and bill of quantity is the main claims causes in the construction industry sector in Gaza Strip. Abdalaziz[10] found that lack of qualified consultant's staff is the most severe factor affecting the designs and documents quality in the construction industry. Al-Hallaq[5],[6] showed that delay in collecting dibs from clients (donors) is the main cause of contractors failure. Whereas, Karriri[11] showed that the financial capabilities of contractors is the most critical factor affecting contractors' decision in participation in the construction tenders in Gaza Strip.

It should be noted that all previous studies proposed some solutions and recommendations for the current situations based only on analyzing the questionnaires results, researcher personal experience and/or asking experts in this domain. While, through this study a comparison was performed between the construction contracting sector in Palestine and other Arab adjacent country with an obvious clear success in this sector such as KSA and Jordan, searching for effective solutions and procedures succeeded in those countries to be adopted by our local sector, enhancing get out from its nowadays crisis.

### 1.3. Construction Contracting Management Problems in Palestine

Generally, construction contracting career in Palestine failed to take its deserved development with the commensurate birth event of our Palestinian state due to many constraints and obstacles. After the PNA entry and the need of many infrastructures and buildings development, many projects were hoped to be tendered. This led to intense competition, tough and declining in the project prices allocated to the contractors, reducing the contractor profit rate and thus many problems raising between contractors and owners.

In this research, problems in managing the construction contracting sector in West Bank have been compiled through making interviews with some contracting stakeholders (contractors, engineers, supervisors, consultants and some donor countries institutions representatives), also by reviewing some local publications that reflects some local stakeholders sufferance in the construction sector. The research aims to prepare a holistic view of problems facing the construction sector stakeholders in Palestine especially in West Bank in order to generate proposed solutions for these problems. These collected problems were sorted and classified into 11 major problems in order to facilitate their study and collect the related information. Every major problem included several minor problems related to the major one. The following are the main problems'

classifications:

- 1) Financial Problems.
- 2) Political Problems.
- 3) Administrative Problems.
- 4) Problems related to the tender documents (contracts, drawings).
- 5) Problems related to the specifications and materials adaptation (Quality).
- 6) Problems related to the contract parties themselves.
- 7) Problems related to the sector environment.
- 8) Problems related to the natural environment.
- 9) Problems related to the arbitrations and disputes solving.
- 10) Problems related to the technology use.
- 11) Problems related to the career ethics.

## 2. Methodology

### 2.1. Defining the Palestinian Construction Contracting Management Obstacles

Construction contracting problems were identified through investigating and negotiating the problems from the perspective of the local contract parties. Interviews with some local contractors, projects owners, site engineers, consultants, and donors countries representatives were held randomly, so as to survey there suffering related problems. Then problems of similar nature were grouped together, giving rise of eleven main groups.

### 2.2. Questionnaire Design

The collected problems were used in developing a postal questionnaire with the objective of investigating the main important construction contracting problems that Palestine suffers from. The designed questionnaire was reviewed and its validation was checked by different selected arbitrators. Many amendments were conducted, making questionnaire more abbreviated and improved prior to sending it to the representative research sample.

### 2.3. Questionnaire Distribution

Three populations were targeted in this research. The first population included the contracting projects' owners and their representatives including First Class consultants who have a valid membership in the engineering association. The second population represented by the contractors companies of the First, Second and Third categories who have valid registration in the Palestinian Contractors Union. The third population represented by the donor countries institutes.

The questionnaire was distributed to the selected sample in the three main Palestinian cities (Nablu, Ramallah, and Hebron) representing the three regions of Palestine (Northern, Middle and Southern regions). (310) questionnaires were distributed to the research; including (183) contractors, (21) project owners, (92) project consultants and (14) donor countries institutes. The

questionnaire was distributed at the beginning of the year 2012 using many ways and techniques due to responses deficiency of the research sample, such as:

- Direct distributing by hand.
- An electronic questionnaire to be filled electronically through a special website link, here is the questionnaire link: <https://docs.google.com/spreadsheets/viewform?formkey=dEtheWlnZTRQakdwNWIUeDV5MTd1VkE6MQ>
- Sending it by fax.
- Phoning for either asking about the company's addresses, emails, fax and/or reminding them to fill the questionnaire

### 2.4. Results Analysis

Questionnaire responses were analysed using (SPSS) program, interviews with some experts and professionals of the local stakeholders were held to enrich the research results.

### 2.5. Solution Framework

Comparisons with the construction sector in other Arab countries (KSA and Jordan) were conducted, proposing solutions for the resulted main problems and suggesting recommendations to improve the current construction sector in Palestine. A framework solution was performed for presenting and summarizing the recommended actions and procedures for solving and avoiding research highest importance problems.

## 3. Results and Discussion

Data analysis was carried out using SPSS program, different statistical methods and techniques were used such as; average means, standard deviations, descriptive statistics presented the prevalence percentages of some finding, 4-point likert scale and bivariate analysis. The main analysis results are discussed below:

### 3.1. Descriptive Analysis for the Palestinian Contractors Classification Degrees

Analysis found that a great portion of the Palestinian contractors classified in the first class in the PCU as shown in Figure 1.

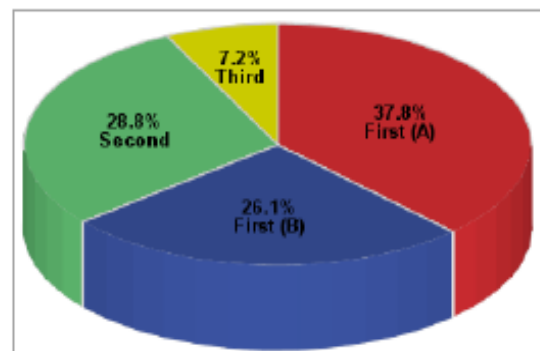


Figure 1. The contractor's classification under PCU degree categories

It can be seen from Figure 1 that about 63.9% of the contracting companies are classified in the First class (both categories A&B). This result indicates that the current contractor's classification depends mainly on the executed projects areas, and there is no follow-up and reclassification system for the current classified contractors to decrease the classification degree of the unreleased requirements companies. That leads to the need of reconsidering the classification procedure to be more precise and appropriate.

### 3.2. Construction Contracting Problems Analysis

In order to analyse each construction contracting problem, a four-point likert scale used to assess the importance degree of each problem included in the questionnaire, ranging from "Does not matter, low importance, medium importance to high importance".

Then, each problem was ranked according to the value of its average starting from the largest average to the smallest average, by giving the value 1 for the problem that have the largest average value, 2 for the problem that have the second largest average value, and so on. The process continued in the same way until reaching the smallest average value among all problems.

Table 1 shows the degree of importance for each main problems category and its arithmetic mean, ranked from the highest rated importance that has rank number (1) to the lowest rated importance with rank number (11).

Table 1. Degree of Importance for Main Problems

Rank No.	The main problems category	The importance	Mean
1	Eleventh: Problems related to the career ethics	High	3.47
2	Fifth: Administrative problems	High	3.43
3	Second: Problems related to the tender documents (contracts, drawings)	High	3.33
4	Fourth: Political problems	High	3.27
5	Seventh: Problems related to the sector environment	Medium	3.24
6	Sixth: Problems related to the contract parties themselves	Medium	3.19
7	First: Financial problems	Medium	3.11
8	Ninth: Problems related to the arbitrations and disputes solving	Medium	3.09
9	Third: Problems related to specifications and materials adaptation (Quality)	Medium	2.93
10	Tenth: Problems related to the technology use	Medium	2.80
11	Eighth: Problems related to the natural environment	Low	2.27

The descriptive results indicate that "the problems related to the career ethics", have the greatest importance among the other main problems, this mainly referred to the absence of the censorship and the competent authorities from organizing the construction contracting profession and obligating its regulating laws. Also, it is referred to the poor

communication between the contract parties which leads to estrangement between parties and misunderstanding satisfying the contract documents requirements. Thus, this result illustrates the importance of caring about rising awareness among the contract parties to ensure ethical work climate and to achieve their desires of less hassle working climate.

Also, analysis shows that "the administrative problems" has the second greatest importance. This may be referred to the weakness of the administrative system and the poor organizational structures that controls most of our contracting companies. Also, this may be referred to the unfixed administrative staff in the contracting companies mainly in the contractors companies who change's their stuffs after getting classification.

Peculiarly, results shows that "the financial problems" have the seventh top importance ranking among the others, while during our pre-questionnaire interviews almost all interviewers were complaining about the bad financial situation that they are suffering from, but the results of this research found that the financial problem is not a real problem as all parties complains, but there are much more important real problems that must be dealt with and solved. On the other hand, this result may be attributed to the whole dominating bad economical situation in Palestine, which push contractors to work even without earning, just to work and remain in the labour market.

### 3.3. Analysis of the Highest Disparity Problems

Table 2 shows the highest disparity problems among all research problems. Problems of the highest standard deviations (SD) have the highest disparity in responses.

Table 2. Problems Having the Highest Disparity

Problem	mean	SD
1. Not using the Palestinian Index in pricing	2.82	1.09
2. The Palestinian Unified Contractor Contract doesn't go out to implementation and legal obligation	3.13	1.05
3. Barriers against foreign investment, importing labors and materials	2.95	1.11
4. Non-activation of the Palestinian Arbitration Law and Chambers	3.04	1.06
5. Not effectively enable the use of electronic tender	2.51	1.05

This wide diversity in responses indicates contract parties lack of awareness of some main construction contracting terminologies i.e. the Palestinian Index, the Unified Palestinian Contract, the Palestinian Arbitration Law and Chambers and the electronic tender. Thus the importance of raising contract parties' awareness by these terminologies had been manifested as well as by training courses and publications.

### 3.4. Analysis of the Most Causes of Claims and Disputes

Figure 2 shows the most probable causes of claims and

disputes and their responses voters percentages.

