Comparing the Suitability of FIDIC and NEC Conditions of Contract in Palestine

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Abstract

This research set out to critically review the standard forms of contracts and compare FIDIC with NEC as they are the most popular contracts in the world. The main aim or purpose is to evaluate the effectiveness of FIDIC and NEC in reducing disputes particularly within the domain of Palestine.

The researcher has used qualitative methods to collect data and more specifically has undertaken twelve semi-structured interviews. The sample is very diverse and consists of professionals and practitioners in the construction industry of the Gaza Strip.

The main results and findings suggest that both contracts have commendable features and advantages and can be used successfully anywhere. However, there are certain areas of concern and sometimes limitations in both contracts. NEC has probably many advantages over FIDIC particularly in clarity, flexibility, explicit project management procedures, partnering and teamwork, risk management, objective measurements of weather and ground conditions risks, and variations. FIDIC and NEC are very successful in dispute resolution mechanism. On the other hand, FIDIC owns the advantages of familiarity and precedence, the widespread popularity, and the endorsement by many governments, development banks and institutions, and major employers worldwide. The position of the engineer/project manager has benefits and limitations in both contracts; however, it seems the project manager role under NEC is more sensible in Palestine.

In a nut shell, the standard form of contract may minimise disputes and NEC appears to be more capable than FIDIC to do so. However, it is not a panacea to diminish and vanish disputes. This is because the main reason creating disputes and simultaneously the main solution to avoid or resolve dispute exists in the people’s heads. The people’s competency (knowledge, experience, behaviour) plays a significant role in shaping the performance of the project and controlling disputes.

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Glossary of Abbreviations

The table below shows certain abbreviations that have been used in this dissertation; to help the reader to fully understand as they read through.

ADR: Alternative Dispute Resolution
DAB: Dispute Adjudication Board
DRB: Dispute Review Board
ECC: Engineering and Construction Contract
EU: European Union
FCEC: Federation of Civil Engineering Contractors
FIDIC: Fédération Internationale Des Ingénieurs-Conseils (International Federation of Consulting Engineers)
ICE: Institution of Civil Engineers
JCT: Joint Contracts Tribunal
KFW: Kreditanstalt Für Wiederaufbau (German Development Bank)
NEC: The New Engineering Contract
NEC 3: Third Edition of the New Engineering Contract
OGC: Office of Government Commerce
PECDAR: Palestinian Economic Council for Development and Reconstruction
PNA: Palestinian National Authority
RIBA: Royal Institute of British Architects
UNRWA: United Nations Relief and Works Agency
UNDP: United Nations Development Program
USAID: United States Agency for International Development
WB: The World Bank
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Introduction

1.1. Introduction
This chapter outlines the background of the research topic, and then provides a brief overview of the Palestinian construction industry. After that, it presents the aim and objectives of this research, the research scope and limitations and finally the structure of the dissertation.

1.2. Research Background
This section provides a brief overview of the research context. It discusses the rationale, significance, importance, and justification for undertaking this research.
Fenn (2007) argues that disputes are the main reasons of projects failure to achieve their time and cost objectives. One of the top factors creating disputes in the construction industry is standard form of construction contract (Fenn et al., 1997). NEC aims to resolve the problem of arising disputes and adversarial behaviour in construction by achieving three main objectives which are stimulus to good project management, flexibility, and clarity. Indeed, the Palestinian construction industry is
Chapter 1: Introduction

characterised by adversarial relationship between construction parties, and the arising levels of disputes (Enshassi et al., 2009).

FIDIC is the most widely used international form of construction contract in the world (Seifert, 2005). In Palestine, FIDIC was ratified by the Palestinian cabinet in 2006 to represent the Palestinian unified conditions of contract for construction. More than 37% of Palestinian contractors in Gaza use FIDIC 99 (Aljarosha, 2008). Likewise, the usage of NEC in the UK and other 30 countries in the world is an indicator of its increasing popularity (Thompson et al., 2000).

One of the significant features of the construction industry in Palestine is the dependence of many infrastructure and construction projects on international funding organisations (Enshassi et al., 2006). Many donors and organisations financing construction projects in Palestine use FIDIC for their projects such as the World Bank, the Asian Development Bank, the Islamic Bank for Development, the European Commission and different United nations bodies (Aljarosha, 2008). Yet, some of these organisations are testing the potential usage of NEC instead of FIDIC in their projects. For instance, the Asian Development Bank and UK’s Overseas Development Agency are testing replacing FIDIC by NEC for their sponsored project (Ndekugri and Mcdonnell, 1999).

Based on the aforementioned points, the importance and relevance of this research to industry come from three main points regarding the two contracts: popularity and usage worldwide, adoption by financing organisations, and disputes minimisation. The competition between FIDIC and NEC on these areas and others might lead to the usage of NEC in the Palestinian Territories. Although FIDIC represents the Palestinian unified conditions of contract for construction, the usage of NEC in Palestine is possible because the Palestinian construction industry is characterised by disputes and adversarial behaviour, and the high dependence on international organisations’ fund.

Hence, it is necessary for practitioners and academics to understand the features of both FIDIC and NEC, and appreciate their differences. It becomes the academic researcher responsibility to proactively evaluate the pros and cons of both contracts to avoid any costly decisions and practices regarding the contract choice that could be made by practitioners. This research will compare the main philosophies and clauses of the two contracts. Also, it aims to evaluate whether NEC has made revolutionary improvements in contracting and construction practices in contrast to the traditional FIDIC form of contract. More specifically, it aims to examine the extent of improvement NEC has made in comparison to FIDIC in areas like risk management, dispute resolution, clarity, and cooperation.
Chapter 1: Introduction

Finally, this study seeks to assess whether these improvements may extend to the Palestinian construction industry. There is no previous study in Palestine comparing FIDIC with NEC or trying to understand the influence of contract choice on disputes, the thing which adds to the originality of this research and its contribution to knowledge.

Essentially, the potential beneficiaries from this research are all stakeholders within the Palestinian construction industry such as clients, main contractors, subcontractors, consultants, local authorities etc. because minimising disputes and creating a win-win situation is a matter of mutual concern. Governmental bodies and the Palestinian cabinet benefit by making their decisions regarding contract ratifying on sound research results. Also, international funding agencies may benefit because they aim to spend the money efficiently for development rather than wasting it in litigation and disputes.

1.3. Palestinian Construction Industry Background

The ‘Palestinian Territories’ is a term used internationally to refer to the West Bank and Gaza Strip that cover 6,170 square kilometres. This region covers 23 percent of Palestine; the area alternatively was known as the historic Palestine, or the Pre-1948 British Mandate of Palestine. The borders of the Gaza Strip and the West Bank (including Jerusalem) were defined by the Armistice Line following the creation of Israel in 1948. The Gaza Strip is 365 square kilometres in size (Eltalla and Hens, 2010). The population of the Palestinian Territories is estimated by the Palestinian Central Bureau of Statistics to have reached four million in 2007, of whom 1.5 million live in Gaza. This makes the population density to be 3,835 persons per square kilometre in Gaza. This extremely high population density, that is the highest in the world, puts much pressure on the economy to sustain an acceptable standard of living (Eltalla and Hens, 2010).

Figure 1.1: Geographical Map of Palestine Showing the Gaza Strip and the West Bank.

The Palestinian economy is weak and small in size, fragmented and subjected to Israeli restrictions. In 1999, the Gross Domestic Product (GDP) was approximately US$4.15 billion and the GDP per capita was approximately US$1,500 (World Bank, 2011). The Gross National Product (GNP) per capita rises to US$1,800 because of the remittances of Palestinians working overseas as well as the international aid. According to the World Bank classification, Palestine is ranked within the group of lower middle
income. The average yearly disbursements by donors between 1994 and 2000 (the year of the Palestinian Intifada outbreak) was US$ 453 million. The construction industry received 33.5% of the total disbursements (El-Sawalhi and Enshassi, 2004).

The construction industry has significant contribution to the Palestinian economy. It employs more than 16 % of the Palestinian workforce and it accounts for approximately 17 % of the value added to the GNP (Enshassi et al., 2007). The environment of construction in Palestine is abnormal compared with other parts of the globe. This is because of the Israeli occupation forces which have a strong effect on the Palestinian economy including construction field (Rustom, 2004). Besides the political problems, the Palestinian construction industry faces contractual problems and disputes that lead to cost overrun and delays (Mortaja, 2007), and this is covered in more detail in Chapter 6 (Interview Results and Discussions).

The increasing number of claims and disputes between contractors and projects’ owners has many causes, including the misunderstanding of contract documents, especially general and special conditions, the varied interpretations of the contract specifications, as well as unpredictable and uncontrollable delays (Enshassi, 1999, cited by Ogunlana et al, 2000).

1.4. Research Aim and Objectives

1.4.1. Research Aim:
Investigating the suitability of FIDIC and NEC standard forms in the Palestinian construction industry in terms of minimising contractual disputes.

1.4.2. Research Objectives:
1. Reviewing the context of developing the standard forms of contract in the world and Palestine.

2. Studying and examining the origins, development, and proliferation of FIDIC and NEC suite of contracts.

3. Critically comparing and contrasting FIDIC and NEC standard forms of contract, and identifying the strengths and weaknesses of each contract.

4. Surveying the views of Palestinian construction practitioners via interviews in order to understand whether the choice of contract form affects disputes level, and if so which one is more effective; FIDIC or NEC. Then, recommendations on the most suitable form can be made.
1.5. Research Scope, Constraints and Limitations

It is necessary to clearly articulate any limitations of the research in order to avoid misreading or misinterpreting of the findings. The following paragraphs outline the main constraints:

As NEC is not used in Palestine and other neighbouring countries, all interviewees were unaware of this standard form. This makes the comparison more difficult since the interviewees are asked about only their experience with FIDIC.

This comparison is by no means clause-to-clause or exhaustive. Therefore, a more comprehensive review of both contracts covering the holistic view and philosophies in addition to the very details and procedures of contract provisions is required.

The scope of comparison is mainly limited to FIDIC 1999 Red Book, and NEC3 Engineering and Construction Contract. Normally, in large, complex and multi-disciplinary projects, a group of contracts are required to govern the contractual relationships between all parties in the supply chain. Also, FIDIC provides different books for different procurement routes (i.e. Yellow Book for design and build, Silver Book for EPC/Turnkey etc.). Because of the aforementioned reasons, it becomes necessary to make holistic comparison between FIDIC and NEC families of contracts.

The geographical scope of comparison is mainly limited to the Gaza Strip-Palestine. Despite the fact that most of the research findings and results are valid anywhere, some issues are applied only to the specific abnormal conditions in Palestine.

Although the researcher intended to interview 30 people, he was able to interview only 12 people due to time constraint. However, this is of a minor effect because the researcher has felt that the ‘saturation level’ has been reached as major new themes or codes have stopped to emerge.

Also, the method of interpreting qualitative data is extremely subjective and difficult particularly when trying to develop the themes, categorise the information, link the thoughts and opinions to close the loop and gain a comprehensive understanding.

As NEC3 has been issued in 2005, there is scarce empirical research carried out, and peer reviewed academic journal papers published about this edition.
1.6. Dissertation Structure/ Organisation

Chapter 1: Introduction
This chapter introduces a background of the research topic and an overview of the Palestinian construction industry. It also presents the aim and objectives, significance of the research, potential beneficiaries, scope and limitations, as well as the outline of this research.

Chapter 2: Research Methodology
This chapter reviews the research methodologies used to develop the method adopted in the research. It compares and contrasts qualitative and quantitative research strategies. It critically examines the semi-structured interview research method, as well as the sampling process and sample size issue.

Chapter 3: Standard Forms of Contract
This chapter fulfils the first objective of the research. It highlights the key aspects of the law of contract and legal systems in the World, England, and Palestine. It outlines the origin, development, and growth of the standard forms. Also, it critically evaluates the arguments supporting and opposing theses model forms. It also undertakes a brief overview of the standard forms commonly used in Palestine.

Chapter 4: Overview of FIDIC and NEC Standard Forms of Contract
This chapter fulfils the second objective of the research. It provides information on FIDIC and the New Engineering Contract (NEC). It looks at how the two contracts have been developed and spread with an emphasis on their key features and objectives. Then, it provides a list of FIDIC and NEC suite of contracts.

Chapter 5: FIDIC Compared and Contrasted with NEC
This chapter fulfils the third objective of the research. It provides detailed comparison between FIDIC and NEC as regards about 10 key features and issues. This chapter seems to be the most important in this dissertation.

Chapter 6: Interviews Results and Discussions
This chapter fulfils the fourth objective of the research. It details the collection, analysis and presentation of data and information. It critically analyses and reviews the opinions and arguments presented by the interviewees.

Chapter 7: Conclusion and Recommendations
This chapter presents the research outputs, outcomes, results and main findings with a view of recapitulating the main aim, objectives and the proposition/hypothesis. The chapter also states how the research has contributed to knowledge, and makes recommendations and suggestions for future research.
Chapter 2: Research Methodology

2.1. Introduction

The French historian Raymond Queneau (1903-1976) said

"Learning to learn is to know how to navigate in a forest of facts, ideas and theories, a proliferation of constantly changing items of knowledge...is to know what to ignore but at the same time not rejecting innovation and research." (Rowe and Chamberlain, 2007:196).

Innovation and research create together a closed loop, indeed. While innovation transfers the knowledge into money, research transfers the money into knowledge. The aim of doing a research is not only to know facts and understand interrelationships for the sake of knowledge, but in order to act and act in a better way (Bell, 2010).

This chapter defines research, research methodology and methods, outlines the most common research methodologies, and justifies the method selected for the acquisition and analysis of data. It highlights the strengths and weaknesses of the selected research strategy.
Chapter 2: Research Methodology

2.2. What is Research?

Research can be defined as a systematic, methodical, and critical investigation, inquiry, search, or study of certain aspects of a topic with clear aims and objectives to discover new or collate old facts (Naoum, 2007). Generally, the aim will be to expand current knowledge, answer specific questions, solve a particular problem or test a hypothesis. However, a research does not necessarily need to contribute to knowledge; it may be simply a learning process (Naoum, 2007).

Research is classified according to four dimensions into: industrial/academic, conceptual/empirical, qualitative/quantitative, and pure/applied. This research is academic, conceptual, qualitative, and a combination of pure and applied research. The pure research is theoretical and aims to develop the knowledge. Applied research seeks to solve practical problem in the industry, besides developing the knowledge (Fellows and Liu, 2008).

In the literature, the term methodology is loosely used, and various authors use it to refer to different things (Carter and Little, 2007). Research methodology refers to the principles and procedures of the logical thought process that shows how the research should proceed. Research methods are all about the available techniques for sampling, gathering data and evidence, data management, data analysis, and reporting. Indeed, they are the nuts and bolts and the pathway to the final product of the research project. In short, a methodology provides description, explanation, evaluation, and justification for the methods which ‘produce the knowledge’ in a research project (Carter and Little, 2007).

The choice of a research method and a data collection method is very important, since the ‘process of how something is done’ directly affects the quality of the output.

2.3. Research Strategy

Research strategy can be defined as the way in which the research objectives can be questioned (Naoum, 2007). Research strategies fall into two categories; ‘quantitative research’ and ‘qualitative research’. The selection between those two strategies depends on the purpose of the study and the type and availability of the required information (Naoum, 2007).

Quantitative research is ‘objective’ in nature. It tests a hypothesis or a theory composed of variables. It measures and quantifies the research problem, and analyses the data using statistical procedures and methods. In other words, it attempts to establish relationships between the facts under investigation.
Chapter 2: Research Methodology

Qualitative research, on the other hand, is ‘subjective’ in nature. It assesses people’s experiences, descriptions, opinions, views, perceptions or attitudes towards certain variables constituting the research question or problem (Naoum, 2007).

The difference can be summarised by the fact that qualitative methodology aims to find out “‘what things exist”, but quantitative aims to determine “how many such things there are” (Crouch and McKenzie, 2006). Table 2.1 provides a useful list of the most important differences between the two research strategies.

<table>
<thead>
<tr>
<th>Features</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role</td>
<td>Fact finding based on opinions, views and measurement of perceptions</td>
<td>Fact-finding based on evidence or records</td>
</tr>
<tr>
<td>Researcher-subject</td>
<td>Close</td>
<td>Distant</td>
</tr>
<tr>
<td>relationship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scope of findings</td>
<td>Ideographic e.g. symbolizing ideas</td>
<td>Nomothetic e.g. stating laws</td>
</tr>
<tr>
<td>Theory/concepts-</td>
<td>Emergent/developing</td>
<td>Testing/confirmation</td>
</tr>
<tr>
<td>research relationship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nature of data</td>
<td>Rich and deep</td>
<td>Hard and reliable</td>
</tr>
</tbody>
</table>

Table 2.1: Some differences between quantitative and qualitative research (adapted from Naoum)

A theory can be defined as "a set of interrelated constructs that presents a systematic view of phenomena by specifying relationships among variables, with the purpose of explaining natural phenomena.” Here, the constructs are the variables or questions, and the systematic view is an argument that attempts to explain or predict phenomena that happen in the world.’ Typically, a theory is introduced as a series of hypotheses in the form of ‘if . . . then’ logical statements, or simple as a ‘hunch’ (Naoum, 2007).

The placement of theory is different in qualitative and quantitative studies. In quantitative research, a theory is placed at the beginning of the study. The aim is to deductively test or verify a theory, rather than develop it. In qualitative research, a theory tends to be placed at the end of the study. Hence, the final outcome of qualitative research will be formulating hunches and hypotheses which will be tested later on by rigorous quantitative research methods (Naoum, 2007). Therefore, qualitative research is a predecessor to quantitative research.
Chapter 2: Research Methodology

This research is of qualitative nature; uses qualitative methods to acquire theoretical and qualitative data based on descriptive and commentary papers and articles. Descriptive texts describe the structure, features and principles of contracts while commentary texts critically analyse and evaluate effectiveness and performance of those contracts.

Qualitative strategy has been chosen because this research is mainly inductive and exploratory attempting to probe the opinions of construction stakeholders in the Gaza Strip about the main disputes they encounter, their perception of the role of the contract in controlling this, and their experience in using FIDIC. This will go hand in hand with the literature review comparing FIDIC and NEC to discover out which one might lead to fewer disputes. This strategy is the best way to link between the aim and conclusion as regards which standard form may reduce disputes in the Palestinian construction industry.

2.4. Search strategy

In order to achieve the aim and objectives of this research, journal papers have been gathered from secondary resources such as databases, journals’ websites, and search engines. The John Rylands University Library databases used in this research are ETHOS, Scopus, Science Direct, Engineering Village, Elsevier, EBSCO host, Compendex, Emerald, Hein Online, ABI Inform Global, and ProQuest. The used journals are:

- International Journal of Project Management
- Project Management Journal
- Journal of Management in Engineering
- International Journal of Law in the Built Environment
- Construction Management and Economics
- Engineering, Construction, and Architectural management
- IEEE

Also, Google scholar search engine was helpful in the searching process. Other significant resources for articles, reports, newsletters, and conference proceedings are NEC and FIDIC official websites, Thomas Telford and ICE proceedings (ICE virtual library), and American Society of Civil Engineers (ASCE) website.

Chapter 2: Research Methodology

- FIDIC: the most used traditional contract in international and domestic projects, especially in the developing world countries like Palestine. It will be compared with NEC.

- New Engineering Contract/NEC/ Engineering and Construction Contract: NEC has been developed to improve construction management practices. It is the core of this research. Engineering and Construction Contract (ECC) is the main contract between the client and the contractor under NEC family.