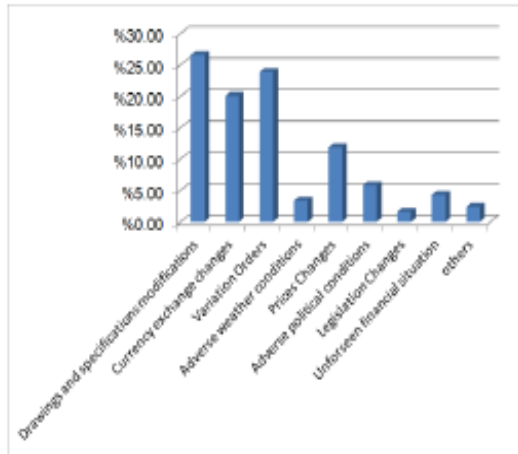


Figure 2. The most probable causes of claims and disputes

It can be seen from Figure 2 that most probable causes of claims and disputes are “drawing and specifications modifications”, where about (26.6%) of the sample subjects agreed on this point. This result was not surprising as most times tenders drawings specially, plan levels are not well studied when tendering, that leads to BOQ modifications and thus quantities and prices changes which mainly causes disputes between parties on agreeing the base of considering these changes. This occurred mainly in the electromechanical drawings and specifications that needs precise design and specifications, modifications in these systems causes tremendous increase in the project cost.

3.5. Bi-variate Analysis of the Respondents Work Type and their Qualification

Bivariate means linking two questionnaire variables together to study the effect of one variable on the others. The two variables; respondents' work type and respondents' qualification were correlated as shown in Figure 3.

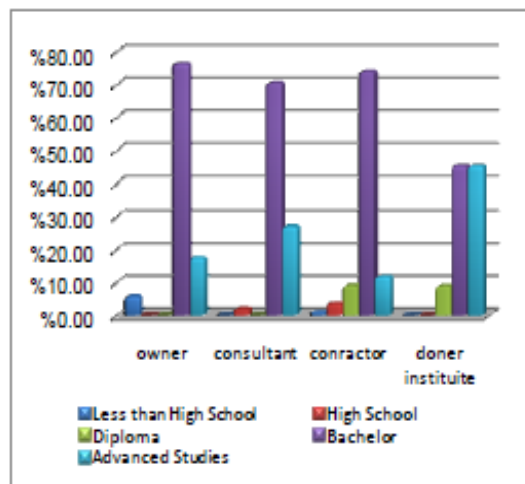


Figure 3. Respondent work type Vs. qualification

Resulted analysis shows that the Palestinian contract community is well educated. It is worth noting that most of the contractors are highly educated, where 71.9% of them had just completed a Bachelor degree. This result is inconsistent with the other contract parties complaining about contractors ignorance and uneducated, it can be justified by the Palestinian people hard working and upgrading aspirations by educating their sons and employing them in their companies, but companies still managed by the old mentality of the uneducated parents.

3.6. Analysis of the Highest Importance Problems

Table 3 shows the minor problems that have the highest importance and their arithmetic means.

Table 3. Problems Having the Highest Importance

Rank No.	Problem	The Importance	mean
1	Rates burning due to intense competition between contractors	High	3.89
2	Policy adoption of awarding the bid to the lowest prices not to the most accurate	High	3.81
3	Delaying paying owed payments by the owner	High	3.76
4	The changing value of currency exchange	High	3.60
5	Owner deceleration in decision making	High	3.58
6	The size of projects is little in relation to the number of contractors	High	3.58
7	Construction materials changing prices due to inflation	High	3.56
8	Declining in the country economic situation	High	3.54
9	Some contractors manoeuvres by downloading some prices on other items	High	3.52
10	Presence of conflicts between tender documents	High	3.46

Those highest importance problems were considered in the comparison with other Arab countries in order to propose solutions for them

4. Framework Solution and Recommendations

The most important problems and obstacles were compared with the related situation in other Arab companies (Jordan and KSA) to make some recommendations enhancing the current Palestinian situation.

4.1. Framework Solution for the Highest Importance Problems



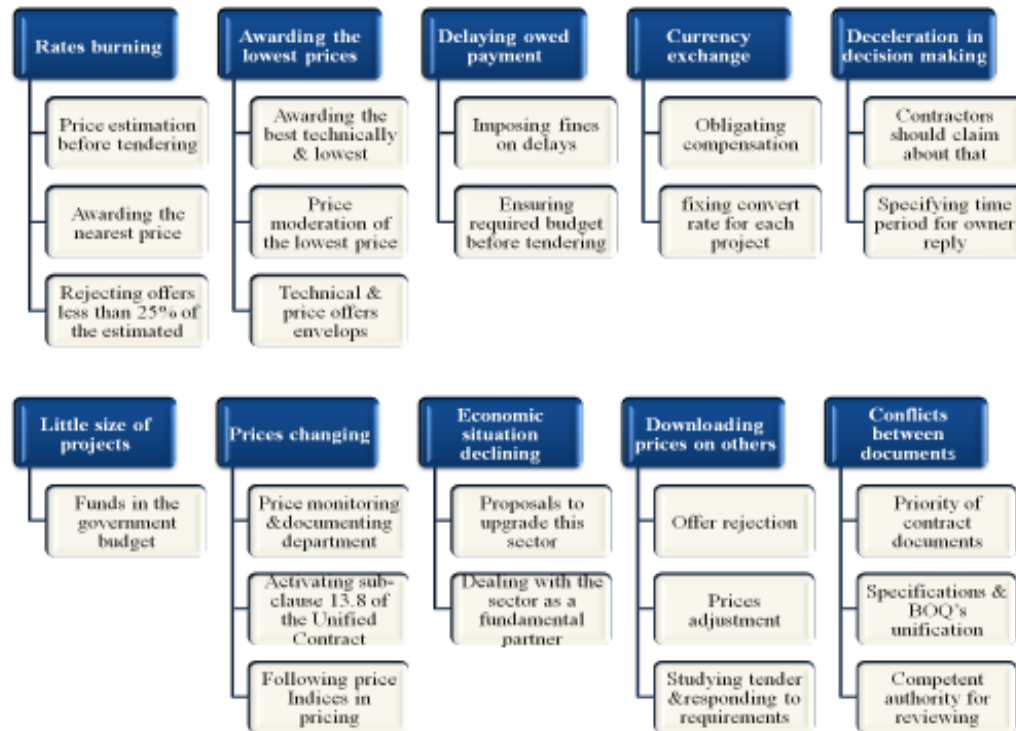


Figure 4. Main construction contracting sector problems and their proposed solutions framework

A framework solution was performed for presenting and summarizing the recommended actions and procedures for solving and avoiding research top ten highest importance problems as shown in Figure 4, so as for assisting contract parties in visualizing the current situation and how to solve or prevent them. These proposed procedures include the following:

- There must be a complete and accurate study for tender prices by the owner side before tendering and awarding the tender to the nearest price of the real one.
- Rejecting any tender offer reduced by more than 25% from the estimations or the current prices[12].
- Offers examination commission have to award the lowest price bid and technically the best that correspond to the conditions and specifications. In addition, to exclude inconsistent offers with conditions and specifications according to this regulation and system rules[12].
- Offers examination commission have to make sure of price moderation for the lowest price offer corresponding to the conditions and specifications[12].
- Compliance with imposing fines on project owners (employers) when they delay paying any of the contractor's owed payments as set out in the two sub-clauses 14.7 & 14.8 of the Unified Palestinian Contract[13].
- Obligating fixing and identifying currency convert rate for each project at the base date of the tendering[14].
- If the owner declares in his decision making, then the contractor should claim about this matter to ensure his rights

and gains his owed compensations by law, as mentioned in sub-clause 20.1 of the Palestinian Unified Contract[13].

- Calling the government to work on including in the country general budget for 2013, sufficient fund provisions to launch adequate capitalist projects in the construction sector[15].

- The application of sub-clause 13.8 "Adjustments for changes in cost" of the Unified Palestinian Contract should be activated, and the (table of adjustment data) should be attached with the (Appendix to Tender)[13].

- Establishing Prices Monitoring and Documenting

Department in the PCU responsible for dealing with and regulating materials changing prices through following up suppliers and construction materials manufacturers, so as to get changes of the construction materials, issuing special circulars for the prices amendment and publishing these circulars and some main materials prices updates to contractors[15].

- Recommending PCU and competent authorities conducting researches and proposals to upgrade the sector, while government have to study these proposals and put them into action. Also, government is required to deal with the sector as a real and a fundamental partner in decision making, planning, plans implementation and enacting the sector governing legislations[15].

- Cautions against contractors relying on the method of downloading some prices on other tender items because it is an undesirable consequences adventure[16]. In case of

bidder priced an item in a wrong or exaggerated way, then the concerned tenders commission have the right to reject the offer or adjusting the price within the contractor knowledge[14].

- Contractor is responsible for studying tender documents accurately before tendering and inquiring about any included conflicts among them.

- Competent authority should carry the responsibility of reviewing and checking the engineering offices drawings and other related documents before tendering.

- There is a necessity of preparing special studies describing items and reckon methods of buildings, roads and electromechanical fields, general BOQ, measurement methods, technical specification and circulating them on the engineering offices to be implemented.

#### 4.2. Main Proposed Problems and Obstacles Solutions and Avoidance Procedures

Moreover, analysis showed the importance of reviewing and reconsidering the current Palestinian Contractors Union (PCU) classification procedures. Classifying contractors according to more precise and appropriate conditions, taking into account contractors' real qualifications, experiences and previous projects performances. This can be gained by adopting the following proposed procedures:

- Making regular re-classification for contractors, assuring their adherence to the conditions and potentials that they were classified upon.

- Contractors following up by: contractor's main office visits and checks, site visiting and inspection and reconnaissance of project owner opinion according the contractor's performance[17].

- Getting a classification certification must be conditioned by passing a capabilities exam, which should cover the main themes related to the construction contracting[18].

- PCU may require contracting company founder to be an engineer or a partner with engineer[19].