- Standard forms of construction contract: NEC and FIDIC are very common standard forms used in construction industry, and they are the basis of this research.

- Disputes: are contemporary concern for construction standard forms and the main reason why NEC was developed.

- Palestine: is the geographical boundary within which the main aim of this research will be investigated.

2.5. Research Methods

The methods of collecting data affect the analyses and, thus, the outcomes, conclusions, validity and reliability of the study (Fellows and Liu, 2008). The approach of conducting the research, or collecting data depends on the type of data or information (quantitative, qualitative, or both) that are required and available. Basically, there are two approaches to collect data or conduct the research (Naoum, 2007):

- Desk study (secondary data collection)
- Fieldwork (primary data collection)

The desk study is all about reviewing the literature critically. It is necessary for any research to undertake a literature review. The rationale for this is that a comprehensive grasp of existing knowledge is a condition precedent to make an original contribution to knowledge in a research area (Naoum, 2007). The literature review integrates the works done by many researchers, criticises previous research works, and bridges the gap in knowledge. In other words, the literature review makes use of accumulated knowledge and wisdom and avoids reinventing the wheel. There are two types of sources used in undertaking the literature review (Naoum, 2007):
Chapter 2: Research Methodology

1. Primary sources: are the most accurate and reliable sources of information as they publish the original research. They include refereed academic journals, refereed conference proceedings, dissertation/theses, technical reports and occasional papers, government publications etc.

2. Secondary sources: are those that cite from primary sources such as textbooks, and newspaper articles.

The fieldwork approach includes the survey approach (questionnaire, interview), the case study approach, the problem-solving approach (action research), and observational and experimental studies. The two major research techniques used to gather data are postal questionnaire and the personal interview (Naoum, 2007). Interviews are one of the most frequently employed qualitative methods (Crouch and McKenzie, 2006).

The main advantages of postal questionnaire are that it is cost-effective, speedy, can involve large sample, and that respondents can consult other people before answering. Its main limitations are that it is impersonal, contains only simple questions, inflexible, and suffers from low response rate (Naoum, 2007). Questionnaire provides for simple, straightforward and quick questions ‘tick the box approach’ which does not allow for in-depth study.

The main advantages of personal interview are: knowing the identity of participants, the interaction between interviewer and interviewee which allows probing, the quality of information is deep and detailed. Also, it has a higher response rate, and more accurate answers than a questionnaire. Its main limitations are lengthy to arrange and conduct, long analysis and processing time, relatively small sample and the analysis of the information is more difficult (Naoum, 2007).

Due to the aforementioned points, it is quite obvious that interviews are the most effective method of data collection within the domain and scope of this research. Personal interviews have three forms or styles; unstructured, structured and semi-structured. The structured and unstructured interviews have many alternative names such as formal and informal, controlled and uncontrolled, inflexible and flexible, standardised and unstandardised, interviews (Naoum, 2007).

At one end of a continuum are structured interviews in which the interviewer asks a list of prescribed questions and the interviewees are discouraged from deviating from the questions. This can be viewed as questionnaire administered by the researcher. At the other end of the continuum are unstructured interviews in which participants are encouraged to direct the conversation instead of the interviewer.
Chapter 2: Research Methodology

In-depth, semi-structured interviews sit somewhere in the middle of this continuum (Longhurst, 2009). In this research, the semi-structured interview has been used.

2.6. Semi-structured Interview

Although in the semi-structured interviews the interviewer prepares a list of predetermined questions as the structured interview, participants in the semi-structured way have the opportunity to explore issues in as much depth and from as many angles as they please, during answering the open-ended questions. Also, the interviewer has a greater freedom to probe various areas and to raise specific queries during the semi-structured interview. This technique is not simple; it can take days, even weeks, to get prepared to conduct several interviews (Longhurst, 2009).

Conducting semi-structured interview requires background reading, preparing and formulating questions, deciding who to recruit and contacting them to set up appointments, carrying out the interviews, transcribing the script, analysing the answers and information, and then writing up a coherent text. Therefore, this method is demanding and time consuming, obviously. Moreover, interviewing requires a high level of interpersonal skills (Longhurst, 2009).

A strength of the method is that it helps understanding of complex behaviours, experiences, emotions and opinions. Unlike other methods, semi-structured interviews allow for much discovery or probing to explore issues deeply and thoroughly. Also, it is useful for investigating personal, sensitive, or confidential issues which are difficult if not impossible to raise and disclose in a questionnaire. It avoids getting stuck in conventional ways of thinking. Another advantage is that it shows respect for interviewees and their opinions (Longhurst, 2009).

The main weakness of this method is that it tends to be very effort demanding and time consuming. Another limitation is that interviewees may feel being manipulated (Longhurst, 2009). Although this method does not offer researchers a way to ‘the truth’ but it does offer a route to partial insights into what people do and think (Longhurst, 2009).

2.7. Sampling

After selecting the research strategy and research approach, the characteristics of the participants should be considered. A sample or a specimen has to be drawn from the whole population. Selecting the research sample is very important and it must be representative of the population as a whole. This representative sample is drawn either randomly (arbitrarily and without purpose) or non-randomly (selected sampling). The interview approach often uses selected sampling by choosing interviewees
with specific characteristics (Naoum, 2007). Selected ‘expert’ sampling has been followed in this research. This involves selecting people who have expertise in research question, which is in this case construction contracts, especially FIDIC. At this time, the traditional, conventional, classical, and recurring question which is ‘how many interviews is enough?’ arises.

Actually, there is still very little consensus regarding the number of interviewees that is adequate and sufficient. This depends on the analytical choices and the depth the researcher wish to get into, but there is a general rule of thumb of around 30 interviews (Chan, 2012).

The field-oriented applied research that is not concerned with statistical generalisability uses nonprobabilistic samples, and more specifically, purposive samples. Purposive samples are the most commonly used form of nonprobabilistic sampling, and they share common feature whereby participants are selected based on predetermined criteria relevant to the research aim. There are no hard and fast rules or guidelines determining the size of nonprobabilistic samples (Guest, 2006). Typically, the size of purposive samples depends on the concept of "saturation". Saturation is the point at which no new information or themes are observed in the data. The main limitation of this approach is that it is of little use to determine the required sample size prior to data collection to conduct the qualitative research (Guest, 2006).

Many studies have found that saturation is reached within the first twelve interviews, while the basic and main elements of the themes are uncovered by six interviews. For instance, Nielsen and Landauer (1993) show that – using a mathematical model based on results of six different projects- six participants can uncover 80% of the major themes under investigation and twelve participants can uncover 90% of them. Therefore, a sample of six interviews may be sufficient to enable the development of meaningful themes and useful interpretations, and twelve interviews would yield fairly complete and stable results. Nonetheless, the effectiveness of the magic numbers of six or twelve minimum interviews still depends on the careful selection of the interviewees (Guest, 2006).

Actually, interview-based research involving a small number of participants (say less than 20) is becoming more common. The in-depth interviews may yield to new knowledge and insights, or at least improved understanding. The issue of small sample size as well as representativeness has little importance on the research logic because qualitative research scrutinises the dynamic qualities of a situation. Furthermore, the small sample size facilitates the researcher’s close relation with the
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Interviewee, improves the validity of fine-grained in-depth inquiry, and it is the best way to conduct analytic, inductive, and exploratory studies (Crouch and McKenzie, 2006).

Thinking about ‘who to interview’ has significant impact upon the quality of information, and in turn on the conclusions and the overall strength of the research.

The researcher has conducted twelve semi-structured interviews with highly prominent and eminent professionals within the Palestinian construction industry. The interviewees fall under the following job titles or positions: project manager, functional/technical manager, executive manager, procurement/commercial/contract manager, programme manager, academic and arbitrator. The interviewees have been selected with the intention in mind to be as diverse as possible. Therefore, it is very likely to obtain diverse and various opinions and experiences that may disagree on many issues. This should be viewed as a healthy debate giving rise to more rounded conclusions, and covering the topic in a holistic view from many angles.

The interviewees represent the client/owner/employer organisation, the contractor company, engineering and consulting firms, and development agencies. In addition, the researcher has interviewed people of different genders (masculine and feminine), different ages and experiences. The range of experience ranges from 8 years to 30 years.

2.8. Conceptual Framework

Again, this research is of qualitative nature because it aims to induce the relation between the choice of a standard contract and contractual disputes. The research method depends on reviewing the literature and surveying the opinions of Palestinian construction practitioners via interviews, as well as the experience the researcher has in the construction industry of the Gaza Strip. Qualitative researchers collect facts and study the relationship between them. They use predetermined research questions and conceptual/theoretical framework to produce generalised conclusions (Bell, 2006). By this methodological approach, which combines the strength of academic literature and industry perspective, recommendations for the contract which most likely could minimise disputes and more suitable to be used within the abnormal conditions in Palestine will be presented.

The variables or units of analysis in the theoretical framework of this research are FIDIC and NEC standard contracts and construction disputes. The main assumption here of the interaction between the variables is that the choice of the contract has a direct effect on the disputes between construction parties. In other words, the contract is the independent variable whereas the dispute is the dependent
variable. The boundary of the framework or the context of this study is the Gaza Strip-Palestine. The proposition here is that NEC may minimise disputes. The validity of this proposition will be investigated by surveying the opinions of practitioners through interviews. Obviously, the findings of this research will have a strong impact on understanding the relationship between standard contracts and disputes, especially within the Palestinian construction industry. Figure 2.1 shows the research process or procedure followed in this work.

Figure 2.1: Research Process and Procedure.
Chapter 3: Standard Forms of Contract

3.1. Introduction
This chapter introduces the legal background of contracts, the terms of the contract, the development of standard forms of contract, and then discusses the benefits and limitations of those standard forms. Finally, the different standard forms used in Palestine are outlined.

3.2. General Principles of Contract
3.2.1. Background of the Law of Contract
Contract is the legal cornerstone of all business and commercial transactions and the legal tool which facilitates the exchange of goods or services. There is some debate about the nature and hence the definition of a contract. Some consider it a promise (Civil law philosophy) whereas others argue that it is an agreement (Common law philosophy) (Fenn, 2011).
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A contract is defined as ‘An agreement between two or more parties that is binding in law’, ‘an agreement which the courts will enforce’ or ‘an agreement where the two parties to the agreement undertake certain obligations’. This agreement generates rights and obligations that may be enforced by a court. If either party breaks its promise, it will be in a ‘breach of contract’ (Duxbury, 2009; Harris, 2007; Koffman and Macdonald, 1998). The agreement-based definition focuses on the entire package of responsibilities and rights that the parties agreed on to govern the relationship between themselves (Fenn, 2011).

On the other hand, a contract can be defined as ‘exchange of promises’, or ‘a promise or set of promises which the law will enforce’. For example, a supplier promises to provide a product or service at some time in the future and the customer promises to pay for that. The promise-based definition concentrates on the individual promises given by the parties and the reason that holds the parties to their promises, based the doctrine of consideration (Comish, 2012b; Fenn, 2011).

The modern and common practice in business, commercial, and legal activities is to consider a contract as an agreement rather than a promise (Fenn, 2011).

In practice, different terms can be used to refer to ‘contract’ such as: purchase order, requisition, sub-contract, supply agreement. The party who instigates the contract may be called: customer, client, purchaser, employer, promoter, or vendor. The other party who supplies, builds, constructs, fabricates, installs or provides the product may be called: supplier, contractor, seller, or sub-contractor. In construction contracts, there is often a third party employed by the client to secure his interests and act on his behalf. This party is named in the contract as project manager, architect, consultant, quantity surveyor, or construction manager (Comish, 2012b).

The essential elements that must be satisfied in a contract to be valid are: agreement, consideration (only required under Common law), legal intent, and capacity (Duxbury, 2009; Harris, 2007; Koffman, and Macdonald 1998). In a commercial context, legal intent and capacity rarely cause problems. If there is a dispute it will be about the agreement and possibly consideration. The process to reach agreement consists of two parts; terms and conditions, and contract formation (the agreement itself). Whilst contract formation may be an issue, the typical dispute in commercial practice is nearly always about the terms of the agreement such as late delivery, non-payment, extra work, insolvency, etc. (Comish, 2012b). An agreement is normally made when one party offers (tender, bid, quotation) and the other party accepts the offer. Most model conditions include a ‘Form of Agreement’ which when
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signed makes the contract. The party who offers usually does this in response to an invitation or invitation to treat (enquiry). There are rules about the offer and the acceptance. The offer must be made with the intention that it to be accepted and the acceptance must be certain, unambiguous, and unconditional (Uff, 2009; Murdoch and Hughes, 2000).

3.2.2. Construction Contract Law and the Legal Systems

The relationship between a client and a contractor and between a contractor and a subcontractor is contractual and therefore the general law of contract applies. The general law has its basis in the legal system or jurisdiction of each country. Basically, there are four families of legal systems in the world. These are common law, civil law, socialist law, and Islamic or Sharia law (Bunni, 2005; Comish, 2012b).

As English has become the leading language for international construction projects and standard forms of contract, it is imperative to understand the legal system and sources of Law in England and Wales. The Law in England and Wales is mainly common law (alternatively known as case law) which is law made by judges through decisions of courts. This doctrine of ‘judicial precedents’ means that decisions made by courts/judges form a binding source of law for future decisions (Comish, 2012b; Jaeger and Hök, 2010; Uff, 2009). However, flexibility is built into the system by the ability to overrule (usually at a higher level) and to distinguish (one case from another). The English law also comes from statute or legislation in the form of Acts of Parliament. An example of this is the ‘Housing Grants, Construction and Regeneration Act 1996’. There are other statutory rules, such as statutory instruments, by-laws, and private rules. After the UK joined the European Union as a Member State, the European law has become another source to introduce legislation (Bunni, 2005; Comish, 2012b; Uff, 2009).

Compared to other jurisdictions in the world, the legal status in Palestine is very complicated and unique. This is because of the legal history of the area during which a number of authorities and occupations have ruled over Palestine resulting in overlapping jurisdictions and multi-layered legal system. The legal system governing the Palestinian Territories consists of multiple and various laws including Ottoman Empire, British Mandate, Egyptian, Jordanian, Israeli and Palestinian National Authority’s Basic law with three different families of legal systems; Common law (Gaza Strip), Civil law (West Bank) and Islamic/ Sharia law (Bar Human Rights Committee of England and Wales, 2006; Birzeit University-Institute of Law, 2012).
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There are three different types of courts prevailing and existing under the jurisdiction of the Palestinian Authority (PA) including ordinary courts, military courts and religious courts, as shown in Figure 3.1.

![Figure 3.1: Ordinary Courts Structure (source: Bar Human Rights Committee of England and Wales, 2006)](image)

In the Gaza Strip governorates, the Supreme Court is the highest court and its decisions are deemed to be binding on all lower courts in the hierarchy (Case Law/ judicial precedents). In fact, the difference arising between the effective laws in the West Bank and the Gaza Strip has begun to decrease due to the legislative consolidation. Such a difference will vanish in the future (Birzeit University-Institute of Law, 2012).

Construction law is ruled by statutory instruments, statutes and case law (Jaeger and Hök, 2010). Yet, construction law covers, in addition to the law and legal instruments that directly affect the operation of the construction industry, the principles of management. This interactive environment between lawyers and construction professionals and managers leads to efficient and workable construction contracts (Uff, 2009). Construction contract law is mainly case law based, with the exception of the Contract Scheme contained in the Housing Grants, Construction and Regeneration Act 1996. The Act provides mandatory implied terms of construction contracts within the scope of the Act (Jaeger and Hök, 2010).

Construction contracts are governed by the general law of contract. There are in addition some statutory rules, on payment and the settlement of disputes, which apply only to construction contracts (Jaeger and Hök, 2010).

3.2.3. Terms of a contract

As shown above, the typical dispute is more likely to be about the terms of the agreement. It is therefore important that the terms of a contract cover all aspects of the project, including not only the
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day to day supervision and administration, but also what is to happen when things go wrong including the remedy for the innocent party. In fact, the contracting parties are not only bound by the terms of the contract (known as express terms), but also by other terms which do not appear in contract documents (known as implied terms) (Uff, 2009; Murdoch and Hughes, 2000). Express terms are agreed orally or in writing. However, in commercial contracts parties rarely rely on the spoken word as it may be difficult to prove what was said later on. A party who promotes the project will tend to use a standard form or have an 'in-house' set of terms. On the other hand, implied terms are implied into the contract by law of the country should the parties not include an appropriate express term or should the express term break down (e.g. found by the court to be unreasonable) (Uff, 2009; Comish, 2012a). Terms may be implied into a contract by general law (e.g. common law in England) that implies terms based on reasonableness such as reasonable duration, quality, fees etc. and other principles such as ‘contract is entire’ and ‘time is at large’. In addition, terms may be implied by statute whereby an act or regulation implies terms into the contract, such as the Housing, Construction, and Regeneration Act 1996 (Uff, 2009; Comish, 2012a).

In commercial contracts, it is far from norms and practice to rely on implied terms and what is reasonable. Rather, commercial parties have to be more definite in what the supplier's standards, time, fee etc. are going to be (Comish, 2012a). Therefore, in complex contractual arrangements within construction and engineering projects, commercial partners attempt to cover all matters, possibilities and eventualities with express terms rather than leaving it to implied terms. Normally, a set of express terms in the form of a standard form of contract is part of commercial agreements which will suffice to cover all matters provided that they are written properly (Comish, 2012a). However, it is necessary to bear in mind that implied terms still exist and in effect there are ‘shadow’ implied terms behind some express terms which are in standby position and ready to be activated and incorporated into the contract should the express terms fail.

In many standard forms, certain terms recognise that implied terms exist. For example, FIDIC sub-clause 3.1 states ‘The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract’. Eggleston (2006) says that NEC3, in general, does not attempt to exclude implied term by stating that the ‘obligations, rights and liabilities of the parties are only those as expressly stated’ as MF/1 standard form did, for example. However, this matter is still debated because the meaning that clause 12.4 brings by stating that the contract is ‘the entire
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*agreement between the parties’ is questioned. In overall, the scope for implied terms in NEC3 is very limited (Eggleston, 2006).

3.3. Origins and Development of Standard Forms of Contract

If a party to the contract drafts and uses its own terms, there will be a possibility that the terms are biased towards it. Then, if a dispute was referred to a court, the party who had written the terms would have to prove that they are reasonable. Otherwise, the principle of *Contra proferentem* applies that provides the ambiguous term will be interpreted against the interests of the party who wrote it (Uff, 2009; Murdoch and Hughes, 2000). Consequently, this principle urges the party who drafts and imposes the set of terms to ensure they are clear and reasonable.

Also, it would be costly and time consuming if the parties had to reinvent the wheel and draft a particular contract for each project. Besides, there would be a greater chance of errors and missing out some matters (Comish, 2012a). The complex and sometimes complicated nature of construction projects in terms of legal, financial, technical and managerial aspects dictate the use of carefully drafted and lengthy contracts (Bubshait and Almohawis, 1994). For these and other reasons, standard forms have been developed and widely used by commercial parties.

The development of standard forms of contracts dates back to 19th century, when most building projects were implemented by public sector. These contracts were drafted by lawyers to represent the employer’s interest and thus are biased towards the employer (Wallace, 1986). In fact, the first initiative was done by the Royal Institution of British Architects (RIBA) that published the first RIBA form in 1870. The well-known JCT standard forms are considered to be direct descendants of the original RIBA form (Murdoch and Hughes, 1992). In the late of 19th century, each public sector entity developed its in-house terms which were unfair and biased. Besides, the contractor had to study each form in order to bid to projects promoted by different public authorities, the thing which wasted money, time, and effort, and was a major source of risks (Norrie, 1956).