- Applying punitive actions in case of contractors' defaults, violation being proven[20], such as:

- 1) Not referring any tender on the contracting company or institution until after the completion of the defaulting project or lifting default causes.

- 2) Contractor deprivation for a specific period from participation in government tenders in case of contractor being reported to more than one complaint from the project owner in any tender or for the same tender.

- 3) Lessening the company or institution classification category.

- 4) Classification reconsideration if the contractor did not practice contracting work for more than two years without justifiable reasons.

- 5) Contractor classification cancelling in case of withdrawing more than one project during five years after withdrawing his first project.

- 6) Deleting the contractor classification from the classification records and forwarding him to the Public

Prosecutor, if it was proven that the contractor introduced false certifications.

Also, results shows the importance of increasing contract parties' awareness according to some construction contracting terminologies and qualifications and ensuring ethical work climate. This can be achieved by arranging training courses, specializing magazines and workshops.

For enhancing achieving the previous proposed procedures aiming for taking out the Palestinian construction sector from its real crisis; we propose formulating an urgent high council for this sector, especially during this period and these current conditions, which should include representatives from this sector influencing and regulating parties. This formulated council should be responsible for directing positioning of a comprehensive strategy for getting this sector out of its crises and enhancing its performance, including adopting all related conducted researches and studies and conducting the required ones searching for effective solutions to be implement.

## 5. Conclusions

The Palestinian construction sector is facing severe crises, which would limit its economical achievement and ability. This situation necessitates accelerating in rectifying the Palestinian contracting sector crisis and solving its remarkable problems in limiting the expansion of this sector's problems and crises.

The problems related to the career ethics is the most important main problem category. This illustrates the importance of rising awareness among the contract parties to ensure ethical work climate and achieve their desires of less hassle working climate.

The main resulted recommendations for the different concerned parties enhancing them in updating the current status of the Palestinian construction contracting sector:

- The Palestinian Contractors Union (PCU) recommended to reconsider its current classification procedures, following up its current classified contractors, applying punitive actions in case of defaults and violations and increasing its members awareness and qualifications.

- The government and the high policies agencies are recommended to activate the construction sector regulating laws and regulations and obligating their applications.

- The projects owners and donor countries institutes are recommended to prepare accurate study for tender prices before tendering and awarding the tender to the nearest price of the real one. In addition to, not delaying paying their payments and decision making.

- Contractors are recommended to study the tender documents accurately when bidding and responding to the contract documents requirements. Also, not to rely on the method of downloading some prices on other tender items and rates burning because they are undesirable consequences adventure.

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## Appendix (B)

استبيان حول

المشاكل التي تواجه قطاع المقاولات الإنشائية في الضفة الغربية

السادة الكرام / تحية طيبة وبعد ،،،

يهدف هذا الاستبيان إلى دراسة وتحليل المشاكل التي يواجهها قطاع المقاولات الإنشائية في الضفة الغربية/ فلسطين. حيث يعتبر هذا الاستبيان جزءاً من البحث التكميلي لنيل درجة الماجستير في تخصص الإدارة الهندسية /جامعة النجاح الوطنية – نابلس. أملين أن يتمخض عن هذه الدراسة إيجاد حلول واقعية للمشكلات التي تواجه الجهات المتعلقة بقطاع المقاولات، وخفض مستوى النزاعات والمعيقات التي تواجه هذه الأطراف، وتعزيز الثقة والاحترام المتبادل بينهم وذلك للنهوض بقطاع الإنشاءات في فلسطين. المساهمة في تعبئة هذا الاستبيان يؤدي إلى الكشف عن مشاكل هذا القطاع وحلها لتحقيق أفضل النتائج لخدمة مجتمعنا الفلسطيني.

جميع المعلومات الواردة في هذا الاستبيان سوف تستخدم فقط لأغراض هذا البحث. أي نتائج سوف يتم نشرها على شكل نتائج إحصائية لمجموع شركات عينة البحث .

شاكرين لكم حسن تعاونكم ،،،

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الباحثة : م . ايناس جمال شويكي

إشراف : د. نبيل ضميدي & د.منذر دويكات

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**الجزء الأول: معلومات عامة:** الرجاء اختيار الإجابة الأنسب من وجهة نظركم بوضع إشارة (√) بجانب الإجابة المناسبة.

### أ. معلومات عامة عن الشخص الذي يعبأ الاستبيان:

1. طبيعة العمل :

جهة مالكة  استشاري  مقاول  مؤسسة دول مانحة

2. الموقع الوظيفي :

مدير المؤسسة/  مدير المشاريع/  مهندس موقع/  غير ذلك، وضح

نائب مدير المؤسسة نائب مدير المشاريع مهندس مكتب

3. المؤهل العلمي:

اقل من ثانوية عامة  ثانوية عامة  دبلوم  بكالوريوس  دراسات عليا

### ب. معلومات عامة عن الشركة:

1. موقع الشركة في الضفة الغربية:

للشمال  الوسط  الجنوب

2. السنة التي تم فيها تأسيس الشركة : .....

3. عدد العاملين الثابتين في الشركة : .....

4. عدد المشاريع التي تم تنفيذها خلال السنوات الخمس الماضية: .....

5. القيمة التقديرية للمشاريع التي تم تنفيذها خلال السنوات الخمس الماضية (دولار): .....

## 6. (للمقاولين فقط) تصنيف الشركة حسب تصنيف اتحاد المقاولين الفلسطينيين:

التخصص:

أبنية  طرق  مياه ومجاري  كهروميكانيك

الدرجة:

أولى (أ)  أولى (ب)  ثانية  ثالثة

**الجزء الثاني: مشكلات قطاع المقاولات:** في ما يلي عدد من المشكلات التي تواجه قطاع المقاولات في الضفة الغربية، بناءً على خبرتك ما رأيك في درجة أهمية المشكلات التالية؟ (ضع إشارة √ في الفراغ المناسب).

درجة الأهمية				المجموعات/ مشكلات قطاع المقاولات	
مهم بدرجة كبيرة	مهم بدرجة متوسطة	مهم بدرجة قليلة	لا أهمية لذلك		
<b>أولاً: مشاكل مالية</b>					
				1	تغير قيمة صرف العملات
				2	تغير أسعار المواد الإنشائية نتيجة التضخم
				3	تأخر المالك في صرف الدفعات المستحقة
				4	مشاكل الضرائب
				5	عدم رصد الميزانية الملائمة لتنفيذ المشروع قبل طرح العطاء
				6	عدم حصول المقاول على الدفعة المقدمة لتسهيل أموره
				7	المشاكل الناتجة عن التعديلات والأمور التغييرية
				8	المشاكل الناتجة عن وجود البنود الاحتياطية في العقود
				9	عدم استخدام الملحق (Index) الفلسطيني في التسعير
				10	صعوبة حصول المقاولين على التسهيلات البنكية
				11	ارتفاع تكلفة المواصلات ونقل المواد بسبب الحواجز
<b>ثانياً : مشاكل متعلقة بوثائق العطاء (العقود والمخططات)</b>					
				1	عدم خروج عقد المقاول الفلسطيني الموحد إلى حيز التنفيذ والإلزام بصورة قانونية
				2	ضعف مخططات التصميم من ناحية عدم وضوح أو اكتمال أو تكامل المخططات أو نقص التصاميم التفصيلية
				3	عدم وجود جهة مختصة تقوم بتدقيق مخططات التصميم
				4	ضعف طاقم التصميم
				5	النسخ واللصق من مشاريع سابقة لتوفير الوقت والجهد

6	وجود تعارض بين وثائق العطاء			
7	ضعف الاتصال بين المقاول والإشراف ومكتب التصميم للمراجعة والاستفسار عن التصميمات			
<b>ثالثاً : مشاكل متعلقة بالموصفات واعتماد المواد (الجودة)</b>				
1	عدم الإلزام بمواصفات محلية			
2	مشاكل البضائع المستوردة من حيث تصنيفها واعتمادها و التأكد من شهادة المنشأ			
3	ضعف دور مؤسسة المواصفات والمقاييس الفلسطينية			
4	نقص في توفير المواد اللازمة لقطاع الإنشاءات			
5	القصور في تطوير الصناعات المحلية المساندة لقطاع الإنشاءات			
6	عدم وضع نظام لتأكيد ومتابعة الجودة في المشروع			
7	ضعف مختبرات فحص العينات واعتمادها			
8	عدم تشوين كميات كافية من المواد اللازمة في الموقع			
<b>رابعاً: مشاكل سياسية</b>				
1	الاحتلال والاعلاقات			
2	القيود الإسرائيلية على الاستيراد			
3	العوائق أمام الاستثمار الأجنبي واستيراد المواد والعمالة			
4	حجز البضائع على الموانئ			
5	عدم اعتماد وتطبيق عقد المقاول الفلسطيني الموحد			
6	عدم وجود جهة تنفيذية مختصة مسؤولة عن تطبيق القانون			
7	تحكم تمويل الجهات المانحة في توجيه المشروعات			
8	ضعف الإطار التشريعي لوزارة المالية			
<b>خامساً: مشاكل إدارية</b>				
1	سوء هيكلية الشركات وتنظيمها			
2	تشتت المقاول بزيادة عدد وحجم المشاريع لديه عن قدراته الفنية والإدارية			
3	تباطؤ الجهة المالكة في اتخاذ القرارات			
4	عدم متابعة الجهة المالكة لجهاز الإشراف			
5	اعتماد سياسة ترسية العطاء على أقل الأسعار وليس أدقها			
<b>سادساً: مشاكل متعلقة بأطراف العقد</b>				

1	علاقة غير تكاملية بين أطراف العقد			
2	وجود خلافات سابقة بين أطراف العقد			
3	ضعف وعدم ملائمة تصنيف المقاولين الحالي			
4	اعتماد المقاول على مهندس حديث التخرج لمتابعة مسؤوليات الموقع			
5	عدم جاهزية طاقم الإشراف			
6	ضعف سلطة جهاز الإشراف على المقاول في الموقع			
7	عدم جاهزية المقاول وطاقمه لنوع المشروع			
8	ضعف تدريب الموارد البشرية لكل الأطراف بالمهارات التي يتطلبها المشروع			
<b>سابعاً: مشاكل متعلقة ببيئة القطاع</b>				
1	هبوط في الحالة الاقتصادية للبلاد			
2	حجم المشاريع قليلة بالنسبة لعدد المقاولين			
3	عدم وجود سوق عالمية مفتوح لنقل وتبادل الخبرات			
4	تدخلات السكان المجاورين لبعض المشاريع في تنفيذ بعض الأعمال			
<b>ثامناً : مشاكل متعلقة بالبيئة الطبيعية</b>				
1	الظروف المناخية المعاكسة			
2	ارتفاع مستوى الضجيج			
3	ارتفاع مستوى التلوث والتخلص من نفايات المشاريع بطرق غير منظمة			
<b>تاسعاً : مشاكل متعلقة بالتحكيم وحل الخلافات</b>				
1	عدم تفعيل قانون وغرفة التحكيم الفلسطيني			
2	عدم اعتماد وتطبيق عقد المقاول الفلسطيني الموحد			
3	عدم تحديد وسطاء (مجلس حل الخلافات) من بداية المشروع			
4	عدم التخصصية في المحاكم القضائية			
5	طول الوقت في إجراءات المحاكم القضائية			
6	إتباع الجهات الأجنبية قضاء بلدهم الأم في المشاكل القضائية			
7	تفسيرات بعض بنود العقد التي ليس لها مرجع في القانون الفلسطيني			
8	حل المشاكل بطريقة عشوائية دون اللجوء إلى التحكيم أو المحاكم ، ما يعرف بمصطلح (العربة)			
<b>عاشراً: مشاكل متعلقة باستخدام التكنولوجيا</b>				
1	تفضيل استخدام الطرق التقليدية في البناء			

2	ارتفاع تكلفة اقتناء التكنولوجيا وتدريب طاقم العمل عليها			
3	صعوبة استيراد التكنولوجيا			
4	عدم تفعيل استخدام المناقصات الإلكترونية			
5	عدم استخدام التقنيات الحديثة في التصميم			
<b>الحادي عشر: مشاكل متعلقة بأخلاقيات المهنة</b>				
1	حرق أسعار العطاءات نتيجة المنافسة الشديدة بين المقاولين			
2	مناورات بعض المقاولين بتحميل بعض الأسعار على بنود أخرى			
3	غياب الثقة في تحضير اعتماد الميزانيات			
4	عدم الالتزام بالحد الأدنى للأسعار الموضوع من قبل نقابة المهندسين الفلسطينيين			
5	دفاع المكتب الهندسي عن أخطاء التصميم عند عمله في التصميم والإشراف لنفس المشروع			
6	تزوير وثائق المقاول للحصول على درجة أعلى في تصنيفات نقابة المقاولين			

اذكر أي مشكلات أخرى واجهتها ولم يشملها الاستبيان تحت أي بند من البنود السابقة ، مع درجة الأهمية من وجهة نظرك

.....

.....

.....

### الجزء الثالث: أسئلة عامة:

1. ما هي الوسائل التي تتبعها في تقدير التكلفة التقديرية للمشروع أو تسعير العطاءات عند التقديم للمناقصات؟

(يمكن اختيار أكثر من إجابة)

- |  |                          |                         |                          |
|--|--------------------------|-------------------------|--------------------------|
| متابعة الأسعار الحالية للمواد والمعدات | <input type="checkbox"/> | من خبرتك السابقة        | <input type="checkbox"/> |
| متابعة المؤشر الفلسطيني                | <input type="checkbox"/> | الاستفادة من ذوي الخبرة | <input type="checkbox"/> |

عن طريق طاقم متخصص في المؤسسة غير ذلك، وضح .....

2. ما هي أكثر مسببات المطالبات والخلافات؟ (يمكن اختيار أكثر من إجابة)

- |                          |                          |                           |                          |
|--------------------------|--------------------------|---------------------------|--------------------------|
| تغيير سعر صرف العملات    | <input type="checkbox"/> | تعديل المخططات والمواصفات | <input type="checkbox"/> |
| الظروف المناخية المعاكسة | <input type="checkbox"/> | الأوامر التغييرية         | <input type="checkbox"/> |

تغيير الأسعار
  |

أوضاع مادية غير منظورة
  |

تغيير القوانين
  |

غير ذلك، وضح .....



3. تصويت لأهم مزايا التحكيم . (يمكن اختيار أكثر من إجابة)

- |                          |                                |                          |
|--------------------------|--------------------------------|--------------------------|
| <input type="checkbox"/> | اختصار الوقت                   | <input type="checkbox"/> |
| <input type="checkbox"/> | الاقتصاد في النفقات            | <input type="checkbox"/> |
| <input type="checkbox"/> | تبسيط الإجراءات                | <input type="checkbox"/> |
| <input type="checkbox"/> | تكييف أوقات الجلسات            | <input type="checkbox"/> |
| <input type="checkbox"/> | تلافي العلنية                  | <input type="checkbox"/> |
| <input type="checkbox"/> | الابتعاد عن الإمعان في الخصومة | <input type="checkbox"/> |
| <input type="checkbox"/> | غير ذلك، وضح .....             | <input type="checkbox"/> |
- .....

4. هل حصل معك ولم يتم الاتفاق على تعيين أعضاء مجلس فض الخلافات

- نعم  لا

إذا كانت إجابتك نعم كيف تم معالجة الأمر؟

- |                          |                                       |                          |
|--------------------------|---------------------------------------|--------------------------|
| <input type="checkbox"/> | اللجوء إلى جمعية المحكمين الفلسطينيين | <input type="checkbox"/> |
| <input type="checkbox"/> | إلغاء خيار وضع مجلس فض الخلافات       | <input type="checkbox"/> |
| <input type="checkbox"/> | تدخل ذوي الخبرة                       | <input type="checkbox"/> |
| <input type="checkbox"/> | حل الموضوع بطريقة عشوائية             | <input type="checkbox"/> |

5. من وجهة نظرك من هو الطرف صاحب التأثير الأكبر على تنفيذ عمل المشروع؟ (يمكن اختيار أكثر من إجابة)

- |                          |                      |                          |
|--------------------------|----------------------|--------------------------|
| <input type="checkbox"/> | المالك أو من يمثله   | <input type="checkbox"/> |
| <input type="checkbox"/> | استشاري المشروع      | <input type="checkbox"/> |
| <input type="checkbox"/> | فريق تصميم المشروع   | <input type="checkbox"/> |
| <input type="checkbox"/> | المقاول المنفذ       | <input type="checkbox"/> |
| <input type="checkbox"/> | المقاول الفرعي       | <input type="checkbox"/> |
| <input type="checkbox"/> | مؤسسات الدول المانحة | <input type="checkbox"/> |
| <input type="checkbox"/> | الجهات الحكومية      | <input type="checkbox"/> |
| <input type="checkbox"/> | القوانين المنظمة     | <input type="checkbox"/> |

6. هل يتم وضع خطة عمل (كيفية العمل) من بداية تسلم المشروع للمقاول ، وما دورها في حل المشاكل؟

.....

.....

.....

7. ما رأيك في عقد المقاول الفلسطيني الموحد؟

.....

.....

.....

8. ما هي مقترحاتك لحل مشكلات قطاع المقاولات الحالية في فلسطين؟

.....

.....

.....



## Appendix (C)

### *Questioner for surveying the construction contracting management in the West Bank*

**Dear Sir:**

This questioner aims to study and analyze the problems that the construction contracting sector faces in the West Bank / Palestine. Where this questionnaire considered as a part of the supplementary research to achieve my master's degree in the Engineering Management /An-Najah National University –Nablus. Hopping that this research results finds realistic solutions for the problems that the construction contracting stakeholders faces, reduce the level of conflicts and the barriers between these parties, and enhancing the mutual respect and trust between these parties. Your contribution in filling this questioner leads to detecting and resolving this sector problems to achieve the best outcomes for the benefit of the Palestinian society.

All responses and information will be used only for this research purposes. Any publication will be only statistical totals for groups of companies.

*Thanks for your assistant and cooperation*

The researcher : Inas Jamal Shweiki. Email : [inas.shweiki@yahoo.com](mailto:inas.shweiki@yahoo.com)  
Supervisors: Dr. Nabeel Dmadi & Dr. Monther Dweikat

\*\*\*\*\*

**Part One : General Information:** Please choose the best answer from your point of view, mark (√) to the best answer:

#### **A. General information about the person who is filling the questionnaire**

##### **1. Work type:**

Client (Owner)     Consultant     Contractor     Doner Institute

##### **2. Respondent position:**

Project manager/  
his Deputy     Firm manager/  
his Deputy     Site Eng/  
Office Eng.     Other (mention  
pls) .....

##### **3. Respondent qualification:**

Less than High School     High School     Diploma     Bachelor     Advanced  
High School    Studies

#### **B. General Information about the company**

##### **1. Company location in the West Bank:**

North W.B.     Middle W.B.     South W.B.

**2. Company year of establishment:.....**

**3. The number of the company's constant workers:.....**

**4. The number of the company's executed projects through the past five years:.....**

5. The cost of the company's executed projects through the past five years (Dollars):.....

6. For Contractors only: Contractor's classification under PCU Category  
Specialization :

Building       Road       Water & Sewer       Electro-Mechanics

Degree :

First (A)       First (B)       Second       Third

**Part Two** : The construction contracting problems: The following are numbers of construction contracting problems in the West Bank. Bases on your experiences, what is your opinion on the importance of the following ? (Please tick the appropriate box).