By the early part of 20th century, the courts and contractors recognised that a standard form was necessary. In 1930, the first standard form was published by the Federation of Civil Engineering Contractors (FCEC) with the Association of Consulting Engineers. Fifteen years later, in 1945, the Institution of Civil Engineers (ICE) together with the FCEC published a set of terms (Broome and Hayes, 1997). This standard form was the first of the ICE standard form series with the last one being the 7th edition in 1999. In 2011, the Institution of Civil Engineers officially withdrew the ICE
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conditions of contract to endorse NEC3 instead and promote its usage as it said in its website (Institution of Civil Engineers, 2011). The year 1954 witnessed the birth of FIDIC conditions of contract being rooted in the ICE conditions (Broome and Hayes, 1997). Recently, a new generation of standard forms has been developed to fulfil the requirements of the increasingly popular projects funded through project finance deals or concession arrangements (Uff, 2009).

The main problem in developing the standard forms is the absence of precise aims and goals. These drafting activities suffer from lack of direction and generalisation of the intended objectives as Professor John Uff wrote:

"The growth and proliferation of construction contract forms is notable and suggests an intention to achieve some objective. That object is, however, rarely defined other than in generality, usually consisting of a desire to 'improve' the operation of the form ...with there being little evidence of policy having played a significant part in the drafting of standard forms" (Uff, 1989)

The standard forms of contract can be defined as "construction contracts providing a basic legal framework identifying the rights, obligations, and duties of the parties, establish the ambit of powers and duties of the contract administrator" (Pathmavathy and Nayagam, 2004). They are known alternatively as ‘conditions of contract’, ‘general conditions of contract’, ‘pro forma contracts’ or ‘model forms’. Typically, they are published by independent third parties and professional bodies representing the industry, and deemed to be fair and reasonable between the two parties. Also, many government departments, local authorities, financing institutions, and trade associations publish their own terms or assign somebody else to draft them on their behalf (Comish, 2012a).

In large, complex and risky engineering, construction, or other large scale project the contract is usually formed by a set of documents. These documentations, referred to as the ‘contract documents’, are usually comprised of the Agreement, the Conditions of Contract, the Specifications, the Drawings, the Bills of Quantities, and others (Murdoch and Hughes, 2000).

Normally, the conditions dictate the commercial rules and procedures for running the contract, so as to complement the specifications, drawings and other contract documents that are necessary to define the scope and standards of the project works to be undertaken under the contract. The agreement and the conditions of contract will normally comprise a standard form (Comish, 2012a).
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3.4. The Choice of a Standard Form is Very Important

The contractual relationship between the client and contractor, contractor and subcontractor heavily depends on the choice of a standard form. An important part, if not the most important of any construction or engineering contract is the conditions of contract. The importance comes from defining the roles, responsibilities, rights, and the whole relationship between the commercial parties as well as spelling out the general rules for running the project (Bubshait and Almohawis, 1994). The conditions of contract document has a pivotal and vital role in affecting the project success or failure in terms of the iron triangle of time, cost, quality in addition to satisfaction of contracting parties. The conditions of contracts, whether standard or not, should be viewed by the contracting parties as a potential source of risks that needs assessment (Akinsola and Potts, 1998).

These risks become more severe when contractors need to deal with unfamiliar conditions that are different from FIDIC, for example, particularly when working within international projects (Bubshait and Almohawis, 1994). In addition, the type of contract directly affects the contractor decision to bid as well as bid price determination (Lowe and Leirimger, 2006). Due to the aforementioned reasons, standardised forms of conditions of contracts have been developed by different professional bodies over the years.

3.5. Advantages of Standard Forms of Contract

Sir William McKenzie said:

"It is difficult to measure the advantages that will flow from the general adoption of this Standard Form of Contract. The elimination of uncertainties and ambiguities and the certainty introduced by a standardisation on fair and just lines in clear and simple language must necessarily create confidence throughout the Building Industry; and I cannot doubt will, by reason of equitable and known conditions, result in closer prices and in reducing building costs"

(cited in Close, 1952:11)

Sweet (1994) cited in (Li, 2006) summarises the vital role of standard forms in three points and they are:

- Provide a consensus platform between contracting parties to allocate risks, responsibilities, and remedies and address administrative procedures
- Increase the efficiency and reduce the costs of negotiation ; and
- Useful link and nexus between contracting entities within a project
Indeed, there are many benefits for all contracting parties from using the standard forms of contract. Standard forms of contract address complex legal contractual arrangements and provide the tools to make right and enhance industry practices and unsatisfactory legal rules (Li, 2006). Standard forms of conditions of contract are widely-used all over the world and in different industries including building, construction, civil engineering, electrical, mechanical, chemical, oil and gas works and much more. This wide use is a strong indicator of the benefits delivered as recognised by contracting parties.

The ability of standard forms to improve the performance of the contract is one of the most important advantages. By standardising the conditions and using them over a long period of time, the efficiency, fairness, clarity and certainty of meaning will be tested and thus any weak, vague, or unreasonable areas or clauses which need modifications will be identified and improved (Li, 2006).

Another advantage is that standardisation brings familiarity and familiarity is quite often held out to be advantageous to the contracting parties. This familiarity will reduce the time, cost, and effort required to study and prepare the contract documents which ultimately leads to reduced bid-price (Bubshait and Almohawis, 1994). This is a win-win situation because unfamiliarity results a waste of money which neither party benefits from. Also, familiarity makes it easier to comply with the form. The decided cases by court and judicial precedents increase the certainty of meaning and enhance interpretation. Lord Hoffman defines interpretation, in the most cited English contract law case today *Investors Compensation Scheme v. West Bromwich Building Society [1997]* as:

> "the ascertainment of the meaning which the document would convey to a reasonable person having all the background knowledge which would reasonably have been available to the parties in the situation in which they were at the time of the contract" (BAILII, 1997)

Other benefits brought by standardisation of conditions of contract is reducing the chance of misunderstanding, misinterpretation, undue compensation, and the frequency of change and variation orders, claims and disputes (Bubshait and Almohawis, 1994).

However, because of the perceived advantages of familiarity, contracting parties favour existing and traditional forms over new forms. The norms within particular industry are probably shaped by the extent of usage of existing standard forms (Li, 2006). Naturally, people hate to change and will attempt to avoid it. Therefore, in terms of familiarity, it could be argued that FIDIC forms are more competitive than new forms of contract, such as NEC forms.

Contracting parties recognise that it is profitable to use standard forms to administer their business and commercial projects. When the transactions are of large size and occur frequently and numerously, the
transaction cost can be substantially reduced by using standardised conditions (Slawson, 1984). This might be viewed within the principles of Transaction Cost Economics theory as outsourcing the task of drafting the terms and conditions of commercial projects to professional bodies. In addition, standardising conditions improves the contractual predictability and stability, and makes contractual risks more controllable and manageable by making them uniform for all projects of the same kind (Slawson, 1984). The contingency budget that would have been incorporated by bidders into the bid price if conditions of contract had not been standard to cover contractual risks, is eliminated by standardising the conditions and in turn reduces the bid price which again is innovative tool to attain mutual benefits for both parties. Actually, one of the main aims of standard forms is to address and identify project risks and articulate how these risks are to be allocated and managed. Finally, the standard forms encourage the parties to focus on ‘negotiable terms’ while allowing them to take the rest of contract terms for granted. Avoiding the need for protracted debate and negotiation on detailed wording will consequently reduce the transaction cost of contract formation (Swiney, 2007).

Formation of contract has been a very complex aspect recently. This complexity stems from the huge demands of construction and engineering projects in terms of legal, financial, technical, and managerial aspects. The different routes of procurement for large scale projects in addition to the appearance of project finance deals or concession arrangements make negotiation more prolonged and very tough. Slawson (1984) argues that even one transaction can now leads to numerous and complex legal implications. This is particularly true because new statutes, legislation and acts besides the continuing accumulation of common law have increased the law related to contracts and make it more difficult for an average person to understand. Consequently, it has been impossible to state in writing all the legal implications that may arise from certain contract given the short time available for parties to study the contract documents and make the deal. This short time pressure may give rise to ‘blind transaction’ without fully understanding or even reading the contract terms. Standardising the contract conditions presents effective and efficient solution to these legal and time challenges (Slawson, 1984).

3.6. Disadvantages of Standard Forms of Contract

Standard forms have many advantages as discussed in the previous section, nevertheless they have certain disadvantages. The critiques and arguments against standard forms are presented in the following paragraphs.
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Professor John Uff criticised the practice of producing standard forms as the drafting and publication of conditions tend to be the goal in itself. This unorganized activity leads to a pool or jungle of forms which negatively affect the original aims and benefits of writing standard forms. Uff states:

"The development of construction contract forms stands at a watershed: the old forms are losing their influence; instead of orderly change, the existing institutions are being outflanked by the introduction of new forms and new systems; and the institutions are tending to respond by promoting more and more diverse forms of their own. The volume of activity in the production of standard forms is unprecedented. These facts demonstrate a clear need for a collective body of learning on the subject of construction contracts." (Uff, 1989:5).

For instance, Priestley (1994) has noted that the National Association of Lift Contractors has dealt with some 150 standard forms. Abrahamson (1988) has described such a situation as a "jungle" of forms. This vast number of standard forms causes a trenchant problem since it makes it more difficult, if not impossible, for contractors to appreciate their legal and contractual implications. It is inevitable that contracting parties have little or no understanding at all of the conditions of contract due to this jungle of forms (Li, 2006).

Meanwhile, how do Engineers or project managers recommend the most suitable standard form of contract amongst this jungle for the client? Certainly, there are many variables affecting such a decision in different contexts such as project type, size, complexity, norms within an industry, country, client organisation, client’s contract and procurement strategies, familiarity, clarity and so forth. Bubshait and Almohawis (1994) propose eleven attributes when evaluating the general conditions to make the bid decision. These attributes are clarity, conciseness, completeness, external and internal consistencies, practicality, fairness, and the effects on project’s cost, time, quality and safety. However, the problem is that once a decision is made, the engineers or project managers must be able to defend it as Cecil (1992) points out:

"The client will enter into the building contract on your advice. If anything is wrong with that contract, the client will try to blame you... but it is a standard form and it is unlikely that you would be faulted for recommending its use!" (Cecil, 1992:17)

The reasoning and justification of benefits obtained from using a standard form just because it is familiar and common is questioned by Wallace (1986:502) who comments "a total non sequitur for while a standard form used as widely as possible is obviously desirable, it is far better to have no standard form than a bad standard form".

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The efficiency of traditional standard forms are questioned due to the rapid increase in size and complexity of modern projects in terms of financial, legal, and technical aspects. The demand for specialist contractors to design different parts of the project besides the pressure of short time to market and fast-track construction for commercial reasons, pose real challenges to the ability of the traditional forms to fulfil the project requirements and objectives (Priestley, 1994).

Model forms are revised from time to time in order to enhance the clarity, efficiency, certainty of meaning, eliminate potential conflicts between some clauses, or as a response to research recommendations or external influence. Sweet (1994) maintains that these revisions are costly and the users have to study every new edition to understand it and decide whether it should be used. Also, the judicial precedents lose their value if reviews result changes in contract language. On one end of the spectrum, if the changes and reviews are very frequent, this may lead to distrust and scepticism towards the competency of the publishing body as well as the contract itself. At the other end of the spectrum, the failure to publish new editions in response to significant changes in industry practice or legislation sends a sign of a lack of responsiveness (Sweet, 1994). Hence, the key is to balance between the need for revisions to respond to changes, and the direct and indirect costs of the consequences of new editions.

One of the good things that standard forms have is that they relieve the parties from the burden of writing down a new contract each time. Yet, one of the significant pitfalls of standard forms which arise from this benefit is that they are open to modifications by the clients. This is a common practice mainly to make the conditions more appropriate to the particular project environment or to shift certain risks to the contractor. Thompson et al. (1998) surveyed the opinions if 163 clients in the construction industry and found that more than 90% of them amend the clauses to suit their own requirements, amongst which 87% aimed to reallocate risks to the contractor side. Only one client, in this study, claimed that he had amended the clauses in the favour of the contractor.

Modifying the terms of a contract is often done parallel to the financing documents as Yuille (1993) points out:

"The recession is influencing the nature of legal work...whereas in the past people had jobs on standard forms, now they have heavily amended standard forms - all very much one-offs which need scrutiny. It comes about by people trying to shift risk."  
(Yuille, 1993:13)

Historically, these amendments have proven to be contentious whereby contentions arise from the substance of amendments, the procedure to agree upon them, and the outcomes, results and
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consequences that would be achieved. One serious source of problems over time is significantly amending the standard form by the party who has a superior bargaining position, which is usually the client, in order to capitalise upon the freedom of contract and achieve unfair commercial advantage (Li, 2006). This practice can lead to Contra proferentem situation.

Amending the contract is a very risky approach and disastrous practice which quite often ends up with a document with the unintended aim, inconsistencies between clauses, and various interpretations that give rise to disputes. This may create a nightmare situation with contractual implications nobody has accounted for or even thought about beforehand (Li, 2006). The author of this dissertation believes that the implications of amendments are more severe in traditional forms such as FIDIC which are heavily dependent on cross-referencing between its clauses, unlike NEC which gets rid of cross-referencing feature. Latham (1994) considered the issue of amendments in his report, and recommended that no amendments to be permitted to the core clauses of NEC contract.

The widespread usage of standard forms in construction and engineering projects indicates that their advantages outweigh their disadvantages. Yet, and surprisingly, clients in the construction industry have a very high level of dissatisfaction as regards standard forms of contract. Thompson et al. (1998) found that only 6% of clients are fully satisfied with the standard conditions of contracts. What makes these results more than striking is the fact that clients themselves, who are the promoters and initiators of projects; choose the standard form most appropriate to fulfil their needs. Thompson et al. (1998) analysed the traditional standard forms (JCT, ICE, FIDIC etc.) and attributed the state of dissatisfaction to the philosophy of these contracts. They claim that most of the contracts are designed to be reactive and to apportion strict liability in an arms-length contracting fashion. This in turn creates adversarial culture and inefficiency in managing the contract which the client ultimately pays for in upward contract prices. This argument is in line with the UK government reports, basically Latham (1994) and Egan (1994) reports that argue that many of the standard forms tend to fuel the inherently adversarial relationships in the construction industry.

Nevertheless, this "messy" situation in which standard forms are very popular even though unpleasing, poses many legitimate questions about the driving forces, motives, triggers, and real underlying reasons of using standard forms in construction industry.
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3.7. Standard Forms in Palestine

Historically, there are three main types of standard forms in the construction industry: the standard form of Building published by the Joint Contracts Tribunal (JCT), the Institution of Civil Engineers (ICE) contract for civil engineering works, and FIDIC contract with the aim to be used in international civil engineering and building works. FIDIC contract is very popular in the third world countries, and Palestine is no exception, and for projects funded by the World Bank (Flood and Caiger, 1993).

In Palestine, the construction industry is running under abnormal conditions in comparison to other parts in the world. This is attributed to the political instability that affects all aspects of Palestinians daily life including the economy, and the construction sector is no exception (Rustom, 2004).

Before the year 1994, when the Gaza strip was under the control of Israeli occupation, there were three types of general conditions used to govern construction projects in the Gaza Strip. They are conditions used by municipalities, conditions used in the public works department, and conditions used by the United Nations Relief and Works Agency (UNRWA). After the year 1994, after the establishment of Palestinian National Authority (PNA) and regaining control over some parts of the Occupied Palestinian Territories, there was construction boom and relatively large scale projects funded by international donors who introduced their own condition of contract (Murtaja, 2007).

This created a new contractual environment in the construction industry which was flooded by new conditions of contract. This brought the whole industry back to several decades when there was a jungle of forms and many voices rose to standardise the conditions of contract as shown in the previous section. Meanwhile, the challenges and problems of unfamiliarity, misinterpretation of the contract clauses and sometimes the unsuitability of the conditions to the extraordinary circumstances of the Palestinian Territories remain (Rustom, 2004).

Nowadays, the variety of standard forms used by different institutions in the Palestinian Territories continues. Aljarosha (2008) surveyed the standard forms used in the Gaza Strip via questionnaires targeting 71 contractors. From the 32 returned questionnaires, he found that the common standard forms are:

1. **FIDIC** conditions of contract: FIDIC 99 condition of contract for construction has been endorsed by the Palestinian cabinet since 2006 to represent the Palestinian unified conditions of contract for construction. Although standard forms of contract are revised from time to time, not all users choose to use the latest editions when entering into contracts. For example, in the Middle Eastern
Chapter 3: Standard Forms of Contract

countries, particularly the UAE, many people choose FIDIC 87 rather than 99, and Palestine is not an exception

2. United Nations Relief and Works Agency (UNRWA) conditions of contract: based mainly on FIDIC conditions

3. United Nations Development Program (UNDP) conditions of contract: covers the majority of the FIDIC clauses. These conditions are also used by the projects financed by the German government through the KFW to be implemented in the Gaza Strip and supervised by the UNDP.

4. Palestinian Economic Council for Development and Reconstruction (PECDAR) conditions of contract: mainly quoted from FIDIC 87, besides other contracts such as the World Bank conditions and unified Jordanian contract for construction projects.

5. United States Agency for International Development (USAID) contract: covers most of the FIDIC clauses.

6. The World Bank (WB) conditions of contract: covers most of the FIDIC clauses

7. European Union (EU) conditions of contract: covers most of the FIDIC clauses

8. Support the Municipal Development and Management (SMDM) conditions of contract: used in Danish development projects in the Gaza Middle Area: covers most of the FIDIC clauses.

9. Ministry of Public Works (MPW) Form of Contract

10. Palestinian Water Authority (PWA) Form of Contract, and

11. Others

Figure 3.1 shows the percentages of using the standard forms according to the projects the contractors have worked in. It is very likely, and not uncommon, to find one contractor dealing with many different standard forms. Simply, the contractor uses different standard forms that different employers provide for in different projects.

As shown in figure 3.1, the UNRWA and the UNDP standard forms are the most popular standard forms in the Gaza Strip. This can be related to the fact that they are the major employers in the Gaza Strip construction industry. They finance and supervise the construction of hospitals, schools, and housing projects, development of the deteriorated infrastructure, and reconstruction of destroyed buildings due to the Israeli attacks (Aljarosha, 2008). Therefore, it can be argued that the main driving force for using a particular standard form in the Gaza Strip is the employers’ needs and stipulations, and certainly not the features of the standard form. It is worth pointing out that FIDIC forms have a
Chapter 3: Standard Forms of Contract

relatively high usage even though they were endorsed by the Palestinian government a one year before undertaking the survey.

Figure 3.1: Standard forms used in the Gaza Strip

The main conceptual differences between the above forms and any standard form in general, are in who is responsible for what, who takes which risks, and what the terms of payment are. They also differ in the wording of their clauses.
4.1. A brief overview of the History and Development of FIDIC

FIDIC (Federation Internationale Des Ingenieurs-Conseils) is the acronym for the International Federation of Consulting Engineers. FIDIC organisation was founded in 1913 in Ghent, Belgium by three national associations of independent consulting engineers within Europe including Belgium, France, and Switzerland. The main aim was to draft and publish a standard form of contract for international civil engineering projects (Lina, 1997; Bunni, 2005). FIDIC published its first edition of conditions of contract for Works of Civil Engineering Construction in 1957 which was inspired and based mainly on the English Institution of Civil Engineers (ICE) conditions of contract (Broome and Hayes, 1997). Mortimer-Hawkins (1995) argues that this edition of FIDIC addressed the particular needs and requirements of working on overseas basis because it considered the variety of legal systems and jurisdictions under which the contract was going to operate, including both civil law and common
Chapter 4: Overview of FIDIC and NEC Standard Forms of Contract

law concepts and philosophies. However, Wallace (1974) criticised the contentions of describing FIDIC as international form as it mirrored to a large extent its English ICE counterpart. He said: “as a general comment, it is difficult to escape the conclusion that at least one primary object in preparing the present international contract was to depart as little as humanly possible from the English conditions.” Thus, FIDIC incorporates the traditional English contract wordings. The main reviews were done and revised forms were published in 1969, 1977, 1987, and most importantly in 1999 (Bunni, 2005; Sarie-Eldin, 1994).