	Groups/ Problems	Importance			
		Does not matter	Low	Medium	high
<b>First : Financial problems</b>					
1	Currency exchange rate fluctuation				
2	Fluctuation of construction materials prices due to inflation				
3	Owners' payments delay				
4	Taxes problems				
5	Non-provision of the appropriate budget required for project implementation before tender launching				
6	Advanced payment is not paid to contractor				
7	Problems due to change and variation orders				
8	Problems raising due to including provisional items in the contract				
9	Not using the Palestinian Index in tenders pricing				
10	Contractors' difficulties in achieving bank facilities				
11	High cost of transportation and materials transfer due to barriers				
<b>Second : Problems related to the tender documents (contracts, drawings)</b>					
1	The implementation of the Unified Palestinian Contract unobligated legally				
2	Weakness of drawing layouts				
3	Weakness of the competent agencies role in checking all drawing layouts before tendering				
4	Weakness of designing offices				
5	Copy and paste from similar previous projects				
6	Conflicts between tender documents				
7	Lack of communication between the owner side and contractor with the designing office during the project executing phase				
<b>Third : Problems related to specifications and materials adaptation (Quality)</b>					
1	The absence of local specifications obligation				
2	Imported materials problems in terms of classification, adoption and origin certification				
3	Weakness of the Palestinian Standards Institution role				
4	Shortage in providing the necessary materials for the				

	construction sector				
5	Deficiency in developing the local industries that support the construction sector				
6	Undeveloped system responsible for project's quality control and assurance				
7	laboratories weakness for samples testing and approval				
8	Not-storing sufficient quantities of the necessary materials at the site				
<b>Fourth : Political problems</b>					
1	Cities' entrances closure due to occupation				
2	Israeli restrictions on imports				
3	Barriers against foreign investment, importing labors and materials				
	<b>Groups/ Problems</b>	<b>Does not matter</b>	<b>Low</b>	<b>Medium</b>	<b>high</b>
4	Goods retention at ports				
5	Non-adoption and application of the Unified Palestinian Contract in all contracted projects				
6	The absence of competent executive authority responsible for law enforcement				
7	Donor countries funding governing projects guidance				
8	Legislative framework weakness of the Ministry of Finance				
<b>Fifth : Administrative problems</b>					
1	Poor structures and organizations of companies				
2	Some contractors' dispersion due to increasing his projects' numbers and sizes over his technical and administrative capabilities				
3	Owner deceleration in decision making				
4	Owner dereliction in following up the supervision team				
5	Policy adoption of awarding the tender to the lowest evaluated bidder not to the most accurate				
<b>Sixth : Problems related to the contract parties themselves</b>					
1	Non-complementary relationship between contract parties				
2	Tense relationship between contract parties due to previous disputes				
3	Current contractors' classification weakness and inconvenient				
4	The contractor reliance on a recent graduated engineer to follow-up the site responsibilities				
5	Supervision team lack of readiness				
6	Authority weakness of supervision engineer on contractor at site				
7	Contractor team unpreparedness to the project's type				
8	Negligence of necessary trainings to the involved parties on the project				
<b>Seventh : Problems related to the environment of the construction sector</b>					
1	Current economic situation deterioration				
2	The number of available contractors is high compared with the size of tendered projects				
3	The prevention of open global market to transfer and exchange experiences				

4	Interventions of some nearby residents to some projects against the implementation of some works				
<b>Eighth : Problems related to the natural environment</b>					
1	Unfavorable weather conditions				
2	The high level of noise				
3	The high level of pollution and getting rid of projects waste in unorganized ways				
<b>Ninth : Problems related to the arbitrations and disputes settlement</b>					
1	Non-activation of the Palestinian Arbitration Law and Chambers				
2	Non-adoption and application of the Unified Palestinian Contract in all contracted projects				
3	Not selecting the Dispute Adjudication Board (DAB) mediators from the beginning of the project				
4	Non specialization of the judicial courts				
	<b>Groups/ Problems</b>	<b>Does not matter</b>	<b>Low</b>	<b>Medium</b>	<b>high</b>
5	Time length of the judicial courts procedures				
6	Foreign agencies following their origin countries judiciary in solving judiciary problems				
7	Interpretations of some contract items which has no reference in the Palestinian law				
8	Solving problems in a clannish/ tribal way without resorting to Arbitrations or courts				
<b>Tenth : Problems related to the technology use</b>					
1	The use of traditional methods in construction is preferred				
2	High cost of technology acquisition and staff training				
3	Difficulties in importing technology				
4	Not effectively use the electronic tenders				
5	Shortage in using modern techniques in designing				
<b>Eleventh : Problems related to the career ethics</b>					
1	Intense competition between contractors, to the extent of bidding at cost prices or by losses				
2	Some contractors maneuvers by downloading some prices on other items				
3	Lack of confidence in preparing the budgets adoption				
4	Lack of commitment to the minimum prices that subjected by The Palestinian Engineers Association				
5	Engineering office defends the design errors, if he design and supervise on the same project				
6	Fraud contractor's documents to obtain a higher degree in the Contractors Association Classification				

**Please mention any other problems that you face and were not included under any item of the previous problems**

.....  
 .....  
 .....

### Part Three : General Questions

**1. What are the tenders' pricing methods followed during the tendering stage? (you can choose more than one choice)**

- |  |   |
|--|---|
| <input type="checkbox"/> Previous experience                   | <input type="checkbox"/> Following up current prices        |
| <input type="checkbox"/> Experienced people                    | <input type="checkbox"/> Following up the Palestinian Index |
| <input type="checkbox"/> By a specialized staff in the company | <input type="checkbox"/> Others (mention pls.) .....        |
- .....

**2. What are the most causes claims and disputes. (you can choose more than one choice)**

- |  |  |
|--|--|
| <input type="checkbox"/> Drawings and specifications modifications | <input type="checkbox"/> Adverse political conditions (occupation) |
| <input type="checkbox"/> Variation Orders                          | <input type="checkbox"/> Adverse weather conditions                |
| <input type="checkbox"/> Prices Changes                            | <input type="checkbox"/> Currency exchange changes                 |
| <input type="checkbox"/> Legislation Changes                       | <input type="checkbox"/> Unforeseen financial situation            |
| <input type="checkbox"/> Others (mention pls.) .....               |  |

**3. Vote for the Arbitration most important benefits. (you can choose more than one choice)**

- |  |  |
|--|--|
| <input type="checkbox"/> Time shortening                 | <input type="checkbox"/> Expenditures saving         |
| <input type="checkbox"/> Procedures simplification       | <input type="checkbox"/> Conditioning meetings times |
| <input type="checkbox"/> Avoiding publicity              | <input type="checkbox"/> Take benefit from expertise |
| <input type="checkbox"/> Avoiding rivalry in persistence | <input type="checkbox"/> Others (mention pls.) ..... |
- .....

**4. Did it ever happened with you not to get agreed on appointing the Dispute Adjudication Board (DAB) members?**

- Yes                       No

**If yes how the matter was treated?**

- |  |  |
|--|--|
| <input type="checkbox"/> Resorting to the Palestinians Arbitrators Association | <input type="checkbox"/> Cancel the option of putting the Dispute Adjudication Board |
| <input type="checkbox"/> Experts mediation                                     | <input type="checkbox"/> Solving problems in a clannish way                          |

**5. From your point of view who have the greatest influence on the construction projects performance ?**

- |   |   |
|---|---|
| <input type="checkbox"/> The owner                  | <input type="checkbox"/> The sub-contractors            |
| <input type="checkbox"/> The project consultant     | <input type="checkbox"/> The donor countries institutes |
| <input type="checkbox"/> The project designing team | <input type="checkbox"/> The Legal Agencies             |
| <input type="checkbox"/> The contractor             | <input type="checkbox"/> The governing laws             |

**6. Did contractors put the Work Plan from the beginning of project handing, and what do you think its role in solving the problems?**

.....  
.....  
.....

**7. What's your opinion in the Unified Palestinian Contract?**

.....  
.....  
.....

**8. What are your recommendations in solving the current construction contracting situation in Palestine?**

.....  
.....  
.....

**Appendix (D)**  
**Arbitrators List**

Palestinian Contractors' Union	The main branch - Ramallah
D. Maher Amro	Palestine Polytechnic University
D. Maher Al-jabari	Palestine Polytechnic University
D. Belal Al-fallah	Palestine Polytechnic University
Mr. Fayez Al-Amleh	Construction and equipment contracting company
Eng. Jamal Shweiki	Hebron Municipality Consultant



## Appendix (E)



اتحاد المقاولين الفلسطينيين  
القدس  
PALESTINIAN CONTRACTORS UNION  
Jerusalem

الرقم: ..... 11/433/11/ص  
Ref: .....

التاريخ: ..... 2011/11/01  
Date: .....



الأخت م. ايناس جمال الشويكي المحترمة،

تحية طيبة وبعد،

بعد مراجعة بنود الاستبيان الذي وصلنا من قبلك فإننا في اتحاد المقاولين نرى أن كافة البنود والمواد المطلوب الاستفسار عنها والإجابة عليها كافية ومستوفيه كافة الأمور المتعلقة بالمقاولين الفلسطينيين وكافة القضايا والعراقيل والمشاكل التي يواجهها قطاع المقاولات في فلسطين.

شاكرين لكم حسن تعاونكم.

وتفضلوا بقبول فائق الاحترام،

نقيب المقاولين / محافظات الضفة الغربية

النائب الأول لرئيس الاتحاد

المهندس عادل عوده

✓

- نسخة: للملف



## Appendix (F)

### Research Interviewers' List

#### **First interviews:**

For collecting the construction contracting sector related problems.

PCU secretary	PCU – Hebron Branch
D. Jamal Amro	CHF – Donor Institution
Miss. Najah Osaily	Al-Osaily Contracting Company
Eng. Samah Osaily	Lamasat Engineering Office
Eng. Awaad Al-Jobeh	Hebron Municipality - Supervising
Eng. Awad Al-Najar	Al-Safa Contracting Company
Eng. Monther Al-wadi	The Arab Company for Contracting
Eng. Iyad Ghanam	Promic Contracting Company
Mr. Raed Al-Atrash	N.A. Contracting Company

#### **Second interviews:**

For checking the questionnaire outputs reliability and enrich the research results.