Today, headquartered in Geneva in Switzerland, FIDIC represents the interest of some one million consulting engineers, from 88 countries around the world, and Palestine is included. Membership is restricted to one association within a country that has to prove that the statutes, bylaws and regulations of the country guarantee the compliance of its members with the ethics and professional code of practice of a consulting engineer according to FIDIC’s principles. Therefore, FIDIC represents the majority of the consulting engineering industry in the world (FIDIC, 2012; Bunni, 2005). Nowadays, FIDIC family of contracts is the most popular. They are used for almost all of the construction projects financed by the World Bank and govern the majority of international construction projects in the world because they are compatible with many legal systems (Seifert, 2005).

The popularity of FIDIC has been increased dramatically in the oil producing countries since the construction boom that followed the significant escalation of oil prices in 1973. FIDIC’s third edition has been used for most international infrastructure projects (Firman, 2006) and more than 30% of civil engineering projects in the Middle East in the 1980s (Seifert, 2005; Bunni, 2005). Undoubtedly, this percentage has risen more under current editions (Sarie-Eldin, 1994). Unlike any other construction contract, FIDIC forms have been translated into some 15 languages, including Arabic that shows their widespread relevance and use (Hillig et al., 2010). FIDIC is used with or without amendments, and quite often form the basis of bespoke public works contracts (Potts, 2008). For the public works contracts and civil engineering projects, FIDIC is the predominant form in the majority of the Arab Middle Eastern countries such as Kuwait, Saudi Arabia, United Arab Emirates, Iraq, Oman, Jordan and Egypt (Sarie-Eldin, 1994). In Palestine, it was shown in Chapter 3 that FIDIC form has been endorsed by the Palestinian Cabinet, and also taken by many different governmental and foreign institutions as the basis for their own conditions of contract.

Because of the international and widespread use of FIDIC form, and its adoption by international financing institutions, the contractor should gain more confidence in the contract and lower risk
contingencies. The following banks have participated in drafting the Multilateral Development Bank (MDB) Harmonised Edition of FIDIC contract and have agreed to its use for their projects (Aljarosha, 2008; Swiney, 2007; Zhanglin and Yuli, 2010):

1. The African Development Bank;
2. The Asian Development Bank;
3. The Black Sea Trade and Development Bank;
4. The Caribbean Development Bank;
5. The European Bank for Reconstruction and Development;
6. The Inter-American Development Bank;
7. The International Bank for Reconstruction and Development (World Bank);
8. The Islamic Bank for Development; and
9. The Nordic Development Fund

Besides, a significant percentage of the main development agencies use FIDIC contracts directly, or as the basis for their own bespoke forms of contract. For instance, USAID and different United Nations (UN) bodies use FIDIC for their financed construction projects (Aljarosha, 2008; Swiney, 2007). At the same time, USAID has developed its own bespoke contract to govern projects undertaken in Palestine as shown in Chapter 3.

Indeed, FIDIC contracts govern most of foreign and multilateral aid and it would be not an exaggeration to argue that FIDIC forms dominate international development construction projects. Often, developing countries such as Palestine depends on the aid from these institutions to fund the construction of critical, important and capital intensive infrastructure facilities, such as electrical, water and sewage treatment plants. The form of contract governing these projects is not a trivial matter as small differences in contract clauses or wording may be very costly (Swiney, 2007).

Based on the aforementioned points, it can be argued that FIDIC is becoming the ‘common law’ of the international construction contracting (Seifert, 2005). Essentially, FIDIC forms were intended to be used in international projects, where the client country was seeking the involvement of contractors from other countries. Nonetheless, in recent years, FIDIC has been increasingly used for domestic projects where all parties are of the same country (Potts, 2008). This was encouraged by the Red Book fourth edition in 1987 in which major changes were done that extended even to the title by deleting the word ‘international’ to invite the parties to use it locally as well as internationally (Bunni, 2005).

4.1.1. History and Development of FIDIC Family of Contracts

FIDIC drafts and publishes a range of standard forms (alternatively known as family or suite of contracts) which are routinely updated after wide consultation with its main stakeholders. Those
stakeholders include its members, international consultants and contractors, the International Bar Association, and major financing organisations and banks such as the World Bank (Potts, 2008).

The main problem in the first FIDIC contracts was that they assumed that the detailed design was to be carried out by the engineer, and the contract to be used for all engineering disciplines, whether civil or electrical and mechanical. However, this is only appropriate for civil engineering and infrastructure projects such as roads, bridges, tunnels, dams, water and wastewater treatment facilities, but by no means should it be considered suitable to fulfil the needs of electrical and mechanical projects in which major items of plant were manufactured off-site and then installed on-site (Glover, 2008). This led to the development of the FIDIC “Yellow Book” for mechanical and electrical works, with an emphasis on testing and commissioning, in 1963. The traditional contract became known as the Red Book (Glover, 2008).

FIDIC made major revisions and published new editions of the Red and Yellow Books in 1987. The fourth edition of the Red Book has become alternatively known as FIDIC 87, or the old Red Book (Glover, 2008). The old Red Book was very popular, and still in some countries, and was used by the Multilateral Development Banks (MDBs), including the World Bank, in their procurement. Basically, it was a modified version of the 4th edition of ICE conditions (Bunni 2005; Glover, 2008).

FIDIC published the “Orange Book” to be used in design and build or turnkey projects in 1995 (this was superseded by the Yellow and Silver Books published in 1999). One year later, FIDIC published a supplement to the Red and Yellow Books to enable the users to incorporate alternative arrangements such as a Dispute Adjudication Board and an option for payment on a lump sum basis rather than on to bills of quantities (Bunni 2005; Glover, 2008).

In 1994, after acknowledging anomalies in the old contracts and in the light of developments in the international construction industry, FIDIC established a task force to update its model forms. The main drives and reasons were (Bunni 2005; Glover, 2008):

1. The impartiality of the role of the engineer even though being employed and paid by the employer;
2. The desirability for standardisation within the FIDIC forms;
3. The desirability for simplification (improved clarity, consistent wording, and user-friendly format and layout) in light of the fact that FIDIC forms are issued in English but mainly used by people who are not native English speakers; and
4. The need for applicability and compatibility under both common law and civil law jurisdictions.
Chapter 4: Overview of FIDIC and NEC Standard Forms of Contract

This led to the publication of four new standard forms in 1999, known as ‘FIDIC’s Rainbow’ because FIDIC refers to them by different colours (Hillig et al., 2010). These contracts are (Aljarosha, 2008; Andersson, 2002; Bunni, 2005; Hillig et al., 2010; Jaeger and Hök, 2010; Owen, 2003; Potts, 2008; Seifert, 2005):

1) **Conditions of contract for construction (the new Red Book):** suitable for building and engineering works designed by the employer. This traditional contract is viewed as the flagship of all FIDIC contracts. It is known as the ‘Construction Contract’, the ‘new Red Book’ or the ‘1999 Red Book’. It should not be called the ‘Red Book’ because this name is associated with its previous edition; the fourth edition of 1987. Under this contract, the engineer does most of the design, and the contractor constructs the works, and thus follows traditional procurement route, with competitive bidding tendering procedure. However, some design may be carried out by the contractor for civil, mechanical, electrical and construction works, for example, shop drawings to show construction details and reinforcement. Payment is based on a re-measurement of quantities (with units prices defined in bill of quantities) or lump sums, normally monthly for approved work done. This form achieves a balance of risks between parties. This research focuses only on the new Red Book. Thus, any reference to FIDIC contract/form/conditions should be understood to refer to the new Red Book.

2) **Conditions of contract for plant and design-build (the new Yellow Book):** suitable for electrical and mechanical plant and for building and engineering works designed by the contractor. Under this contract, the contractor does the majority of the design and then builds the process or power plant projects or various infrastructure, engineering, and buildings projects. Payment is based on the achievement of milestones, generally on a lump-sum basis, but re-measurement is possible. This form holds a fair balance of risks and interests of parties. Under this contract, the engineer or employer monitors the work on a day-to-day basis.

3) **Conditions of contract for EPC turnkey projects (the Silver Book):** suitable for projects undertaken under project finance deals such as PPP, PFI, BOT, BOOT etc. where the concessionaire (the special purpose vehicle (SPV), private consortium, or employer) takes total responsibility for the financing, designing, construction and operation of the project in return for a fixed price lump sum. Then the employer enters into engineer-procure-construct (EPC) contract with the contractor, usually through negotiation tendering procedure, who takes total responsibility for design and construction of the infrastructure facility. This form transfers almost all risks to the
contractor. Under this contract, the engineer or employer is not expected to monitor the work on a day-to-day basis.

4) **Short form of contract for contracts of relatively small value (the Green Book):** suitable for relatively small engineering and building works (budget under US$ 500,000, or duration less than six months), or a relatively repetitive and simple work that does not need specialist sub-contracts. The design is done by either party, and payment can be based on lump sum or any other payment system.

All FIDIC’s rainbow contracts have 20 clauses or chapters covering the key project aspects with 17 of these clauses have common clause titles (Glover, 2008). The main difference between these Books is who does the design, and who bears the risk for change in quantities. Bunni (2005) points out an important change in the philosophy brought by 1999 edition which is dividing the Books according to who does the design, unlike the old set that divide Red and Yellow Books according to the type of the project.


**4.2. A brief overview of the History and Development of the New Engineering and Construction Contract (NEC)**

The origin of NEC dates back to 1985 when the Institution of Civil Engineers carried out a major review of the alternative contract strategies for civil engineering projects to attain the good practice. This review was a response to the state of discontent and dissatisfaction within the construction industry because of the prevailing adversarial and confrontational relationships, the prevalence of ‘claim culture’, and the rising levels of disputes and project failures (Broome, 1998; Eggleston, 2006; Perry, 1995). The major point of debate was between two opposing philosophies to serve the interests of both parties; focusing on the obligations and responsibilities of the parties, as the case in traditional forms, or on good management to improve co-operation and to reduce confrontation. Most arguments voted for the second route (Broome, 1998; Eggleston, 2006; Perry, 1995).
Chapter 4: Overview of FIDIC and NEC Standard Forms of Contract

Professor John Uff points out that the main difference between ICE and NEC conditions of contract is that the former operate on the basis that each party seeks to fulfil its own interests whereas the latter aims to alter the perceptions of the parties to focus on the project rather than their interests (McInnis, 2001). In fact, NEC drafting policy has aimed to produce a contract that is different from other standard forms in style and content by achieving three main specific objectives and principles (Eggleston, 2006; Lavin and Potts, 1998; Perry, 1995):

1. it should provide greater stimulus to sound project management than existing forms
2. it should be more flexible than existing standard forms
3. it should be expressed more simply and clearly than existing forms

In 1991, the consultative version of the NEC main contract and subcontract was released to a wide range of stakeholders to review and solicit comments, feedback, criticism, and advice in order to develop and improve the form. The stakeholder groups include ICE members, contractors, engineers, surveyors, suppliers, lawyers etc. and extend to the UK, Africa, Hong Kong, and South America. The first formal edition was published in 1993 (Eggleston, 2006; Li, 2006).

One year later, in 1994, Latham issued an influential report called “Constructing the Team” commonly referred as the Latham Report. This report, which was funded by the industry and the government, encourages and urges the use of NEC in both private and public sectors, and recommends it to become the national standard contract for the UK. Latham criticises existing standard forms and supports NEC because it satisfies almost all of the 13 principles identified in his report to promote partnering, teamwork, clarity, fairness, payments and dispute resolution (Eggleston, 2006; Li, 2006). However, Latham suggested some modifications to bring NEC fully into line with his report recommendations.

As a response to this, the second edition of NEC was published in 1995. Although the second edition of NEC had been used on thousands of projects of all types and all over the world, the ICE was not satisfied as they expected it could have been more widespread (Bedelian, 2000). To fully implement Latham recommendations, legislation was required and necessary. The Housing Grants, Construction and Regeneration Act 1996 has been enacted to realise some of the report’s aspects (Hughes and Maeda, 2002). The NEC drafting team needed a one further decade to produce the third edition of NEC in 2005, known as NEC3, which has many significant changes. NEC3 has been reprinted and reissued with some small amendments in 2006, 2007, 2008, and 2009. Latham believes that “widespread use of the NEC will reduce the number of disputes in the engineering and construction industry” (Broome, 1998; Eggleston, 2006; Perry, 1995). A very important and detailed review of the
Chapter 4: Overview of FIDIC and NEC Standard Forms of Contract

NEC3 suite of contracts undertaken by Humphrey Lloyd QC, one of the world’s leading international construction law experts and a former UK Technology and Construction Court judge, has concluded that they are suitable for world-wide use (Lloyd, 2009). This finding supports the quickening spread of NEC in overseas countries.

There is a growing and tremendous worldwide interest in the use of NEC. This is in part because of the support and endorsement of some institutions and groups such as the Institution of Civil Engineers, Thomas Telford Limited, NEC Panel, and NEC Users’ Group. They provide administrative and commercial support for the drafting, reviewing, publishing, and training activities and services (Li, 2006). NEC’s position has also been underpinned by the ICE decision to abandon and withdraw ICE standard form in favour of NEC standard form (Rowsell, 2011a). In 2011, the ICE officially endorsed NEC 3 as the best practice contracts for all construction work in the United Kingdom and overseas (Kashweka, 2011). The acceptability and growth of NEC is also influenced, and to a large extent, by Latham report (Li, 2006).

The rapid expansion of the use of NEC has been a remarkable success story. Contrary to intentions and to expectations, NEC has and within a few years, been the most popular standard form for civil engineering works and the most fast-growing for building, process and plant works (Eggleston, 2006). NEC has been written with international usage in mind and the benefits are now being realised worldwide (Rowsell, 2011b). NEC’s international expansion is shown by its acceptance in the UK and other 30 countries in the world (Thompson et al., 2000). Its application has been successful on all types and sizes of projects in the UK, Middle East, Africa, Asia Pacific, Hong Kong, New Zealand and Australia (Rowsell, 2011b). The formal endorsements of NEC by governments and organisations will certainly boost the international growth of NEC usage. The Office of Government Commerce (OGC), working on behalf of the UK Government, states that NEC has incredibly clear terms that satisfies the "Achieving Excellence in Construction" criteria (Sweeney, 2010). In fact, NEC is the only contract to be endorsed by the OGC and recommended to be used in all public sector projects. In addition, NEC has been endorsed by the South African government and the South Africa’s national electricity supply utility company (ESKOM), one of the largest users of NEC and the fifth largest electric company in the world (Li, 2006).

Major Clients, such as the Asian Development Bank, the British Government’s Overseas Development Agency, the Government of New South Wales, and Scottish Hydro-Electric continue to test replacing FIDIC with NEC, and initiate the use of NEC on their sponsored major projects (Li, 2006; Ndekugri
Chapter 4: Overview of FIDIC and NEC Standard Forms of Contract

and Mcdonnell, 1999). In 2011, NEC Board was invited to speak at a major international conference for the procurement heads and decision makers of the worlds’ leading multilateral development banks held at the offices of the Asian Development Bank in Manila. This event was attended by the Asian Development Bank, the African Development Bank, Black Sea Trade & Development Bank, European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank, Islamic Development Bank and the World Bank. In this event, the main benefits of NEC were explained and a high level comparison between NEC and FIDIC, which is currently used by most development banks, was given (Thawrani, 2011). This attempt tried to promote the use of NEC and presented it as a very competent contract that the international banks could consider as an alternative to FIDIC.

Indeed, this shows the strong competition between the two standard forms which extends over geographical "battle fields" and targets major employers in the world such as international banks and development agencies, in addition to governments.

In line with these rapid developments, NEC Engineering and Construction Contract (ECC) had been translated into Chinese because it was envisaged that the Chinese construction industry could be a very large NEC user (Bedelian, 2000).

Although NEC has been used for many major projects, it is also used at more mundane levels. For example, the British Airports Authority has used NEC in contracts ranging in value from £60,000 to the £4.3 billion London’s Heathrow Airport terminal 5 project. In the UK, and most notably, NEC has been used for the £30 billion Channel Tunnel Rail Link project, and the £9.3 billion Olympic and Paralympic Games contracts in 2012. In the UAE, NEC has been chosen for the £7 billion Al-Raha Beach development in Abu Dhabi (Li, 2006; Lloyd, 2009). In fact, the use of NEC for these prestigious mega projects increases the confidence of people to use it.

Today, public and private organisations, across the world want to use NEC contracts because of all the aforementioned good reasons besides the fact that after more than 15 years of use for billions of pounds worth of projects, there is no case law relating to the words of NEC contracts (Patterson, 2009). With the support base it has now built amongst users, besides the wide range of NEC suite of contracts now available, there are real prospects that NEC will become the dominant contract of the future.
Chapter 4: Overview of FIDIC and NEC Standard Forms of Contract

4.2.1. NEC Family of Contracts

Essentially, NEC3 is a family of interlocking documents which has steadily grown. It is suitable for a variety of uses and contracting methods providing contractual flexibility (Lavin and Potts, 1998).

NEC3 is today comprised of (Eggleston, 2006; Heaphy, 2011):

1. Professional Services Contract
2. Adjudicator’s Contract
3. Engineering and Construction Contract (with 6 available options)
   - Option A : Priced Contract with Activity Schedule (Lump sum)
   - Option B : Priced Contract with Bill of Quantities (re-measurement)
   - Option C : Target Contract with Activity Schedule (Target price-based on a lump-sum)
   - Option D: Target Contract with Bill of Quantities (Target price-based on a Bills of Quantities)
   - Option E : Cost Reimbursable Contract (Cost plus)
   - Option F : Management Contract
4. Engineering and Construction Short Contract
5. Engineering and Construction Subcontract
6. Engineering and Construction Short Subcontract
7. Term Service Contract
8. Term Service Short Contract
9. Supply Contract
10. Supply Short Contract
11. Framework Contract
12. Partnering Agreement (PA)

NEC 3 suite is supported by guidance notes, flow charts and NEC 3 procurement and contract strategies document (Eggleston, 2006). According to Broome, NEC3 family can be used to “procure the whole spectrum of works, services and goods.” (Surally, 2010). ECC is the main contract form governing the relationship between Employers and Contractors. For the purpose of this research, any reference to NEC should be understood as reference to ECC.

4.3. FIDIC versus NEC Family of Contracts

Table 4.1 shows the diverse range of NEC and FIDIC suite of contracts. This table shows the contracts that each form offers for a certain type of work that has a similar ground. However, it is important to bear in mind that the ‘counterpart’ forms are not necessarily identical or similar. For example, NEC Engineering and Construction Contract has six options that cover a broader range of payment systems and procurement routes, than the FIDIC Red, Yellow, and Silver Books. It is very clear that NEC family is more sophisticated and covers a wider range of works, supply and services, besides the
Chapter 4: Overview of FIDIC and NEC Standard Forms of Contract

framework contract and partnering agreement options. Yet, it is, only FIDIC that has a single contract covering design, build and operate arrangements.