Eng. Jamal Shweiki	Hebron Municipality Consultant
Eng. Abd Al-Azez Al-Saafeen	Al-Ferdaws Contracting Company
Mr. Sulaiman Al-Amleh	Al-Ata'a Contracting Company
Eng. Amjad Obaido	Hebron Municipality
Eng. Jaser Al-Junaidi	Consultant
D. Jamal Amro	CHF – Donor Institution

## Appendix (G)

### Tables of the collected data

**Table (A.1) : Work type of the research sample**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Owner	18	9.5	9.5	9.5
	Consultant	48	25.4	25.4	34.9
	Contractor	112	59.3	59.3	94.2
	Donor Institute	11	5.8	5.8	100.0
	Total	189	100.0	100.0	

**Table (A.2): The number of the research sample company's constant workers.**

	N	Minimum	Maximum	Mean	Std. Deviation
The number of the company's constant workers	173	2	1500	36	148.3
Valid N (listwise)	173				

**Table (A.3): The number of the research sample company's executed projects through the past five years.**

	N	Minimum	Maximum	Mean	Std. Deviation
The number of the company's executed projects through the past five years	168	2	300	33	51.6
Valid N (listwise)	168				

**Table (A.4): the cost of the research sample company's executed projects through the past five years.**

	N	Minimum	Maximum	Mean	Std. Deviation
The cost of the company's executed projects through the past five years (\$)	128	5000	400000000	21035000	45840594
Valid N (listwise)	128				

**Table (A.5): Financial problems analysis.**

	Financial Problems	Importance	Count N	Layer N %	Mean	Ranking
1.	Currency exchange rate fluctuation	Does not matter	3	1.6%	3.60	2
		Low	19	10.2%		
		Medium	28	15.1%		
		high	136	73.1%		
2.	Fluctuation of construction materials prices due to inflation	Does not matter	2	1.1%	3.56	3
		Low	11	5.9%		
		Medium	55	29.4%		
		high	119	63.6%		
3.	Owners' payments delay	Does not matter	1	.5%	3.76	1
		Low	10	5.3%		
		Medium	22	11.8%		
		high	154	82.4%		
4.	Taxes problems	Does not matter	10	5.4%	3.01	5
		Low	46	24.9%		
		Medium	61	33.0%		
		high	68	36.8%		
5.	Non-provision of the appropriate budget required for project implementation before tender launching	Does not matter	4	2.2%	3.45	4
		Low	20	10.8%		
		Medium	50	26.9%		
		high	112	60.2%		
6.	Advanced payment is not paid to contractor	Does not matter	16	8.6%	2.90	6
		Low	45	24.3%		
		Medium	66	35.7%		
		high	58	31.4%		
7.	Problems due to change and variation orders	Does not matter	16	8.6%	2.85	8
		Low	44	23.5%		
		Medium	79	42.2%		
		high	48	25.7%		
8.	Problems raising due to including provisional items in the contract	Does not matter	26	14.1%	2.59	11
		Low	56	30.3%		

		<b>Medium</b>	<b>70</b>	<b>37.8%</b>		
		<b>high</b>	<b>33</b>	<b>17.8%</b>		
9.	Not using the Palestinian Index in tenders pricing	Does not matter	30	16.6%	2.83	9
		Low	32	17.7%		
		Medium	58	32.0%		
		<b>high</b>	<b>61</b>	<b>33.7%</b>		
10.	Contractors' difficulties in achieving bank facilities	Does not matter	20	10.7%	2.79	10
		Low	53	28.3%		
		<b>Medium</b>	<b>61</b>	<b>32.6%</b>		
		<b>high</b>	<b>53</b>	<b>28.3%</b>		
11.	High cost of transportation and materials transfer due to barriers	Does not matter	9	4.8%	2.86	7
		Low	57	30.5%		
		<b>Medium</b>	<b>72</b>	<b>38.5%</b>		
		<b>high</b>	<b>49</b>	<b>26.2%</b>		
<b>The mean of the financial problems is 3.11</b>						

**Table (A.6): Problems related to the tender documents (contracts, drawings) analysis.**

			Count	Layer N %	Mean	Ranking
1.	The implementation of the Unified Palestinian Contract unobligated legally	Does not matter	24	13.0%	3.15	7
		Low	13	7.0%		
		Medium	60	32.4%		
		<b>high</b>	<b>88</b>	<b>47.6%</b>		
2.	Weakness of drawing layouts	Does not matter	8	4.3%	3.39	2
		Low	20	10.8%		
		Medium	49	26.3%		
		<b>high</b>	<b>109</b>	<b>58.6%</b>		
3.	Weakness of the competent agencies role in checking all drawing layouts before tendering	Does not matter	11	5.9%	3.25	6
		Low	27	14.4%		
		Medium	54	28.7%		
		<b>high</b>	<b>96</b>	<b>51.1%</b>		
4.	Weakness of designing offices	Does not matter	9	4.8%	3.36	4
		Low	17	9.1%		
		Medium	59	31.6%		
		<b>high</b>	<b>102</b>	<b>54.5%</b>		
5.	Copy and paste from similar previous projects	Does not matter	13	6.9%	3.38	3
		Low	17	9.0%		
		Medium	43	22.9%		
		<b>high</b>	<b>115</b>	<b>61.2%</b>		
6.	Conflicts between tender documents	Does not matter	9	4.9%	3.46	1
		Low	12	6.5%		
		Medium	48	25.9%		
		<b>high</b>	<b>116</b>	<b>62.7%</b>		

7.	Lack of communication between the owner side and contractor with the designing office during the project executing phase	Does not matter	5	2.7%	3.29	5
		Low	25	13.5%		
		Medium	66	35.7%		
		high	89	48.1%		
The mean of the problems related to tender documents = 3.32						

**Table (A.7): Problems related to specifications and materials adaptation (Quality) analysis.**

			Count	Layer N %	Mean	Ranking
1.	The absence of local specifications obligation	Does not matter	11	5.9%	2.94	5
		Low	41	22.2%		
		Medium	82	44.3%		
		high	51	27.6%		
2.	Imported materials problems in terms of classification, adoption and origin certification	Does not matter	14	7.6%	2.97	4
		Low	39	21.1%		
		Medium	71	38.4%		
		high	61	33.0%		
3.	Weakness of the Palestinian Standards Institution role	Does not matter	15	8.0%	3.12	1
		Low	27	14.4%		
		Medium	65	34.8%		
		high	80	42.8%		
4.	Shortage in providing the necessary materials for the construction sector	Does not matter	20	10.9%	2.80	6
		Low	53	29.0%		
		Medium	53	29.0%		
		high	57	31.1%		
5.	Deficiency in developing the local industries that support the construction sector	Does not matter	9	4.8%	3.05	3
		Low	45	23.9%		
		Medium	62	33.0%		
		high	72	38.3%		
6.	Undeveloped system responsible for project's quality control and assurance	Does not matter	4	2.2%	3.12	2
		Low	38	20.4%		
		Medium	75	40.3%		
		high	69	37.1%		
7.	laboratories weakness for samples testing and approval	Does not matter	25	13.4%	2.80	7
		Low	43	23.0%		
		Medium	63	33.7%		
		high	56	29.9%		
8.	Not-storing sufficient quantities of the necessary materials at the site	Does not matter	25	13.5%	2.65	8
		Low	50	27.0%		
		Medium	74	40.0%		
		high	36	19.5%		
The mean of the problems related to specifications and materials = 2.93						

**Table (A.8): Political problems analysis.**

		Count	Layer N %	Mean	Ranking
1.	Cities' entrances closure due to occupation	Does not matter	14 7.4%	3.14	7
		Low	34 18.1%		
		Medium	51 27.1%		
		high	89 47.3%		
2.	Israeli restrictions on imports	Does not matter	8 4.3%	3.44	1
		Low	22 11.8%		
		Medium	36 19.3%		
		high	121 64.7%		
3.	Barriers against foreign investment, importing labors and materials	Does not matter	25 13.4%	2.90	8
		Low	46 24.7%		
		Medium	38 20.4%		
		high	77 41.4%		
4.	Goods retention at ports	Does not matter	11 5.9%	3.34	4
		Low	22 11.7%		
		Medium	48 25.5%		
		high	107 56.9%		
5.	Non-adoption and application of the Unified Palestinian Contract in all contracted projects	Does not matter	22 11.8%	3.19	6
		Low	12 6.4%		
		Medium	61 32.6%		
		high	92 49.2%		
6.	The absence of competent executive authority responsible for law enforcement	Does not matter	17 9.1%	3.29	5
		Low	13 7.0%		
		Medium	56 29.9%		
		high	101 54.0%		
7.	Donor countries funding governing projects guidance	Does not matter	8 4.3%	3.41	3
		Low	24 12.8%		
		Medium	39 20.7%		
		high	117 62.2%		
8.	Legislative framework weakness of the Ministry of Finance	Does not matter	12 6.4%	3.43	2
		Low	19 10.2%		
		Medium	32 17.1%		
		high	124 66.3%		
<b>The mean of the political problems = 3.27</b>					

**Table (A.9) : Administrative problems analysis.**

		Count	Layer N %	Mean	Ranking
1.	Poor structures and organizations of companies	Does not matter	4 2.1%	3.30	3
		Low	26 13.9%		
		Medium	67 35.8%		
		high	90 48.1%		
2.	Some contractors' dispersion due to increasing his projects' numbers and sizes over his technical and administrative capabilities	Does not matter	10 5.3%	3.28	4
		Low	23 12.2%		
		Medium	60 31.9%		
		high	95 50.5%		
3.	Owner deceleration in decision making	Does not matter	2 1.1%	3.58	2
		Low	10 5.3%		
		Medium	53 28.2%		
		high	123 65.4%		