<table>
<thead>
<tr>
<th>NEC3 Services</th>
<th>FIDIC</th>
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<tbody>
<tr>
<td>Adjudicator Contract (2005)</td>
<td>(Dispute Adjusting Agreement – in the 'works' contracts)</td>
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<tr>
<td>Works</td>
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<td></td>
<td>Conditions of Contract for Plant and Design-Build (Yellow Book) (1999)</td>
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<td></td>
<td>Condition of Contract for EPC/Turnkey Projects (Silver Book) (1999)</td>
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<td>Engineering and Construction Short Subcontract (ECSS) (2005)</td>
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<td>-</td>
<td>Form of Contract for Dredging and Reclamation Works (Blue Book) (20060)</td>
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<td>Operational / maintenance Works</td>
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<td>Term Service Contract (TSC) (2005)</td>
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<td>Term Service Short Contract (TSSC) (2009)</td>
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<td>Others</td>
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<td>Framework Contract (FC) (2005)</td>
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<td>Partnering Agreement (PA)</td>
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</tbody>
</table>

Table 4.1: How contracts in NEC3 and FIDIC suites relate to each other (source: Heaphy, 2011)

By and large, FIDIC divides the ‘main’ works contracts according to who does the design, although it still to some extent divides based on the type of project. For instance, the new Red Book is the predominant for civil engineering, whereas the Yellow Book for process or power plants. On the other hand, NEC divides its main contract (ECC) based on the payment system. Again, for the purpose of this dissertation, the comparison in the following chapter is going to be between the FIDIC’ new Red Book, and the NEC3 Engineering and Construction Contract (ECC).
Chapter 5: FIDIC Compared and Contrasted with NEC

5.1. Introduction

This chapter fulfils the third objective of this dissertation. At the heart of the aim of this research is comparing FIDIC and NEC. This comparison is neither clause-to-clause nor is it claimed to be exhaustive and encyclopaedic. However, it concentrates on the most important aspects and key comparative and contrasting issues that normally give rise to disputes, in the opinion of the author. For each point of comparison, the pros and cons of both contracts are highlighted in as much detail as possible. These issues can be examined further with reference to FIDIC and NEC documents themselves. This provides useful insights into any gaps or weaknesses in the contracts’ provisions, and which contract is better in terms of dispute minimisation.
Chapter 5: FIDIC Compared and Contrasted with NEC

5.2. Clarity and Simplicity

Chong and Zin (2009) argue that one of the main causes of disputes is misunderstanding and misinterpretation of contract clauses and the preventive solution lies in the use of plain English. They recommend the courts to interpret the intentions of the parties to the contract using plain and common meanings of the words. Clarity is defined in terms of the design, layout, and structure of contract documents, logical sequence of clauses and structure of sentences, order of words and the choice of vocabulary to be relevant to modern construction practice (Broome and Hayes, 1997). Also, clarity is defined as “can be simply seen or heard, easily understood, not confusing, clear and precise” (Omar, 2000). Although this definition is quite correct in that clarity requires simplicity rather than complexity, and preciseness and exactness in order to be certain in meaning with a single interpretation, it ignores or misses an important fact. That is that preciseness requires completeness and comprehensiveness which in turn requires great details to define what is the real meaning and intention of every term. Then, the contract will end up with very long clauses and many pages constituting a thick document which a few are willing to read, the thing which give rise to the question of practicability. The real challenge of drafting a well-balanced contract stems from the compromise or trade-off between simplicity and preciseness. How can a contract be simple and precise at the same time?

Clarity is important to ensure that all parties of a contract understand what they are getting themselves into, their rights and obligations, and the risk apportionment and thus what risks they bear. Hibberd and Newman (1999) point out that the most problematic aspect of the traditional forms is their lack of clarity that “nurture a dispute”. Duncan Wallace (1986) describes the language of traditional forms as:

"Their obscurities and poor draftsmanship create many anomalies, if not downright absurdities and injustices...the draftsmanship tends to be clothed in a legalistic, poor quality jargon, ideally suited to conceal and obscure practical intentions and consequences...the draftsmanship of the available standard forms in all countries is of the poorest kind"


Broom and Hayes (1997) attribute this failure mainly to three reasons. Firstly, the age of the language used which can be traced back to contracts of the 19th century in England although the technology has dramatically changed afterwards. Secondly, the forms were drafted by lawyers with little or no knowledge and experience of the practical or commercial problems on a building site. Thirdly, the committees responsible for developing the forms suffer from lack of direction and partisanship.
Chapter 5: FIDIC Compared and Contrasted with NEC

Barnes (1987) says that FIDIC’s phrases are almost identical to the contracts used for the construction of the Thames embankments and main London sewers in the 1860s’. Shockingly and very surprisingly, Bunni (1986) found out that 86% of the sentences in FIDIC can only be understood by 4% of the population. He said that FIDIC was originally drafted in precise and legal language. However, the revisions made the language more and more complicated and inscrutable, beyond the understanding of the average reader and even beyond what a reasonably intelligent person can readily understand. In addition, Uff (1991) cited by Broom and Hayes (1997), described FIDIC to be quite obscure particularly on the way in which a due appropriate sum for an instruction or variation order is to be calculated. In this situation, an eminent lawyer would advise the parties to seek clarification before entering into a contract. Furthermore, Cutts and Maher (1986) and Wydick (1978), maintain that FIDIC has long sentences, poor layout and many redundant legal expressions. Nevertheless, it is important while reviewing these critiques to consider their time context as they were written prior to or just after the release of FIDIC 1987. It has been mentioned in Chapter 4 that one of the objectives behind drafting FIDIC 1999 Rainbow edition is simplifying the language. However, it is uncertain whether FIDIC has been completely successful in this aim. Definitely, FIDIC has been improved much from its earlier editions and moves towards fewer clauses and clearer language and contract structure, but the real judgement is left to its users. Indeed, this area is worthwhile investigation in further research.

NEC is different from other standard forms in style and structure because the drafting policy was to start from scratch, rather than to build on old foundations. One of the three declared objectives of NEC is to minimise the incidences of disputes arising from unclear language. NEC uses non-legalistic ordinary unequivocal language, straightforward, simple and plain English, short sentences (have no more than 40 words), bulleted structure, and avoids confusing cross-references. The present tense is used rather than the word ‘shall’ to signify obligations. Also, there are guidance notes and flow charts to assist in the understanding and the application of the contract (Eggleston, 2006; Gould, 2007; Li, 2006). According to a research carried out by Broome and Hayes (1997) targeting 81 interviewees, most of the people agree that NEC has less sources of conflict or dispute within the contract documents compared with other forms of contract since the language, as they claim, is more precise.

The abandoning of ‘legal language’, except in the insurance clause, is a revolutionary step done by NEC drafters which is much debated. This makes the language more familiar to builders and other people in the construction industry worldwide (Li, 2006). At site level, the users found it to be easier than the traditional contract forms especially when dealing with compensation events (Lavin and Potts,
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1998). The drafters of NEC claim that they sacrifice the legal concepts in the interests of better management of projects. Max Abrahamson (1979) puts the advantage of plain English in another way. He says that when drafting a standard form, lawyers are employed to translate it into legal language, then re-employed to translate it back when the users want to know what it means. This wastes time and money, in addition to the inherent risk that much is lost, distorted or overlooked in the translation and re-translation processes. In addition for being easy for non-native English speakers, NEC can be easily translated to other languages without distortion to the real meaning and intentions because of the simple non-legalistic language (Habib, 2011). Butt (2005) argues that the plain English reduces costs, legally safe, more understandable by both lawyers and non-lawyers, and is preferred by most judges. Therefore, it can be argued that the plain language will reduce the disputes, and also make it easier for the courts, arbitrators, adjudicators etc. in discovering the true intentions of the parties once a dispute arises.

On the other hand, the main criticism of this approach is that it discards the accumulated contractual wisdom of generations, reinvents the wheel, and reduces the legal certainty which could increase the chance of contractual disputes (Eggleston, 2006 ; Valentine, 1996). Also, NEC abandons familiar phrases such as ‘extension of time’ and ‘variations’ and strangely uses present tense to impose legal obligations (Valentine, 1996). What makes things worse is that NEC uses the word ‘shall’ in clause 10.1, and the word ‘may’ in clause 16.2, which open the door for arguments about the ‘legal’ difference between those wordings on parties obligations. Ali and Wilkinson (2010) insist that it is ‘impossible’ to express legal obligations in a contract using plain language. However, Wright (2012) argues that this is wrong because what is actually ‘difficult’ is to express complex contractual/risk obligations without using complex language; the trick is to find words that are both plain and complex.

Interestingly, and using readability formulas to measure the clarity of NEC, Rameezdeen and Rajapakse (2006) found that NEC clauses are more readable than FIDIC, and as a result have better interpretation. Readability is the component of clarity concerned with the complexity of words and sentences and it is an indicator of the easiness of reading a text.

The competition between FIDIC and NEC in this area can be summarised as competition between familiarity against simplicity.

Familiarity is an advantage of FIDIC that is achieved through its long history and popularity that brings certainty of meaning and what would the outcome of a case be. The availability of legal commentaries, arbitration awards, courts decisions, judicial precedents and a substantial body of case law and
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literature improve the understanding and legal interpretations particularly for less experienced users (Baker et al., 2009). Then, this leads to minimisation of the incidences of disputes as both parties will be aware how a certain clause would be interpreted by reasonable and independent person. Yet, even the courts that set the judicial precedents themselves, have said "the time has now come for the whole to be redrafted so that . . . contractors and building owners alike can understand what are their own duties and what are those of the architect "(Broome and Hayes, 1997). Actually, this is what the FIDIC 1999 version set out to do.

Simplicity is the approach of NEC to achieve clarity in order to prevent disputes in the first place by providing people at site with easy-to-understand contract. Although, this is at the expense of legal interpretation and certainty, overcoming this challenge will be a mere matter of time as the learning curve is to be passed. Indeed, what is required to avoid disputes is clear English, and certainly not only a long history of case law and judicial precedents on a particular clause or phraseology (Broome and Hayes, 1997). To avoid dispute in the first place, people at site level should be able to understand the conditions, and not to memorise a dozen of cases about particular clauses.

To sum up, the research acknowledges that NEC is not perfect, but it is a considerable improvement in clarity compared to FIDIC (Broome and Hayes, 1997). Although, FIDIC 1999 adopted a new improved format, it is still difficult to follow since there is substantial cross-referencing that sometimes needs hard work to link different clauses together in order to completely understand the contractual process and remedy for any given circumstance (Heaphy, 2011)

5.3. Flexibility

Unlike the aims of FIDIC 1999, flexibility is one, and the most ambitious one of NEC3 objectives (Eggleston, 2006). However, flexibility is embedded in both NEC and FIDIC in the following features. Firstly, both FIDIC and NEC were drafted with the international use in mind. They provide a choice of governing law and language, and hence can be used on international or domestic projects. Both of them attempt to reconcile the needs of both Common law and Civil law systems and to be compatible with the jurisdiction of any country (Bunni, 2005, Eggleston, 2006).

Secondly, both forms are flexible in assigning design role and responsibility. Under NEC, design can be set with either party at any amount from nil to total. Likewise, FIDIC’s Rainbow Books provide options from build only, design and build, to fully engineer, procure and construct (Heaphy, 2011).
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Thirdly, FIDIC has limited payment systems providing for only re-measurement or lump sum either in part or in whole. NEC has a much more superiority here because it offers a broad-range of options for payment including re-measurement, lump sum, cost reimbursable, and target cost (based on a lump-sum or a Bills of Quantities). In addition, NEC provides an option for Management Contracting (and also Construction Management) procurement routes (Eggleston, 2006; McInnis, 1991). Furthermore, NEC does not only provide for more options of payment systems, but also provides for shorter timescales for payment. Figure 5.1 shows timescales of payment procedure under both standard forms. Definitely, this is ‘win-win’ situation. The contractor gets paid early, the thing which has significant positive impact on his cash flow and performance. The client gets benefit as well because shorter payment schedules means lower overhead (the part of financing cost) needs to be paid to the contractor. Nevertheless, the one week period within which the project manager shall certify the payment under NEC is really compressed. Therefore, it should not be surprise to see people in real world large scale and complex projects extending this period. In fact, this ‘compressed’ payment timescale does not exist in vacuum, but rather it should be viewed holistically with all administrative activities required by NEC such as programming and communications, that some people consider them to be additional burdens and cumbersome, requiring more staff to administer NEC contract.

![Diagram of Payment Procedures under NEC and FIDIC](source: Forward, 2002)

Fourthly, FIDIC has a degree of flexibility by allowing employers to select whether certain clauses apply. Basically, FIDIC conditions of contracts are composed of the general conditions, and particular conditions. The particular conditions allow the parties to change, amend, delete, not invoke or add
further wording to the general conditions (Bunni, 2005; Hillig et al., 2010). On the other hand, the flexibility of NEC is much greater through its modular format. NEC conditions of contract comprise ‘core clauses’, ‘main option clauses’ and ‘secondary option clauses’ that vary according to the preference of procurement strategy selected. The ‘core clauses’ are valid for the six options of ECC and cannot be changed, modified, amended, altered, or deleted, unlike FIDIC general conditions. The main option clauses pertain to the contract strategy and define which of the six options of ECC is to be followed. The ‘secondary option clauses’ permit the employer to further refine the risk allocation profile (Eggleston, 2006; McInnis, 1991). These ‘option clauses’ allow the employer to build up ‘pick and mix’ the provisions to suit his requirements and preferences of the selected procurement strategy (Cox and Thompson, 1996; Lavin and Potts, 1998). In addition, NEC adds an optional Z-Clause which allows the employer to insert bespoke additional conditions or amendments to the contract; a new feature and innovation which is not available in FIDIC (Gould, 2007). McInnis (1991) insists that while comparing the modular structure of FIDIC and NEC, no analogy should be drawn. In other words, the direct ‘counterpart’ thinking is not suitable here because of the new language, the new Z-Clause, and the different approach NEC adopted whereby no precedence or hierarchy of contract documents is assumed, unlike FIDIC.

Finally, NEC claims to be an all-purpose contract for all types of construction and engineering disciplines (civil, building, mechanical, electrical etc.), and for small and large projects. This has been achieved by avoiding referring to or using discipline specific terminology, through using non-technical language. The flexibility of NEC is shown by its philosophy to unite the industry rather than divide it, because it becomes a necessity within today’s complex and multidisciplinary projects to use a cross-disciplinary form such as NEC (Cox and Thompson, 1996; Eggleston, 2006; Lavin and Potts, 1998). However, besides the fact that such point of comparison should be viewed as NEC versus FIDIC’s Rainbow Books, Wright (2012) maintains that it is dubious and illogical for NEC to be simply designed for different types of projects, different payment systems, and various natures of relationships while using the same set of risk/obligation terms.

Hughes and Greenwood (1996) argue that it is difficult to reconcile and achieve the flexibility and clarity simultaneously, because flexibility, by definition, can lead to ambiguity. The flexibility of NEC means it can be applied to every part of every construction or engineering project. However, Murdoch and Hughes (2000) argue that a universal standard form to be used in any kind of project is just unrealistic because of the significant differences in the approach of apportionment of risks in different
projects. Another criticism of the flexibility of NEC was directed towards the Z-Clauses. Klein (2010) describes them as zany, unnecessary, and create many horror stories. For instance, in one case a client inserted additional conditions totalling 90 pages, the thing which suggests a word limit for these clauses. In fact, this incident should not be very shocking and horrible as Klein implies and proposes. Rather, this tends to be normal practice and necessary especially in complex and multidisciplinary projects. Indeed, NEC drafting panel needs to accept this fact and such practice because of the flexibility they sought by using NEC form in any project of any kind. How can a nuclear power plant construction and maintenance project, sport stadium construction project, and house building project have the same terms and conditions? Obviously, they have different objectives and priorities as regards quality, health and safety, time, cost etc.

In another case, a client had simply considered the whole conditions of another standard form as Z-Clauses which would prevail over NEC conditions in case of conflict. This was his own way to comply with the UK government’s recommendation to use NEC3 contracts. Furthermore, in the case of inconsistencies or ambiguities between the Z clauses and NEC provisions, the contra proferentum principle applies in which the courts will interpret the clauses against the interests of the party drafting them (Klein, 2010).

To sum up, it is clear that NEC is more flexible than FIDIC in certain areas. Although flexibility may be preferable for many clients, it can bring ambiguity and thus disputes.

5.4. Effective Project Management

Martin Barnes, the original creator of NEC and the president of the Association for Project Management, states:–

“*The management of projects has become a science with its own set of rules, techniques and words which are not even mentioned in the existing standard forms. If the conditions of contract were redraughted from first principles, having regard to modern management methods, a much more purposeful document could be produced.*” (Barnes, 1986:1)

In years past and to this day, the old adage that “*the best place for a contract is in the drawer***”, or “*a good contract was never taken out of the drawer until it was needed***” has been and still espoused by many people. They sign the contract and left it in a hiding place in the bottom drawer. It is only retrieved and brought out when things go wrong or disputes surface in an attempt to find a clause that will support their contractual position or justify a claim, or to allocate blame. Besides, if a party attempts to administer a contract to the letter, it will be accused of being ‘contractual’ or ‘claims conscious’ (Brown, 2000; Eggleston, 2006). This narrow view of a contract as a set of terms and
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conditions reflecting the commercial bargain or a legal document to legalise the commitments and then
to be utilised as a confrontation tool and a weapon of conflict, seems to apply to traditional standard
forms, and FIDIC is included.

NEC has a fundamentally different approach. Professor John Uff QC wrote:-

“At the heart of the NEC is a new creed that Project Management techniques can be
successfully written into a main contract to produce more co-operation, more efficiency and
fewer disputes.”

(Uff, 1991; cf. McInnis, 2001:19)

NEC as a project management tool should never be taken off the desk and put in the drawer (Eggleston,
2006). In addition to defining legal relationships, NEC enables the contracting parties to adopt a far
more positive culture and mindset than is normally the case by encouraging them to proactively
cooperate and openly share information about problems or risks to seek solutions and to mitigate their
impact. NEC is radically different from FIDIC in that it focuses on informed, proactive and foresight-
based management and decision-making, rather than reactive and hindsight-based negative approach.
The collaboratively applied foresight mitigates problems, shrinks risks and adversarial behaviour, and
removes most of the grounds for dispute (Lavin and Potts, 1998). Cox and Thompson (1996) have
identified NEC’s good management procedures as: active planning and programming, communications,
early warning procedures, advanced quotation and assessment, tight response periods for administrative
matters and quick resolution of disputes.

Actually, the programme is one of the most obvious areas of difference between FIDIC and NEC. The
programme is at the heart of NEC contract management. In contrast, FIDIC does not give the same
level of importance to the programme although it is required to be submitted. Both standard forms
require the programme to be updated to reflect the actual progress versus planned activities. However,
unlike NEC, FIDIC does not empower the engineer to accept it or reject it (Heaphy, 2011).

Cox and Thompson (1996) consider these administrative procedures to be expensive and burdensome
for site management. Communication between parties under NEC underpins collaborative and
proactive management, unlike traditional contracts such as FIDIC in which communication channels
are often used in relation to claims or complaints, and left to the end of the contract (Klein, 2009). In a
word, NEC is the only standard form of contract with the explicit objective of stimulating good project
management (Surally, 2010). Martin Barnes said: "Once there was a contract which stimulated good
management of projects, why would you use anything else?" (Fullaove, 2009).
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Actually, the controversy and comparison between NEC and FIDIC regarding this area goes on to two views on the purpose of a standard form of construction contract. Should the standard form be a manual for project management procedures and practices or an agenda for legal actions? NEC was drafted in accordance with the former view, while FIDIC tends to be skewed towards the latter view as it is principally designed to focus more on the risk, liabilities and responsibilities of the parties (Heaphy, 2011). It would be useful to give a little thought to what were the reasons behind NEC’s introduction of project management procedures within the contract. It could be because FIDIC and other contracts assume that clients would take all necessary precautions and steps to ensure that contractors have the capabilities to manage the project efficiently and effectively. However, this assumption appears to be unworkable, and necessitates explicit management procedures in the contract.

Lewis (1982) warns against missing the litigation aspect which helps to prevent breaches of contract, and makes the parties more confident that their interests will be protected by the court if necessary. Also, focusing on the management side at the expense of legalistic and contractual side would produce an “obligationally incomplete” contract (Eggleston, 2006; Hughes and Maeda, 2002). Rooke and Seymour (1995) state that NEC is not welcomed by lawyers because they are used to view projects in terms of legal rights and responsibilities, rather than a set of tasks and activities. McInnis (2001) believes that the cooperation and effective management techniques of NEC may minimise disputes, but will be insufficient to change the ingrained adversarial culture.

5.5. Partnering

Latham suggests that the employer and the contractor should undertake a project in “a spirit of mutual trust and co-operation” and to embody this in the contract clauses, which has been already introduced in NEC Clause 10.1. This point has caused much of the debate and also criticism of NEC as what the exact meaning and consequences of this new and unfamiliar requirement is. Is it contractual obligation with legal implications, and what happens if one party suspects the other to not being cooperative? Can the other party sue it for a breach of contract, which is in turn against the required spirit (Chappell, 2011; Hughes and Maeda, 2002; Kashweka, 2011). As arbitrator, Wright (2012) says that this phrase is almost but not totally enforceable.

People tend to use the words ‘partnering’ and ‘partnership’ interchangeably as synonyms, which is incorrect. Partnership is a contractual legal relationship between two or more persons governed by the Partnership Act of 1890. On the other hand, partnering does not have to be contractual relationship because it is all about openness and honesty between parties (Chappell, 2011). Chappell (1991)
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maintains that NEC would only work if the partnering spirit was followed by all parties of the project, the condition precedent that is difficult to materialise. In the opposite way, partnering is not suited to all projects or circumstances (Cox and Townsend, 1997). Meanwhile, NEC uses partnering, which is not contractual, to tackle the adversarial culture of the construction industry. This raises the question, from the outset, whether the root cause of the adversarial mindset is a contractual matter (Hughes and Maeda, 2002).

On the other hand, FIDIC contains no such provision for partnering. Does the absence of such a clause mean FIDIC is adversarial contract? What is widely accepted and recognised is that a contract alone cannot create a partnering environment, nor can it create an adversarial atmosphere (Heaphy, 2011).

All in all, NEC does encourage a more collaborative approach than FIDIC, but this is insignificant compared with the behaviours of the parties (Heaphy, 2011).

5.6. Risk Allocation and Management

“Understanding project risks and risk allocation lies at the heart of good contracting” (Wassenaer, 2009:1). It is imperative for any project, particularly in construction industry, to involve risks. It is not possible to eliminate all risks, but what can be done is to allocate the risks to the parties and then manage them (Kozek and Hebberd, 1998). The standard forms of conditions of contract provide a framework to regulate the process of risk allocation by defining the rights and obligations of both parties. The responsibility stems from liability which in turn stems from risk allocation (Bunni, 2009; Jaeger and Hök, 2010). Allocation of risk may be implicit or express. In other words, if the contract does not contain express risk apportionment rules, the general law of contract will be decisive (Jaeger and Hök, 2010). Risk allocation process directly or indirectly affect the attitudes of the parties, claims and disputes, and ultimately project performance and success (Eastman, 1984; Seita, 1984).

"All contracts are a compromise between the conflicting interests of the parties " (Potts, 2008:260). However, both FIDIC and NEC attempts to allocate risks fairly and reasonably between the employer and the contractor (Ndekugri and Mcdonnell, 1999). The basic principle to achieve this is allocating the risk to the party best able to control and manage the risk event, and bearing the risk consequences. It is therefore expected that the contractor is required to consider, in his bid price determination, only reasonable and foreseeable conditions which in turn lead to optimization of bid price (Bunni, 2005; Eggleston, 2006; Potts, 2008; Williams, 2001).
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FIDIC is based on the principle of balanced risk sharing and have been widely accepted by employers and contractors as reasonable compromise (Bunni, 2005; Osinski, 2002). At the same time, FIDIC balances between the responsibility and authority as it does not only give the parties responsibilities to take risks, but also the power necessary to manage and control the risks (Zhanglin and Yuli, 2010). However, there is a different view proposing that FIDIC places most of the risks upon contractors such as unfavourable ground and weather conditions, strikes, and shortages of labour and materials (Aljarosha, 2008). By and large, the contractor accepts and assumes all the risks that are not specifically allocated to the employer. The employer bears the risks defined and listed in Clause 17.3 (Employer’s Risks) and Clause 19.1(Force Majeure). These are generally events caused by the employer, directly or indirectly, or circumstances over which neither party will have any control. The contractor may be entitled to time extension and/or cost and profit compensation, under Employer’s Risks group, and time extension and/or cost compensation under Force Majeure group (Jaeger and Hök, 2010). The theory is that under Employer’s Risks, the employer is in breach of contract and, therefore the contractor shall be entitled to recover his profit. However, under Force Majeure the employer is not at fault and, therefore the contractor shall share the risks by waiving an entitlement to profit (Seppala, 2000).

Moreover, the employer bears only the risk of unforeseen negative conditions that are not offset by unforeseen positive conditions. This means there is less chance for contractors to get time extension and cost compensation of unforeseen events since they have to be unforeseen, and if they are, they need to be offset by other favourable conditions. At first glance, FIDIC’s new philosophy of ‘conditions-balancing’ seems fair, equitable, and desirable and similar to pain/gain or partnering arrangements. However, it increases the disputes because it provides the parties with more things to argue about, which could be costly and impossible to settle. This makes the originally difficult determination more complicated because contractors will welcome any attempt by the engineer to set-off with hostility (Swiney, 2007). Zhang et al. (2006) argue that some risk allocations principles in FIDIC are theoretically correct; however, they need more improvement in clarity and need to consider the context of a particular construction culture. Jaeger and Hök (2010) maintain that there are only few express risk allocation provisions within FIDIC.

"If project management is management in uncertainty, a tool which can systematically and comprehensively shrink the uncertainties must be one of the most important features of the contract" (Eames, 2010: 5). Morris (1992) states that risk management processes are now being incorporated in
some legal forms, with the best and most obvious example being the New Engineering Contract. Unlike FIDIC, NEC highly recognises that the standard form should not only be a mechanism for risk allocation, but also for a proactive and dynamic risk management. Eames (2010) claims that NEC is the first standard form in the world to have a rational basis for allocating and managing risk.

NEC acknowledges that an important part of risk management is effective communication between the parties. This includes risk registers, risk prevention, early warning and risk reduction meetings (Wassenaer, 2009). The risk register is used to insert and catalogue any identified risk as the project proceeds, and the best response for this risk. It is created at the very beginning of the project and maintained thereafter (Eames, 2010). The ‘early warning’ process is a mechanism whereby any party of a contract is able to warn the other of a risk which has been newly identified. After warning or notification, the risk is entered into the risk register, and then risk avoidance or reduction responses can be implemented as early as possible. The risk reduction meeting involves lateral thinking and brainstorming sessions to collaboratively solve problems (Eames, 2010; Eggleston, 2006; McInnis, 2001). Indeed, risk registers and risk reduction meetings are innovations in the world of standard forms.

The Association of Project Management (APM) has clarified and explained how NEC’s early warning risk process and APM project risk management process work together successfully (Hurst, 2011). This compatibility between the managerial and legal aspects of project management would be very useful, efficient and effective for all project managers.

Like FIDIC, NEC refers to three groups of risk. Firstly, ‘compensation events’ listed in clause 60.1, are those events should they occur, the contractor is compensated for the cost and time effects of the event. Secondly, the ‘Employer’s risks’ listed in clause 80.1, should they occur, the cost and time effect on the work of the contractor is dealt with as a compensation event (Eggleston, 2006). However, Employer’s risks are more than just compensation events because they give the contractor a wider indemnity if they happen (Patterson, 2009). Thirdly, other risks which are not compensation events or employer’s risks are carried by the contractor (clause 81.1) (Eggleston, 2006).

In a nut shell, FIDIC and NEC adopt the same general philosophy of allocating risks. They divide risks into three groups according to who bears them. However, analogous group does not necessarily contain identical risks. For example, the ‘Employer’s risks’ under the both contracts are not identical, and force majeure risks in FIDIC are by no means counterparts to compensation events under NEC. Apparently,
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NEC has been more successful than FIDIC in expanding standard forms’ job towards risks. NEC manages risks proactively and dynamically, and is not only concerned about risk allocation like FIDIC.

5.7. Force Majeure and Prevention Events

The force majeure events are of a great importance, particularly, under the unstable conditions in Palestine. This section outlines how both FIDIC and NEC deal with this matter.

At common law, the doctrine of frustration allows a contract to be discharged and excuses further performance if events or circumstances make the contract illegal or impossible or render its performance commercially sterile. Usually, a plea of frustration is used to defend against a breach of contract charge. The events which give rise to frustration must be unforeseen, not provided for in the contract, outside the control of the parties, and beyond the fault of the party claiming frustration as a defence (Eggleston, 2006).

The analogous of the doctrine of frustration is the doctrine of force majeure which has a French origin; however, it is not identical. Under the French Civil Code, the events which give rise to force majeure must be unforeseeable, unavoidable in occurrence and effects, and render the performance almost impossible or severely impractical (Nicholas, 1979). Bunni (2005) states that force majeure events are “unforeseen circumstances which prevent, totally or partially, one or both parties from fulfilling their contractual obligations.” It has to conform with and pass the test of the doctrine of frustration in that the claiming party must have no fault (Eggleston, 2006). Although this term is widely accepted around the world, and appears to have a clear meaning, this is far from the truth. The legal definition and interpretation of the events may vary from country to country, and from one jurisdiction to another which will accordingly lead to different legal consequences. Therefore, most standard forms, including FIDIC and NEC, cover these matters by express terms (Eggleston, 2006; Jaeger and Hök, 2010). FIDIC clause 19.1, defines force majeure events to be:

- beyond a party's control,
- could not reasonably be provided against before entering into the contract,
- having arisen, could not reasonably be avoided or overcome, and
- are not substantially attributable to the other party.

Indeed, clause 19.1 provides a non-exhaustive list, including events such as war, terrorism, riots, and natural disasters. The above definition of a force majeure event is entirely open-ended, such that a human-caused event would be covered if it met the above criteria. This gives more risk to the employer as he bears the cost and time impacts (Swiney, 2007). Jaeger and Hök (2010) criticise the
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ambiguousness of the extent of the contractor’s entitlement to extension of time, and loss and expense, as to whether it covers direct and indirect consequences of the event. It is worth mentioning that a *force majeure* event does not need to pass the ‘unforeseeability’ test. This means even if an event is foreseeable; it will be considered *force majeure* as long as it is beyond the control of the parties (Jaeger and Hök, 2010).

NEC 3 has introduced new clause (clause 19.1) called ‘prevention’ under which the employer bears the time and cost risks of events similar to, but potentially wider than, *force majeure*. The Guidance Notes to NEC 3 state that ‘prevention’ provision is, in effect, a ‘*force majeure*’ clause. Prevention events are also compensation events whereby the employer bears the time and cost consequences of their occurrence. Also, it is a reason entitling the employer to terminate the contract (Eggleston, 2006). Clause 19.1 defines prevention event as an event which:

- stops the contractor completing the works, *or*
- stops the contractor completing the works by the date shown on the accepted programme, *and*
- neither party could prevent, *and*
- an experienced contractor would have judged at the contract date to have had such a small chance of occurring that it would have been unreasonable to have allowed for it

Eggleston (2006) criticises this clause as it opens the door for a very wide interpretation because its definition goes well beyond what is adopted in law as ‘*force majeure*’. For instance, a contractor may argue that insolvency of suppliers or the supply of defective materials, works, and designs by others had a small chance of occurring and could not have been prevented by either party. He also critiques the words ‘small chance’ and ‘unreasonable’ which are difficult tests to examine in dispute resolution proceedings, and would indicate the event to be ‘prevention’ even though it was foreseeable, the same as FIDIC. Furthermore, the ‘prevention’ clause seems to apply and operate for two distinct situations. The first being ‘frustration’ which is a rarity in construction contracts, and the second being delay events which are endemic. It does not make sense that the clause operates for each and every delaying event (Eggleston, 2006). Eggleston (2006: 125) describes the prevention clause as ‘*a potential gold mine for contractors and a potential minefield for employers. It will be no surprise if they are usually deleted.*’

To sum up, both FIDIC and NEC share the same philosophy to transfer the risk of *force majeure* events to the employer to avoid padding the tender prices by contractors. It appears that both FIDIC and NEC fails to provide a decisive and conclusive definition of what constitutes a *force majeure* or prevention...
situation. The problem with *force majeure* definition is that people do not know what might happen so they always struggle to define it. This would cause disputes as a notice of *force majeure* would be rejected by the defendant denying the existence of this event, and in turn suing the claimant or plaintiff for a breach of contract. Bunni (2005) states that not covering these exceptional events in the conditions of contract, and leaving them to the applicable law in the relevant jurisdiction would reduce the likelihood of conflicts. However, not covering them at all will make the resort to litigation inevitable which is not desirable. Hence, it can be argued that what is needed and recommended is to improve the certainty of a *force majeure* or prevention situation in order to avoid disputes.

### 5.8. Physical and Weather Conditions Risks

Unforeseen physical obstructions are inevitable to be encountered in major construction projects. Simply, this is because it is impossible to cover every square metre of the site with geotechnical testing (Potts, 2008). Construction contracts are one of the most obvious examples of incomplete contracts because it is not possible to write down in detail all expected incidents which may, or may not happen in the future. If an unforeseeable event occur, which the contract does not provide for, the inevitable outcome will be dispute. Despite the good faith efforts of the parties, disagreements will go over who bears the time and cost consequences of such an event (Omoto, 2002). For instance, according to (Seppala, 1991), “unforeseen conditions and obstructions ”are the first major area giving rise to claims under FIDIC.

The traditional rule of law maintains that regardless of the difficulties and hardship a contractor may face, he is obliged to carry out the works at the agreed price. However, it has become evident that this principle is inefficient and counter-productive in the long-run. This is because contractors will pad their prices significantly to cover the risk of unforeseeable events in order to stay in business. Otherwise, such approach would discourage responsible contractors from bidding but attracts claims-oriented bidders (Ndekugri and Mcdonnell, 1999; Seppala, 1991). Therefore, it is better for employers to bear the responsibility of unforeseen conditions and pay for what did happen, rather than what the contractors thought might happen. This approach provides commercial logic and motivational risk allocation by placing the risk with the party best able to influence the risk, who is the employer in the case of ground conditions. It is his site and he can commission intensive soil investigation (Eggleston, 2006; Seppala, 1991). This orthodoxy was adopted by FIDIC and NEC (Ndekugri and Mcdonnell, 1999). In the following paragraphs, the philosophies of FIDIC and NEC regarding the risks of ground and weather conditions are compared.
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There is a fundamental difference between FIDIC and NEC approaches as regards the employer’s obligation to provide the contractor with site information. FIDIC obliges the employer to provide the contractor with the available data about the site, but not to carry out soil investigation nor to interpret this data. NEC, in line with the position of English Common law, provides no such obligation to avoid any potential disputes in case of error about the employer’s liability of its accuracy, breach of warranty, misrepresentation or negligent misstatement (Ndekugri and Mcdonnell, 1999). The contractor’s duty to inspect geotechnical conditions are relatively the same under the two contracts, but NEC tends to minimise it. However, it is uncertain whether the contractor is required to make full geotechnical tests in both contracts (Ndekugri and Mcdonnell, 1999).

Both contracts try to adopt equitable risk sharing principles of the ground conditions. Ultimately, the employer will bear the additional costs when the physical conditions and obstructions are “unforeseeable for an experienced contractor”, according to FIDIC, or have a “small chance” of occurring, according to NEC. Apparently, FIDIC uses “foreseeability” test while NEC uses “probability” test to allocate risks, which could be argued to be slightly different approaches (Eggleston, 2006; Ndekugri and Mcdonnell, 1999). Some terminologies such as “experienced contractor”, “physical conditions” and “foreseeable” in FIDIC, and “small chance” in NEC have been criticised because they are uncertain in meaning and subjected to a range of interpretations (Ndekugri and Mcdonnell, 1999). In addition, FIDIC’s foreseeability test will be undertaken after the occurrence of the event. This retrospective investigation or hindsight is not the best way to understand the time context of the past to determine what was foreseeable and what was not.

To avoid disputes, Bunni (2005) maintains that a construction contract should not allow contractors to gamble on encountering more or less favourable ground conditions, a practice which could lead to excessive gain or loss. Gambling could be avoided if extensive geotechnical tests were done. Because there is no sufficient time and benefit for contractors to initiate these tests, FIDIC resolves these dilemmas by granting proper time and cost compensation should the unexpected event happen. To avoid disagreements over whether the event is expected and foreseeable, Bunni (2005) proposes to incorporate into the tender documents a ‘referenced list of adverse physical conditions’ to be the basis of remuneration. This proposition tends to move the FIDIC approach towards NEC’s compensation events list in dealing with physical conditions. Unlike FIDIC, the procedure the NEC uses to resolve physical conditions issues once appeared are structured and systematic, and enhances cooperation to minimise its effects (Ndekugri and Mcdonnell, 1999).
Both contracts limit the situations under which the contractor is entitled to be compensated based on weather conditions. FIDIC allows for only extension of time for “exceptionally adverse climatic conditions”, while NEC allows for costs and/or time claims for weather conditions which occur on “average less frequently than once in ten years” (Ndekugri and Mcdonnell, 1999). Obviously, NEC uses more precise terms than FIDIC and includes an objective and statistical approach rather than the FIDIC’s subjective judgement to determine whether the conditions are ‘adverse’ and ‘exceptional’ (Barrett, 2003). However, NEC approach of allocating the cost and time impact of weather conditions to the employer seems illogical and unfair since the employer has no control over the situation (Eggleston, 2006).

In brief, both contracts have commendable and desirable features in their physical and weather conditions provisions. Nonetheless, a combination of these features would lead to a better approach (Ndekugri and Mcdonnell, 1999). Rather than debating on which party should bear physical conditions risk, and the meaning of ambiguous terms like “foreseeable” and “small chance”, it is better to carry out full geotechnical tests and specify precisely which party is responsible for that.

5.9. Variations and Claims

5.9.1. Introduction

FIDIC adopts the traditional approach to variations and claims. FIDIC has separate clauses that justify claims, which are spread out over the whole contract and cross-referenced. Also, FIDIC does not consider time and cost claims simultaneously, or in other words, there is no automatic right to costs compensation under the extension of time claims. NEC addresses all issues related to variations and claims under the comprehensive list of compensation events, which appears to be preferable for users (Hillig et al., 2010).