4.	Owner dereliction in following up the supervision team	Does not matter	6	3.2%	3.20	5
		Low	28	15.0%		
		Medium	76	40.6%		
		high	77	41.2%		
5.	Policy adoption of awarding the tender to the lowest evaluated bidder not to the most accurate	Does not matter	2	1.1%	3.81	1
		Low	6	3.2%		
		Medium	18	9.5%		
		high	163	86.2%		
<b>The mean of the administrative problems = 3.43</b>						

**Table (A.10): Problems related to the contract parties themselves analysis.**

			Count	Layer N %	Mean	Ranking
1.	Non-complementary relationship between contract parties	Does not matter	4	2.1%	3.18	7
		Low	29	15.4%		
		Medium	84	44.7%		
		high	71	37.8%		
2.	Tense relationship between contract parties due to previous disputes	Does not matter	23	12.2%	2.79	8
		Low	46	24.5%		
		Medium	67	35.6%		
		high	52	27.7%		
3.	Current contractors' classification weakness and inconvenient	Does not matter	6	3.2%	3.23	5
		Low	30	16.0%		
		Medium	67	35.6%		
		high	85	45.2%		
4.	The contractor reliance on a recent graduated engineer to follow-up the site responsibilities	Does not matter	8	4.3%	3.28	2
		Low	32	17.2%		
		Medium	45	24.2%		
		high	101	54.3%		
5.	Supervision team lack of readiness	Does not matter	10	5.4%	3.26	4
		Low	18	9.7%		
		Medium	70	37.8%		
		high	87	47.0%		
6.	Authority weakness of supervision engineer on contractor at site	Does not matter	18	9.5%	3.20	6
		Low	15	7.9%		
		Medium	67	35.4%		
		high	89	47.1%		
7.	Contractor team unpreparedness to the project's type	Does not matter	9	4.8%	3.32	1
		Low	19	10.1%		
		Medium	63	33.5%		
		high	97	51.6%		
8.	Negligence of necessary trainings to the involved parties on the project	Does not matter	5	2.7%	3.26	3
		Low	34	18.2%		
		Medium	55	29.4%		
		high	93	49.7%		
<b>The mean of the contract parties themselves = 3.19</b>						



**Table (A.11): Problems related to the environment of the construction sector analysis.**

			Count	Layer N %	Mean	Ranking	
1.	Current economic situation deterioration	Does matter	not	1	.5%	3.54	2
		Low		12	6.4%		
		Medium		59	31.6%		
		high		115	61.5%		
2.	The number of available contractors is high compared with the size of tendered projects	Does matter	not	2	1.1%	3.58	1
		Low		15	8.0%		
		Medium		42	22.5%		
		high		128	68.4%		
3.	The prevention of open global market to transfer and exchange experiences	Does matter	not	18	9.7%	3.15	3
		Low		18	9.7%		
		Medium		67	36.2%		
		high		82	44.3%		
4.	Interventions of some nearby residents to some projects against the implementation of some works	Does matter	not	27	14.4%	2.69	4
		Low		53	28.3%		
		Medium		58	31.0%		
		high		49	26.2%		
<b>The mean of the problems related to the sector environment = 3.24</b>							

**Table (A.12) : Problems related to the natural environment analysis.**

			Count	Layer N %	Mean	Ranking	
1.	Unfavorable weather conditions	Does not matter		53	28.5%	2.21	2
		Low		57	30.6%		
		Medium		60	32.3%		
		high		16	8.6%		
2.	The high level of noise	Does not matter		62	33.3%	2.04	3
		Low		67	36.0%		
		Medium		44	23.7%		
		high		13	7.0%		
3.	The high level of pollution and getting rid of projects waste	Does not matter		30	16.0%	2.55	1
		Low		61	32.6%		
		Medium		59	31.6%		
		high		37	19.8%		
<b>The mean of the problems related to the natural environment = 2.27</b>							

**Table (A.13) : Problems related to the arbitrations and disputes settlement analysis.**

			Count	Layer N %	Mean	Ranking	
1.	Non-activation of the Palestinian Arbitration Law and Chambers	Does matter	not	23	12.2%	3.06	5
		Low		24	12.8%		
		Medium		59	31.4%		
		high		82	43.6%		
2.	Non-adoption and application of the Unified Palestinian Contract in all contracted projects	Does matter	not	20	10.7%	3.16	3
		Low		17	9.1%		
		Medium		64	34.2%		
		high		86	46.0%		
3.	Not selecting the Dispute Adjudication Board (DAB) mediators from the beginning of the project	Does matter	not	15	8.0%	2.95	6
		Low		45	23.9%		
		Medium		62	33.0%		
		high		66	35.1%		
4.	Non specialization of the judicial courts	Does matter	not	8	4.3%	3.20	2
		Low		29	15.7%		
		Medium		66	35.7%		
		high		82	44.3%		
5.	Time length of the judicial courts procedures	Does matter	not	9	4.9%	3.31	1
		Low		32	17.3%		
		Medium		37	20.0%		
		high		107	57.8%		
6.	Foreign agencies following their origin countries judiciary in solving judiciary problems	Does matter	not	24	13.1%	2.92	8
		Low		30	16.4%		
		Medium		65	35.5%		
		high		64	35.0%		
7.	Interpretations of some contract items which has no reference in the Palestinian law	Does matter	not	12	6.5%	3.15	4
		Low		30	16.3%		
		Medium		60	32.6%		
		high		82	44.6%		
8.	Solving problems in a clannish/ tribal way without resorting to Arbitrations or courts	Does matter	not	23	12.6%	2.93	7
		Low		34	18.7%		
		Medium		57	31.3%		
		high		68	37.4%		
<b>The mean of the problems related to the arbitrations and disputes solving = 3.09</b>							

**Table (A.14) : Problems related to the technology use analysis.**

			Count	Layer N %	Mean	Ranking
1.	The use of traditional methods in construction is preferred	Does not matter	13	7.0%	2.86	3
		Low	47	25.1%		
		Medium	81	43.3%		
		high	46	24.6%		
2.	High cost of technology acquisition and staff training	Does not matter	9	4.8%	3.02	1
		Low	43	22.8%		
		Medium	73	38.6%		
		high	64	33.9%		
3.	Difficulties in importing technology	Does not matter	23	12.4%	2.72	4
		Low	53	28.5%		
		Medium	63	33.9%		
		high	47	25.3%		
4.	Not effectively use the electronic tenders	Does not matter	41	21.8%	2.50	5
		Low	50	26.6%		
		Medium	59	31.4%		
		high	38	20.2%		
5.	Shortage in using modern techniques in designing	Does not matter	22	11.6%	2.89	2
		Low	35	18.5%		
		Medium	74	39.2%		
		high	58	30.7%		
<b>The mean of the problems related to the technology use = 2.80</b>						

**Table (A.15) : Problems related to the career ethics problems.**

			Count	Layer N %	Mean	Ranking
1.	Intense competition between contractors, to the extent of bidding at cost prices or by losses	Does not matter	1	.5%	3.89	1
		Low	2	1.1%		
		Medium	13	6.9%		
		high	173	91.5%		
2.	Some contractors maneuvers by downloading some prices on other items	Does not matter	6	3.2%	3.52	2
		Low	9	4.8%		
		Medium	54	28.6%		
		high	120	63.5%		
3.	Lack of confidence in preparing the budgets adoption	Does not matter	7	3.7%	3.41	4
		Low	13	6.9%		
		Medium	63	33.5%		
		high	105	55.9%		
4.	Lack of commitment to the minimum prices that subjected by The Palestinian Engineers Association	Does not matter	18	9.7%	3.26	6
		Low	21	11.3%		
		Medium	42	22.6%		
		high	105	56.5%		

5.	Engineering office defends the design errors, if he design and supervise on the same project	Does not matter	13	6.9%	3.45	3
		Low	12	6.4%		
		Medium	40	21.3%		
		high	123	65.4%		
6.	Fraud contractor's documents to obtain a higher degree in the Contractors Association Classification	Does not matter	17	9.2%	3.30	5
		Low	21	11.4%		
		Medium	37	20.0%		
		high	110	59.5%		
<b>The mean of the problems related to the career ethics =3.47</b>						

**Table (A.16) : The tenders' pricing methods followed during the tendering stage**

		Responses		Percent of Cases
		N	Percent	
estimating the project cost when tendering	Previous experience	119	26.1%	64.0%
	Following up current prices	144	31.6%	77.4%
	Experienced people	67	14.7%	36.0%
	Following up the Palestinian Index	16	3.5%	8.6%
	By a specialized staff in the company	104	22.8%	55.9%
	others	6	1.3%	3.2%
<b>Total</b>		<b>456</b>	<b>100.0%</b>	<b>245.2%</b>

**Table (A.17) : The most causes of claims and disputes.**

		Responses		Percent of Cases
		N	Percent	
the most causes claims and disputes <sup>a</sup>	Drawings and specifications modifications	147	26.6%	79.5%
	Currency exchange changes	111	20.1%	60.0%
	Variation Orders	132	23.9%	71.4%
	Adverse weather conditions	19	3.4%	10.3%
	Prices Changes	66	11.9%	35.7%
	Adverse political conditions	32	5.8%	17.3%
	Legislation Changes	9	1.6%	4.9%
	Unforeseen financial situation	24	4.3%	13.0%
	others	13	2.4%	7.0%
<b>Total</b>		<b>553</b>	<b>100.0%</b>	<b>298.9%</b>

**Table (A.18) : The Arbitration most important advantages.**

		Responses		Percent of Cases
		N	Percent	
the Arbitration most important advantage	Time shortening	123	26.7%	69.5%
	Expenditures saving	26	5.7%	14.7%
	Procedures simplification	82	17.8%	46.3%
	Conditioning meetings times	22	4.8%	12.4%
	Avoiding publicity	37	8.0%	20.9%
	Take benefit from expertise	88	19.1%	49.7%
	Avoiding rivalry in persistence	73	15.9%	41.2%
	others	9	2.0%	5.1%
<b>Total</b>		<b>460</b>	<b>100.0%</b>	<b>259.9%</b>