5.9.2. Claims (extension of time, and loss and expense)

FIDIC and NEC share a similar claim mechanism. In general, the contractor is to notify the engineer or project manager of any event entitling him to cost and/or time claims. Both NEC and FIDIC have introduced sanctions and strict time bar clauses expressly stating that the contractor will lose his rights and entitlements to any compensation or time extension, if he does not comply with the time frame restrictions to raise claims. Also, both FIDIC and NEC make it clear that the engineer or project manager shall reply to the contractor notice within a specified period to prevent delaying the contractor (Heaphy, 2011).
Nevertheless, there are two key differences within this process. Firstly, the duty under FIDIC is to notify of an entitlement to additional time or money whereas the duty under NEC is to notify of an event (Glover, 2008). Secondly, FIDIC provides no express sanctions on the employer’s team in case of a default to provide a timely response, which is a contentious issue. Under NEC, if the project manager fails to reply, the contractor’s original notification or quotation is deemed to be accepted (Eggleston, 2006). In fact, there are complex legal arguments about the matter of timescales in construction contracts and whether they are condition precedent and mandatory, or only directory (Glover, 2008). However, the real criticism may be directed towards NEC as to the usefulness of partnering ethos in the light of penalising the contractor if failed to adhere to the timescale.

5.9.3. Variations
It is evident today, more than ever, that inevitable variations in construction process are a major source of the endemic disputes which have a severe impact on project performance. Also, Latham acknowledged this in his report (Othman, 2008). Abrahamson (1979) states ‘most of the employment given to the legal profession by engineering work is to do with disputes about variations’.

The magnitude and frequency of variations, besides its subsequent valuation rules are certainly influenced by the conditions of contract (Othman, 2008). To judge the performance of variation clauses in a standard form, it is suggested to evaluate certain attributes such as the clarity of the definition of what constitutes a variation, completeness, fairness, consistency, and valuation rules (Akinsola and Potts, 1998). Obviously, the dispute can arise from a deficit in any of those attributes. For instance, the engineer may instruct the contractor to do work, involving a variation in fact, which the engineer fails to acknowledge (definition), or they may disagree about the valuation of its payment (valuation rules) (Seppala, 1991). This underlies the importance of administering the contract by an independent party to make fair decisions regarding variations entitlements.

According to (Seppala, 1991), variations are the second major area giving rise to claims under FIDIC. Although FIDIC recognises that changes are inevitable, the avoidance and minimisation of incidents and impacts of changes through good planning is one of FIDIC’s underlying principles (Bunni, 2005). FIDIC details how a change is to be valued. This is to be valued at the same/ or by considering rates and prices set out in the contract, or the engineer agrees new suitable rates and prices through the procedure of ‘due consultation’ with the employer and the contractor. If no agreement is reached, the last resort is determining the appropriate prices by the engineer. This procedure assumes that the value will be calculated after the variation or change has been carried out (FIDIC, 1999; Forward, 2002).
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FIDIC is unable to cope with significant variations. FIDIC Sub-clause 12.3 limits variations of items to 10% by quantity and other criteria which necessitate new rates to be agreed (FIDIC, 1999). This is because it is essentially a re-measurement contract that assumes the project scope, works, standards, drawings, and specifications are well defined prior to letting the tender documents and thus unit prices remain valid after the contract signature. Normally, the significant changes would be followed by a contractor’s claim to apply new rates as the old ones are no longer valid. The process of determination of the new rates, whereby a contractor submits a proposal and then the engineer determines the suitable prices, is a rigorous and tough that inevitably will lead to disagreement and dispute (Aljarosha, 2008).

FIDIC makes a new innovation allowing contractors to initiate variations under ‘Value Engineering’ clause. The contractor may submit a proposal, which needs the approval of the engineer to proceed, to increase efficiency, reduce cost and time etc. to the benefit of the employer (FIDIC, 1999). Obviously, this feature encourages collaboration and partnering, and it should have been introduced within NEC.

Normally, standard forms make it clear via express terms that the contractor is obliged to perform variations. Yet, NEC does not recognise the phrase ‘variations’ nor ‘changes’. NEC addresses the contractor’s obligation to perform variations by an indirect route through Clause 14.3 (Instructions) which serves as the variation clause (Eggleston, 2006).

Eggleston (2006) says it is uncertain and not clear whether such an instruction can oblige the contractor to do additional work and therefore creates new obligations (variation to the terms of contract), or is it only a change to the existing works. He states that there are no provisions fixing the scope of variations such as limiting them to necessity, desirability or value. This means NEC is an open-ended contract; however, there have to be practical limitations if contractual limitations do not exist. Nonetheless, Clause 12.3 tends to limit changes by stating that no change to the contract has effect unless it is provided for in the conditions of contract or unless it has been agreed, confirmed in writing, and signed by the parties (Eggleston, 2006).

NEC provides for pre-pricing a variation/change before it is carried out. This means that the instruction - variation order or change order - by the client will at first be an instruction to submit a price (quotation) for the work, which if accepted will be followed by an instruction to carry out the work (Eggleston, 2006). This is beneficial for both parties. The client can decide whether to go ahead or not based on the price. The contractor ensures the price of the work is accepted and thus avoids disputes.
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To sum up, both FIDIC and NEC recognise that variations are a traditional cause of disputes. FIDIC tries to avoid disputes by minimising variations to certain limit after which new process should be agreed. However, the process of price determination is still problematic. On the other hand, NEC is very flexible as it does not limit variations, but it requires pre-pricing and quotations that fix the prices before commencing the variation. All in all, it is obvious that both use different approaches to tackle the same problem, but NEC tends to be more successful as what really does matter, at the end of the day, is price agreement and not the 10% limit on quantity or whatever.

5.10. Dispute Avoidance and Resolution

"As a Judge... I cannot imagine a civil engineering contract, particularly one of any size, which did not give rise to some disputes. This is not to the discredit of either party to the contract. It is simply the nature of the beast. What is to their discredit is if they fail to resolve those disputes as quickly, economically and sensibly as possible "


This section compares two philosophies adopted by FIDIC and NEC to reduce the adversarial behaviour and litigation, and resolve disputes in the construction industry.

The Dispute Review Board (DRB) was developed by the American Society of Civil Engineers in 1975 to improve the way of dealing with disputes and to settle them promptly. The underlying principle is that an unsettled dispute inhibits communication and fosters an adversarial relationship, which often results in more disputes (Thompson et al., 2000). FIDIC adopts this concept even though it refers to it as Dispute Adjudication Board (DAB). Totterdill (2006) says that the only difference between them is that DAB gives a decision that must be implemented, whereas DRB gives a recommendation. The DAB consists of three -or only one if the parties specify that- preselected neutral experts in the technical and contractual matters of the project. They visit the site periodically and are aware of the progress of the project. The existence of DAB in a project encourages the parties to view their differences objectively and to resolve them by themselves (Robinson, 2011; Thompson et al., 2000).

Unlike FIDIC, NEC aims to resolve the upstream and root cause of the afflictions by changing the contractual relationship to prevent disputes. According to Latham report, the adjudication process adopted by NEC is the optimal way to prevent minor claims being delayed and to resolve disputes. NEC is not only a contract, but also a project management tool that allocates risks realistically and stimulates cooperation (Thompson et al., 2000).

In fact, NEC and DRB approaches have similar features. Both change the parties’ attitudes, foster trust and communication, and enhance clarity and logic. They have initial additional preventative costs
which will save money in the long term. However, the adjudication process under the two contracts is
different from three aspects. Firstly, unlike DAB, the adjudicator under NEC does not make periodic
visits to the site and he works only when the dispute arises (Robinson, 2011; Thompson et al., 2000).
Secondly, DAB consists of three people, by default, while NEC provides for one adjudicator only.
Thirdly, DAB focuses on improving the ways to resolve disputes, whereas NEC seeks to fundamentally
change contractual relationships to prevent disputes.

Some disadvantages of using DAB which can also be extended to the adjudicator model under NEC are
presented by (Harmon, 2011). For instance, the benefits of confidentiality, reduced costs, and quicker
resolution in comparison to other ADR techniques, may increase the contractor’s claims against the
owner and encourage him to challenge even the minor engineer’s decisions. In addition, if there are no
disputes, the cost of DAB or adjudicator is an additional burden which does not add value to the
project. This additional cost would be justifiable only for large projects (Ndekugri and Mcdonnel,
2007). For example, it is mandatory to use three-member DRB in the World Bank’s projects which cost
more than $50 million. Another limitation of NEC’s adjudicator and DAB is the fact that their
decisions cannot easily be enforced if the parties agree to submit disputes to arbitration tribunals. On
the other hand, NEC has a tight timeframe for correspondence advantage over FIDIC. For example, the
adjudicator shall make his decision within 28 days under NEC compared to 84 days under FIDIC’s
DAB. However, NEC approach is criticised since the adjudicator does not need to take proactive role
like DAB to avoid disputes (Ndekugri and Mcdonnel, 2007).

In a nut shell, both approaches to resolve disputes have been very successful and commendable, indeed.
Besides the adjudication process provided for, NEC as an effective tool to manage projects successfully
is superior to DAB alone in improving the project performance. Nevertheless, the dispute resolution
process under DAB is superior to NEC due to the familiarity of DAB members of the project as they
keep up with its progress and due to the ‘wisdom of crowds’ effect. Therefore, combining both
approaches leads to a comprehensive way to avoid disputes upstream from the very beginning when a
contract is developed (NEC approach), and settle them downstream in a quick and efficient manner,
once they arise (FIDIC approach).

5.11. Project Organisation (Engineer versus Project Manager)
The aim of this section is to critically examine and compare the role of the engineer under FIDIC with
the project manager under NEC.
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Under the FIDIC’s old Red Book, the engineer has two main duties. Firstly, he is the employer’s agent for design, supervision of the works construction and execution, and contract administration. Secondly, he is a neutral and independent third party responsible to decide and determine the contractor's claims for additional payment or extensions of time, and to resolve disputes fairly between the contractor and the employer (Seppala, 1991).

The employer is responsible for engineer’s default in the first group of duties and in turn may be in breach of contract, but he is not responsible for the engineer’s performance of the second group of duties, except in the case of total failure to perform these duties. The duality of role of the engineer as the employer’s agent and a neutral third party is much criticised because of the conflict of interests in his duties. For example, the engineer may be the cause of problems like design errors and delay in making decisions. Moreover, he is appointed and paid by the employer and may seek future work with him, or at least avoid being sacked (Ndekugria et al., 2007; Seppala, 1991).

NEC resolves these problems by splitting the engineer into four entities; the project manager, supervisor, designer, and adjudicator. All these roles are agents of the employer except the adjudicator. The project manager is required to make the plans, administer the contract, certify and value payments etc. The supervisor is concerned with the quality of works and defects. Those two roles can be combined and occupied by one person (Eggleston, 2006). It is important to keep in mind that new roles of the engineer under NEC, compared to other forms, would make engineers not to recommend such a standard form that considerably reduce their own authority and workload (Lavin and Potts, 1998).

The project manager is the representative of the employer and works on his behalf. There is no express requirement on NEC provisions obligating the project manager to be impartial. However, some routine tasks and activities such as issuing certificates, and valuing compensation events seem to require impartiality and fairness. As a certifier and valuer, the project manager shall not work to secure the employer’s interests. This was emphasised in the unusual case of Costain Ltd and Others v. Bechtel Ltd (2005), in which the judge made the decision that the project manager’s duty is to act fairly and impartially when acting as a certifier (Eggleston, 2006). This case shows that the roles separation is not as simple as appears on the face of it.

Under the new Red Book, there is an attempt to abandon the ‘independent engineer’ concept. This appears from three changes: removing the requirement to ‘act impartially’, expressly stating that the engineer is to act as the employer’s agent, and introducing the Dispute Adjudication Board (DAB) to
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which the parties may refer any dispute. It is important to view the development and changes of the contract holistically. The non-neutral engineer and DAB are closely related and have been introduced as one package (Swiney, 2007). Certainly, this has significantly reduced the dispute resolution role and power of the engineer (Ndekugria et al., 2007).

The total abandonment of the ‘independent Engineer’ concept is questioned since it replaces the duty to ‘act impartially’ by the duty to make ‘fair determinations’ of the claims between the employer and the contractor, which appears to reinstate the old concept. However, a new mechanism to allow the employer to regain control over the engineer is introduced in clause 3.1. This is achieved by stating that the engineer is to act as the employer’s agent in the Particular Conditions. Furthermore, unlike the old Red Book, the new Book empowers the employer with express authority to replace the engineer for any reason whatsoever, subject to two procedural requirements (Ndekugria et al., 2007).

Lina (1997) argues that although the dual role of the engineer should be abandoned, the new FIDIC and NEC approaches are less efficient than the traditional system. For instance, the NEC approach of separating the duties of the engineer to multiple people or firms ignore the consistency gained by one party working over the whole project life cycle from the project inception to completion. Also, the engineer’s knowledge of the project’s day-to-day activities enables him to make decisions better than the DAB or adjudicator. In addition, the interference of the DAB or adjudicator may create confrontational rather than cooperative environment and in turn increases the claims, especially as the engineer no longer has an obligation to act impartially. Finally, the additional fees payable to the DAB or adjudicator make the works more expensive (Lina, 1997).

In a nutshell, the new Red Book has moved towards the NEC approach to get rid of the independent engineer concept. However, FIDIC has not gone all the way because the duality of engineer’s role has not been eliminated completely. Arguably, this is favourable as the new Red Book is structured flexibly enough to serve the requirements of different parties (Ndekugria et al., 2007).

5.12. Conclusion
This chapter compares and contrasts FIDIC with NEC. Although both contracts are well-built and have commendable features, it is obvious that NEC has more advantages over FIDIC. However, the author holds the opinion that the result of the comparison can by no means be judged based on point-by-point way. This is because this comparison is in relative and not absolute terms, and the comparison points or issues carry different weight as regards their effect on disputes occurrence and/or impact.
Interview Results and Discussions

6.1. Introduction

Based on the literature review carried out in the previous chapters, and more specifically Chapter 5, it appears that NEC could be a possible long term solution to eradicate some of the contractual problems and disputes in the Palestinian construction industry. This chapter provides the last necessary component in this research in order to be able to draw sound conclusions as regards the aim and objective of this study. To reiterate, the specific aim of this research is to identify and understand the relationship between the choice of standard contract and disputes in the Palestinian construction industry. Ultimately, whether NEC has more ability than FIDIC to minimise disputes will be concluded.
6.2. Comments about the Interviews

The interview questions were built with the proposition that knowledge about FIDIC is expected, but no prior knowledge about NEC is assumed. Although one question about NEC was incorporated in case of anyone who had known or used it, only one interviewee did hear about this contract, but without knowledge about it. The interviews have been conducted via Skype. It gives almost the same atmosphere of face-to-face personal interview because of the video communication. Interview’s duration was 85 minutes in average.

The interviews started by the interviewer introducing himself and the subject matter of the research. A brief introduction about NEC characteristics and features as deviated and compared to traditional standard forms have been done. Then, the researcher has guaranteed the respondents that all answers and disclosed information will be used for academic research only and will not be revealed. The researcher has promised to preserve confidentiality of information and anonymity of interviewees and their organisation, and to provide the participants of the results of this study upon their request. Therefore, the arguments, opinions, and statements of the interviewees are presented with no mention of names. The following write up is based on the comments and perceptions on the topics, themes and issues raised during the semi-structured interview.

6.3. Interviews Discussions

The interview is divided into two parts; the first part asks three questions to identify the background of each interviewee, and the second part asks detailed questions about construction contracts, and particularly FIDIC.

6.3.1. General Background of Interviewees

This part asks the respondent about his or her position within the current organisation or project, and his or her experience in managing construction contracts. The information obtained is shown briefly in section 2.7. (Sampling). Then, the respondents have been asked about the standard forms of contracts they have used, who suggest their usage, and their preferences.

The model contracts used by the respondents are FIDIC (both 1987 and 1999 editions), ICE, UNPD form of contract, UNRWA form of contract, USAID form of contract (referred to as Federal Acquisition Regulations- FAR) and other contracts drafted and compiled by local and public authorities and municipalities. Many donors and development institutions use FIDIC. For instance, the Islamic development bank uses FIDIC to govern their projects. Likewise, the World Bank uses the “World
Chapter 6: Interview Results and Discussions

Bank Standard Bidding Documents, which is based mainly on FIDIC99, in their sponsored projects in Palestine. In most cases these model contracts have been used by the interviewees to govern construction projects. However, in very few cases they have been used in professional services (e.g. design works), and only once in research comparative studies.

What has been discovered out from the interviews is that there is a common practice in the Gaza Strip of using ad-hoc bespoke contracts. These forms are based to a large extent on FIDIC conditions of contracts. Then, the general conditions are slightly changed to address the technical, administrative and procedural requirements of the client organisations. This includes tender preparation, required documentation, prequalification, method statement, payment arrangements, dispute resolution procedures and mechanism and so on. A few organisations do such alterations to the general conditions with the intention of risk shifting to the contractor side. For example, some local employers delete the provisions of force majeure. They argue that most of the events lie under this clause such as war, hostilities, unrest etc. has become normal things and circumstances in Gaza. Nevertheless, the author believes that deleting this clause just because a force majeure event has become normal or foreseeable is illogical. This is because the main part of the definition of such event is being out of control of either party even if it is foreseeable. Thus, allocating this risk to the contractor is just fault practice with devastating consequences on bid price or final project cost, and definitely disputes and may be project failure.

Besides the general conditions, each employer has certain particular conditions to address his special needs and requirements, to deal with the special circumstances in Gaza, and to make modifications to the risk profile. The special conditions are attached to the fairly modified general conditions to form the overall conditions of contract or ‘bespoke contract’.

Typically, the employer is the one who stipulates which standard form is to be used to govern the relationship between himself and the contractor. For example, UNDP has its own in-house conditions of contracts, UNRWA has developed its form since 1968, and USAID has its own terms and conditions. Sometimes, clients decide on the standard form to be used after consultation with their consultants, or the sponsors and donors of the project.

When the interviewees were asked about their experience with FIDIC, they gave different opinions. Ten out of twelve state that FIDIC is the best standard form they have ever used. They have mentioned different reasons for their preference to FIDIC. These include its fairness and risk-balanced provisions, comprehensiveness, efficient dispute resolution mechanism, widespread use, familiarity, and
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practicability. Also, the existence of Arabic version to work hand in hand with the English version was a very useful and commendable feature of FIDIC. Furthermore, the endorsement of FIDIC as the unified conditions of contract by the Palestinian Cabinet places it in a stronger position than its rivals.

On the other hand, one interviewee criticises FIDIC as it is not decisive, silent and very flexible in many clauses and procedures. This provides the parties with more things to argue about as it is uncertain what to do, how to do it, and so forth. These flexibility and indecisiveness go in line with ambiguity which in turn leads to disputes.

Another respondent states that he is disappointed and demotivated as regards the status of all standard forms in use in the Palestinian Territories. As arbitrator in many arbitration tribunals, he has the impression that all standard forms are inadequate and insufficient to address all facets of the ordinary contracting practice, and not to say the abnormal circumstances in the Gaza Strip.

6.3.2. Experience with FIDIC

The first question of part 2 of the interview asks people about their experience of using FIDIC, for how many years, and on what types of projects?

The interviewees experiences in using FIDIC range from 7 to 25 years in different and multidisciplinary construction projects. These projects include building and infrastructure sectors. Building projects include, but not limited to, residential buildings, large scale housing projects, hospitals, schools, commercial and governmental buildings. Infrastructure projects include roads, water distribution systems, pipelines, pump stations, storm water and sewerage networks, wastewater treatment plants, solid waste and rubble removal, agricultural, dredging and reclamation works.