**Table (A.19) : Treating the matter when not getting agreed on appointing the DAB members**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Resorting to the Palestinians Arbitrators Association	2	1.1	3.5	3.5
	Experts mediation	45	23.8	78.9	82.5
	Cancel the option of putting the Dispute Adjudication Board	2	1.1	3.5	86.0
	Solving problems in a clannish way	8	4.2	14.0	100.0
	<b>Total</b>	<b>57</b>	<b>30.2</b>	<b>100.0</b>	
Missing	System	132	69.8		
<b>Total</b>		<b>189</b>	<b>100.0</b>		

**Table (A.20) : The greatest influential on the construction projects performance.**

		Responses		Percent of Cases
		N	Percent	
The greatest influence on the construction projects performance	The owner	150	33.4%	82.9%
	The sub-contractors	11	2.4%	6.1%
	The project consultant	99	22.0%	54.7%
	The donor countries institutes	51	11.4%	28.2%
	The project designing team	18	4.0%	9.9%
	The Legal Agencies	25	5.6%	13.8%
	The contractor	75	16.7%	41.4%
	The governing laws	20	4.5%	11.0%
Total		449	100.0%	248.1%

**Table (A.21) : Work type Vs. problems related to the tender documents (contracts, drawings).**

		Problems related to the tender documents (contracts, drawings)		
		Mean	Standard Deviation	importance
Type of Work	Owner	3.39	.72	High
	Consultant	3.13	.78	Medium
	Contractor	3.41	.58	High
	Donor Institute	3.24	.66	Medium

**Table (A.22) : Work type Vs. political problems.**

		Political problems		
		Mean	Standard Deviation	
Type of Work	Owner	3.26	.83	High
	Consultant	3.09	.58	Medium
	Contractor	3.32	.67	High
	Donor Institute	3.52	.46	High

**Table (A.23) : Work type Vs. problems related to the contract parties themselves.**

		Problems related to the contract parties themselves		
		Mean	Standard Deviation	importance
Type of Work	Owner	3.44	.36	High
	Consultant	3.19	.56	Medium
	Contractor	3.14	.61	Medium
	Donor Institute	3.33	.46	High

**Table (A.24) : Work type Vs. problems related to the sector environment.**

		Problems related to the sector environment		
		Mean	Standard Deviation	importance
Type of Work	Owner	3.13	.75	Medium
	Consultant	3.09	.53	Medium
	Contractor	3.33	.56	High
	Donor Institute	3.11	.53	Medium

**Table (A.25) : Work type Vs. problems related to the natural environment.**

		Problems related to the natural environment		
		Mean	Standard Deviation	importance
Type of Work	Owner	2.37	.60	Low
	Consultant	1.94	.80	Low
	Contractor	2.35	.87	Low
	Donor Institute	2.70	.74	Medium

## Appendix (H)

## استطلاع رأي مالك المشروع

يلزم تعبئة جميع البيانات آتياً، ولا تقبل في حال وجود أي كمنشط أو تعديل



المملكة العربية السعودية  
وزارة الشؤون البلدية والقروية  
وكالة تصنيف المقاولين

أولاً : معلومات عامة :

- 1- مالك المشروع : .....
- 2- اسم المقاول : .....
- 3- مسمى المشروع طبقاً لما ورد بالعقد : .....
- 4- رقم عقد المشروع : .....
- 5- تاريخ توقيع عقد المقاول : / / 14هـ
- 6- إجمالي قيمة العقد بالزيادة أو بالنقص (بالريال) : .....
- 7- إجمالي قيمة الأعمال المنفذة حتى تاريخه (بالريال) : .....
- 8- إجمالي مدة المشروع بالزيادة أو بالنقص (بالشهور) : .....
- 9- تاريخ بداية المشروع : / / 14هـ
- 10- نسبة الأعمال المنجزة فعلياً : % حتى تاريخ : / / 14هـ
- 11- وصف موجز لنطاق الأعمال حسب العقد : .....
- 12- دور المقاول في تنفيذ المشروع :
- مقاول رئيسي
- مقاول متضامن - أسم المقاول شريك التضامن : .....
- مقاول من الباطن - أسم المقاول الرئيسي : .....
- قيمة عقد المقاول الرئيسي مع المالك (بالريال) : .....
- 13- إجمالي نسبة تنفيذ مقاولي الباطن بالمشروع فيما يخص المقاول المشار إليه في الفقرة رقم (2) : %

ثانياً: أداء المقاول : ضع (x) في المربع المناسب أمام كل معيار

المعيار	التقييم			
	ضعيف	مقبول	جيد	جيد جداً
إدارة المشروع (التخطيط والتنظيم والمتابعة)				
جودة العمل والالتزام بالمواعيد				
الالتزام بالجدول الزمني				
مستوى الجهاز العامل في المشروع (الكفاءة، الخبرة، المؤهلات)				
توفر المعدات والأجهزة اللازمة ومدى كفاءتها				
تطبيق إجراءات الأمن والسلامة				
توطين الوظائف (السعودة) وتوفير برامج التدريب				

ثالثاً: مجال العمل في المشروع :

قسم المشروع إلى البنود الرئيسية ( فيما يخص المقاول المشاركة في الفقرة رقم 2) وفق ما هو مبين أدناه طبقاً للنسب المئوية للتكلفة مع ملاحظة أن يكون المجموع 100%.

المجال	الإشياء %		المجال	الإشياء %		المجال	الإشياء %	
	النسبة %	النسبة %		النسبة %	النسبة %			
البياني			أعمال المياه والصرف الصحي			الطرق		
الأعمال الكهربائية			الأعمال الإلكترونية			الأعمال الميكانيكية		
تقنية الاتصالات			الأعمال البحرية			الأعمال الصناعية		
السدود			المسالخ			تشجير الحدائق وتنظيم للواقع		
حفر الآبار								

مصادقة المسؤول :

الوظيفة :

الإسم :

الختم الرسمي



جامعة النجاح الوطنية

كلية الدراسات العليا

## المشاكل التي تواجه قطاع المقاولات الانشائية في فلسطين

إعداد

إيناس جمال شويكي

إشراف

د. نبيل ضميدي

د. منذر دويكات

قدمت هذه الأطروحة استكمالاً لمتطلبات درجة الماجستير في الإدارة الهندسية بكلية الدراسات  
العليا في جامعة النجاح الوطنية في نابلس، فلسطين.

2013

ب

## المشاكل التي تواجه قطاع المقاولات الانشائية في فلسطين

إعداد

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### الملخص

تعتبر صناعة البناء والتشييد صناعةً معقدة متباينة بدرجة عالية، كما أن العديد من العوامل تؤثر على أداء ونتائج مشاريعها. وحيث أن مشاريع البناء في عصرنا الحالي أصبحت أكثر حجماً و تعقيداً، فإن إدارتها ومواجهة تحدياتها أصبحت أكثر تعقيداً، كما أنها أصبحت العامل الأساسي في نجاح تلك المشاريع.

خلال السنوات القليلة الماضية، تعرضت العديد من المشاريع الانشائية في فلسطين إلى تجاوزات في الجداول الزمنية وتكاليف إضافية، كما واجهت عملية المقاوله الكثير من المعوقات. وبشكل عام، فشلت مهنة المقاولات في فلسطين في تحقيق ما تستحقه من التنمية المناسبة لها.

ومن هنا، جاءت أهمية هذه الدراسة التي تهدف الى دراسة قطاع المقاولات الانشائية في فلسطين وإلقاء الضوء على مشكلات ومعوقات هذا القطاع من واقع معاناة أطراف التعاقد في المشاريع المحلية، وهم: الجهات المالكة للمشاريع والاستشاريين والمقاولين ومؤسسات الدول المانحة. بالإضافة إلى تقييم مدى أهمية هذه المشكلات ودراسة الأوضاع المماثلة في دول عربية أخرى مجاورة من أجل تقديم بعض الحلول المقترحة للمساعدة في إخراج هذا القطاع المحلي من أزمته الحالية وتحسين أدائه.

لتحقيق الأهداف المذكورة، تم إجراء مقابلات مع عدد من أطراف التعاقد المحليين لعمل مسح للمشكلات التي تواجههم وتعيق عملهم في قطاع الإنشاءات. كما تم تصميم استبيان وتوزيعه على عينة البحث من أجل تقييم مدى أهمية تلك المشكلات والمعوقات.

أظهرت نتائج هذه الدراسة أن المشاكل المتعلقة بأخلاقيات مهنة هي أهم المشاكل التي يعاني منها قطاع الإنشاءات الفلسطيني. كما تبين أن أهم مشكلات هذا القطاع هي: حرق أسعار العطاءات نتيجة المنافسة الشديدة بين المقاولين، اعتماد سياسة ترسية العطاء على أقل الأسعار، وليس أدقها، تأخر المالك في صرف الدفعات المستحقة للمقاول، تغير قيمة صرف العملات، تباطؤ الجهة المالكة في اتخاذ القرارات، حجم المشاريع قليلة بالنسبة لعدد المقاولين، تغير أسعار المواد الإنشائية نتيجة التضخم، هبوط في الحالة الاقتصادية للبلاد، مناورات بعض المقاولين بتحميل بعض الأسعار على بنود أخرى، وجود تعارض بين وثائق العطاء. بناء على مقارنة هذه النتائج بالأوضاع المناظرة لها في بعض الدول العربية الأخرى المجاورة، تم وضع بعض الحلول المقترحة لحل المشكلات الرئيسية وتجنب المعوقات التي تواجه هذا القطاع. إضافة إلى ذلك، تم تصميم إطار عمل لتمثيل وتلخيص الحلول المقترحة لمساعدة أطراف التعاقد المعنية لتجنب المشكلات الرئيسية التي يواجهونها. وأخيراً، تم وضع توصيات للسلطة الوطنية الفلسطينية والسلطات المختصة واتحاد المقاولين الفلسطينيين وأطراف التعاقد المختلفة في هذه الدراسة لمساعدتهم في التغلب على العقبات الحالية والخروج من الأزمة التي تواجه هذا القطاع.