6.3.3. Disputes

The interviewees were then asked if they had faced or experienced any disputes, and if so what the reasons were.

Eleven respondents say that they have encountered many disputes, while only one insists that he has not faced any dispute during his 18 years of experience. This could be because of different understandings and perceptions of what a dispute is. Some may think a dispute is a normal disagreement about certification, claim, evaluation, instruction etc, while others consider that dispute arises when the matter or case is referred to litigation or arbitration tribunal. In fact, there is no consensus in academia as well about what constitutes a dispute. Some authors say that disputes are
disagreements, while other authors define disputes as the results of rejecting a claim (Kumaraswamy, 1997). Diekmann and Girard (1995) refer to dispute as "any contract question or controversy that must be settled beyond the jobsite management staff". Another definition of dispute is found in rule 1 of the ICE Arbitration Procedure: 'when a claim or assertion made by one party is rejected by the other party and that rejection is not accepted" (Bunni, 2005)

Nevertheless, the interviewees have not reached consensus over whether dispute is inevitable in projects or not. Some consider disputes to be endemic and unavoidable, while others argue they happen but they are limited.

Taking the responses of all interviewees collectively, the main reasons of disputes fall into three categories: political, financial, and project-related.

**Political Factors:** they are mainly related to the Israeli occupation, attacks, aggressions, hostilities, wars, blockade and so forth. The Palestinian Territories are under the Israeli occupation, and the Gaza Strip suffers from complete blockade as Israeli forces control the borders, imports and exports, economy etc. Most interviewees consider these factors as the reasons of disputes and projects failures. Often, disagreements occur between the employer and the contractor over whether such events constitute force majeure or not, who is responsible for that, was it foreseeable, was the party reasonably able to avoid, mitigate, overcome etc. this incidence and so on and so forth.

The borders closures significantly affect projects cost and time estimates. They cause increases in material prices, and severe schedule slippage because of the difficulty to import construction materials on time which ultimately delays the project programme as a whole. Also, they are one of the main reasons to variation orders because the unavailability or shortages of materials and items force the employer to issue change orders, the thing which may generate disputes. Besides, the closure causes difficulties to secure materials complying with technical specifications because contractors have no ability to import materials from any external market. Therefore, the blockade affects cost, time, and quality objectives of any projects. Probably, disputes happen between the employer and the contractor, as whether the contractor is responsible for securing required plants and materials, and whether he could have been able to reasonably avoid the consequences. Quite often, the contractor is the ‘victim’ as he must bear the financial consequences of these events, because employers have strict and limited budget for each project. Employers try to cooperate or share some aspects of these risks by only granting extension of time so that contractors are not liable to pay liquidated damages.
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One interviewee adds that any large project (approximately costs more than US$ 2 million) or strategic project (within the strategic master plans of PNA such as water and wastewater treatment plants, solid waste landfills, power plants etc.) requires the approval and authorisation of the Israeli occupation. Sometimes, Israel intervenes to alter some specifications of these projects after the contract signature. This causes significant variations and many claims and disputes. Usually, this intervention is attributed to unjustified security precautions.

Another respondent says that the Gaza blockade does not only affects the iron triangle of project, but also causes prolonged suspensions, terminations, and project failure.

**Financial Factors:** such as inflation and fluctuation in currency exchange rate, the dramatical escalation and sharp rising of materials and other resources prices. This is closely related to the political factors group as it is caused by the borders closures and siege.

**Project-related factors:** these are the factors internal to the project environment as opposed to the external political and financial factors. The main two issues raised were about the difficulties and problems in interpreting and understanding the conditions of contracts and specifications. Ten respondents maintain that specifications are more problematic than the contract’s conditions.

Another frequently mentioned reason is ‘variations’. These can be related to borders closures as mentioned above, errors in specifications and/or drawings, or identification of new needs by the client which lead to change the scope of the project, quantity or quality of certain items. This will be disused in more detail later on.

Eight respondents state that the vagueness of some clauses, the use of complicated wordings, and ‘legal flavour’ in the conditions of contract are classical points that lead to disputes. This is because these shortcomings lead to more than one interpretation and arguments between the contractor and the engineer about the true meaning and intention of a clause. This will be disused in more detail in section 6.3.5. (Clarity).

Other causes mentioned by some interviewees include quality problems and defects, quality methods, obstacles and obstructions in site, unforeseen soil conditions, problems in access to the site, and working in it, contractors’ unsatisfactory performance, inadequate capacity/ expertise/ knowledge of contractor and engineers in contract management and administration. Some of these factors play a
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minor role in disputes generations as compared to external factors which the parties have no control over. Some problems and challenges can be met by training and capacity building sessions.

6.3.4. Disputes Resolution

The interviewees were asked about the dispute resolution techniques they had used, and their impression about it.

According to the interviewees, the dispute resolution techniques they have used are negotiation, mediation, conciliation, and adjudication or arbitration. Generally speaking, negotiation is the most commonly used technique, mediation and conciliation come next with very limited use, and finally adjudication/arbitration with a very few cases in the whole Gaza Strip. Litigation is not used to settle construction disputes. However, a very few cases have been referred to courts which in turn refer them to ‘expert panels and committees’ assigned by the Association of Engineers.

All interviewees, except one, state that negotiation is the first and mostly used method. They argue that negotiation is the preferable one because it is cost-effective, saves time, flexible, preserves confidentiality, has friendly atmosphere, and maintains long-term business relationships between the parties. One interviewee states that negotiation is the most common way to resolve disputes because most of the disputes in the construction industry of the Gaza Strip are of relatively small value, and therefore it does not make sense or value for money to use other techniques that cost more. Another interviewee prefers negotiation because it leads to amicable settlement, and it is more transparent than mediation as there are no hidden talks between parties individually.

Actually, the interviewees have not reached consensus over the use of mediation and conciliation. While some of them said they used these methods to settle disputes in few situations, others said they had never used them. The proponents argue that these methods have some benefits such as informality, flexibility, confidentiality, save time, have non-adversarial atmosphere, and are inexpensive. In some situations, the parties are unable to negotiate together and need a third party (mediator) to facilitate the talks. One of the interviewees working on the employer side claims that mediation or conciliation is unwelcomed because the intervention of a third party between major employers and work contractors is inappropriate and inconvenient.

Recently, some Arab countries have started issuing and enacting acts and regulations governing arbitration and adjudication practices as better alternative dispute resolution (ADR) techniques than litigation. These acts lead to establishing commercial and engineering arbitration centres.
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also enacted a legislation known as the *Arbitration Act 2000*. All interviewees say that arbitration is usually used as the last resort. There are only very few and limited cases were parties used arbitration. Local arbitration tribunals are held by the *Engineering Arbitration Centre* in the *Association of Engineers*.

Normally, contractors are unwilling to go to litigation or arbitration proceedings because they are usually in desperate need for cash. Thus, stronger and improved cash flow is more imperative than the monetary value of a claim for contractors. This makes them waive some of what they think they are entitled for and compromise their total entitlement in return for immediate ‘cash in hand’. Contractors are concerned to close down and finish the project as soon as possible, to start working on other projects. So, they are unwilling to wait for a long period of time to receive the claimed sum or amount, which is uncertain to be received depending on the arbitrator or judge award or decision.

Also, the international development agencies - major employers in Palestine- do not accept or allow for national litigation or arbitration, but only for international arbitration in Paris or London seats. Five of the interviewees said that they had experienced international arbitration only once or twice in their career life. Definitely, international arbitration is extremely unfavourable and difficult for Palestinian contractors who lack the necessary competency to cope with its proceedings. They need to hire legal advisors and lawyers etc. and pay large amount of pounds or dollars. More importantly, donors usually stipulate the law governing the contract to be the law of the donor’s country. Obviously, these conditions and stipulations make it more difficult for contractors to manage the contract and put them in a very weak position in case of disputes because of their ignorance of the governing law.

Moreover, the development agencies are inclined to pay slightly more than what they think the contractor is entitled for. This is because those agencies aim to spend their money efficiently for development purposes, and certainly not to waste it in litigation or arbitration.

Nonetheless, one of the interviewed contractors says that the best resolution technique depends on the monetary value of the dispute at hand. For example when the disagreement in medium size projects is about an item of small value (approximately < US $60, 000), it is more efficient to use negotiation. If the disagreement is about a claim of high value (approximately > US $500, 000), adjudication or arbitration is better. This is because a claim of high value affects the contractor significantly who cannot accept amicable settlements that may deduct from the originally claimed value. When the claim is high in value, the parties tend to behave in a more adversarial way, and use ‘positional negotiation’ in order to get the full sum of money they think they are eligible for. It is vital and imperative to clarify
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here that the issue of ‘claim value’ is relative matter. High value may be considered small by someone else, and it differs according to the project size, organisation size, arbitration or litigation cost etc.

On the other hand, one of the interviewed contractors insists that she has no obstacle or concern to use arbitration or any other technique as long as she feels she has the full right and entitlement to get compensation. Another contractor disagrees with the majority of the interviewees and says he uses arbitration more than negotiation. Therefore, it can be argued that the choice of dispute resolution technique depends on individuals’ mindset and organisations strategy regarding how to settle disputes.

Another interviewed employer points out that he has never used arbitration or litigation, but they are used as a weapon to threaten contractors to comply with the outcomes of negotiation and mediation, or the recommendation made by the conciliator.

The researcher has found out that there is no difference in meaning between arbitration and adjudication in Arabic. Both are translated into the same Arabic word, and the people use them as synonyms. This shows one of the pitfalls in the construction practice, and more specifically the weakness of dispute resolution knowledge and experience in the Gaza Strip.

6.3.5. Clarity

The interviewer asks the respondents to describe the clarity, readability, understanding, interpretation and certainty of meaning of FIDIC clauses and if they can give examples to support their answers.

Actually, there was a clear disagreement between the respondents over clarity. Some consider it very clear, others said it is unclear, while some said it is reasonably clear to some degree.

One interviewee says FIDIC is clear but not easily readable. It has cumbersome cross referencing and some clauses could have more than one meaning and interpretation. He continues the criticism and says FIDIC has many very long sentences, separated by commas which reduce understanding. Also, FIDIC uses phrases which are not certain in meaning such as ‘in the contractor opinion’.

One interviewee holds the opinion that FIDIC is vague, ambiguous and difficult to understand. He thinks this may be attributed to the fact that he, as many others, is from engineering background while the contract was drafted by lawyers. In his organisation, they usually hire lawyers to describe the meaning of certain clauses. He maintains that ambiguity creates many disputes, and sometimes they spend hours and days to interpret one sentence to avoid being trapped in any liability.
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Some interviewees claim that FIDIC clauses are very clear but sometimes they accept the possibility of more than one interpretation. They described the differences in interpreting the meaning of clauses as ‘landmine’ of disputes.

Other interviewees argue that FIDIC is well-drafted contract; however, it is not clear, not readable, and not easily understandable for users. They cannot understand it in one go, rather they usually read it more than twice, and discuss its meaning with others to understand it. Some clauses are not certain in meaning; in that they allow some margin or area for manoeuvre.

One engineer links the issue of clarity and understanding with experience. He says that at the beginning of using FIDIC, or any contract, there will be some difficulties as new procedures need to be understood by people. After the learning curve has been passed, the understanding will be minor.

Eight interviewees say that force majeure is one of the most dispute generation clauses because of its lack of clarity. For instance, one interviewee states that it is unclear whether an ‘insurrection’ constitutes force majeure, and the parties keep arguing over this word for one year! Also, after tightening the blockade on the Gaza Strip by Israel, there were many arguments about whether this constitutes force majeure or not, and this debate costed certain organisations millions of dollars.

Others give the example of variation clause in FIDIC as one clause that lacks clarity. They argue that although its definition is very clear and detailed, the parties fail to use it correctly.

One interviewee gives a further example and says that Evaluation sub-clause 12.3, makes many cross referencing to sub-clauses 12.1 and 12.3, and to clause 13, and then gives a very detailed procedure to determine if the changes or variations allow for adjustments in prices. This cross-referencing is very confusing and the very detailed provisions here make the user lose the focus and attention even though it provides objective way to judge. Again, this raises the same concerns and discussions in the literature review about the trade-off between simplicity and preciseness. Here, FIDIC leaves simplicity and moves towards preciseness in an attempt to increase clarity but unfortunately it seems to end up with reversed results.

Finally, one respondent said that there are no problems in clarity or readability, but the real problem is in understanding and interpretation because the users are non-native speakers. So, she implies that part of what causes difficulties is the English foreign language that does not match the education of people and/or their fluency and competency in English.
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6.3.6. Translation

The researcher has asked the participants if they think the use of English version - which is the original version used in litigation- is a challenge and reduces clarity and understanding that ultimately creates disputes, especially because they are non-native English speakers? Also, he has asked them if the usage of Arabic version could be a solution.

Firstly, one interviewee has pointed out that there are two Arabic translations; one done by a Jordanian team and the other by an Egyptian team. The most common one in the Palestinian Territories and the one adopted by the Palestinian Cabinet is the Jordanian translation. However, this poses a serious question over the reliability of translation and the differences the two translations have, and whether they may lead to different legal consequences. In fact, what makes this translation not an easy task is the existence of 22 Arab countries with different dialects as well as different cultures, jurisdictions, and technical terms related to the construction industry.

Again, there was no consensus between the parties about the question of this section. Six respondents say the English version still causes problems in interpretation and the Arabic version makes things little easier so that users unconsciously resort to it. They say that English is challenge since it is not the first language, besides the fact that some terms are not familiar and does not make sense even if translated. They propose to make use of the Arabic version in litigation, and he wonders what the obstacles to this are.

One interviewee says that translation does not reflect the exact meaning in English. Sometimes, parties insist on using the language version which supports their contractual position.

Another interviewee states that Arabic and English versions suffer from the same problem. Translation is the not the solution, rather it may make the translated version even more difficult than the original one. This is because some terms and legal expressions that have roots in English law will be distorted and misunderstood after translation. The problem lies in the legal obscure language.

Six people argue that English version is not problematic. Although it is easier and more convenient to use the Arabic version, the English language is not the real challenge. The real problem lies in the contract drafting, clarity, cohesion, and cohesiveness. The use of Arabic version is very useful especially for first-time users; however, it is not the best to rely on. This is mainly because of the potential problem of deviation or distortion of the meaning when translating legal terms and contracts to other languages, particularly if this is combined with different legal systems. This makes it more
difficult even for lawyers to understand the legal principles of certain terms. English version remains the original and best one. However, this requires, to a certain extent, an understanding of the legal terms and concepts, particularly those originated from Common law and English law.

One participant says that English is for sure a problem to non-native speakers, but what makes worse comes to worst is the use of a legal language. Even the Arabic version is not quite understood because of this difficulty. What is needed is to use a different and simplified drafting style without complicated legal terms that is difficult for engineers to understand.

Based on the above statements and opinions, it seems that the simple and plain English of NEC helps to reduce disagreements and disputes resulting from the FIDIC’s legal and obscure wordings. Also, the translation of NEC to Arabic would be much easier and clearer than FIDIC because of its ordinary language.

6.3.7. The Role of the Engineer

The interviewer has asked the interviewees whether they think the duality of role of the Engineer (being the client agent and at the same time independent third party to determine matters fairly between the client and contractors) is efficient or problematic and why. At the same time, they have been asked if they prefer the Engineer to be the adjudicator of the disputes between the client and contractors and why.

Again, the respondents have different views about this matter. While three engineers defend this role, two engineers, and all other respondents (employers and contractors) criticise this role. It has been shown that duality of the engineer’s role is not a new, but a traditional and classical dilemma.

The proponents claim that the engineer knows ‘the nuts and bolts’ of the project and contract documents. They argue that if the role is divided into designing, supervisory, contract administration and adjudication this will lead to inconsistency, misinterpretation of contract documents, and may result in significant ‘rework’ because each entity needs to understand the work done by others. Furthermore, in case of dispute, they think the engineer is in better position to make the correct decision because he will interpret the contract documents correctly and because of his day-to-day knowledge of the project progress and works.

Four interviewees say that this role is not problematic in nature, but its efficiency depends on the professionalism and expertise of the engineer. The engineer who should do all these tasks must be very expert to recognise, distinguish and split which tasks he is required to be agent, and which he is
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required to be independent. Whether the engineer shall be the adjudicator is a mere matter of experience and not basically about trust and honesty. This is because experienced engineers consider it dishonourable and disreputable to make wrong or biased decisions. One interviewee states that he prefers the engineer to be a member of DAB, but not the sole member.

The rest of respondents, five interviewees, argue that the role is problematic, theoretical and not practical, combines conflicting roles, and they have given different reasons. Engineers make things personal and do not understand their roles properly; what is required from them, what are their lines of authority and power, rights and obligations. This misunderstanding of ‘engineer role’ in Gaza is due to the prevailing culture or perception that engineers are the agents of employers, and in case of dispute, the engineer will not attempt to, or will feel embarrassed to blame the person who pays him. Therefore, engineers are directly biased and do not act impartially or fairly, and cannot be reliable and trusted adjudicators.

The interviewed contractors say that employers and engineers sometimes appear to change or swap their roles the thing which clearly indicates they behave as one party. In other words, engineers tend to be unfair, and work completely on behalf of employers to secure their interests. In some situations, when the claim particulars are very strong and well-presented, engineers behave in a way to appear being fair.

The prevailing adversarial culture between contractors and consultants in Palestine is an imperative obstacle to the adjudicatory and decision making role of engineers. One contractor describes it as:

“I feel that the engineer wants to penalise me rather than cooperate and facilitate my works. Sometimes, I feel the engineer is my enemy and all he wants is to make my work harder, more difficult, and more expensive and not to meet the project objectives of cost, time, and quality.”

Another interviewed employer says the engineer usually becomes part of the problem and it does not make sense to allow the engineer to be the “Judge, jury and executioner “

6.3.8. Risk Allocation and Risk Sharing

The interviewer has asked the respondents if they think risk allocation clarity or fairness or both, would be major causes to dispute, and then if they think FIDIC adopts fair and clear risk sharing principles.

Ten interviewees agree that disputes will arise if risk allocation is unclear. This is because arguments will go over who bears which risks. The parties will blame each other, and will keep searching for ways to support their contractual position. This is simply because either party will be unhappy to pay money.
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However, two people say that even if risk allocation is clear, contractors continue to make financial claims to get ‘overhead costs’.

On the other hand, the interviewees disagree about fairness and disputes. While eight respondents say that if risk allocation is unfair and unrealistic, this will inevitably lead to disputes, others argue that this affects bid price and not claims or disputes. Yet, some participants maintain that fairness does not usually result in higher prices as contractors usually use zero overhead, because they are working in a very high competitive market with desperate need to work. One interviewee refers to this situation as a prevailing ‘claim-hunter culture’ which means contractor offers price based only on the direct cost ‘dry cost’, and then depends on claims to make profits. Obviously, such unjustified claims create disputes. Therefore, it can be argued the unfair risk allocation creates disputes in indirect way (backdoor form of dispute creation).

One contractor thinks that risk allocation alone is sometime not enough for smooth operation and performance of the contract. Under the contemporary complex projects, budgetary constraints and time pressures, risk sharing, partnering and mutual cooperation are of utmost importance. Risk allocation should not be rigid. Rather, some degree of flexibility and ‘put yourself in my shoes’ mindset is required.

The interviewees disagree about the clarity and fairness of FIDIC risk sharing, and this disagreement goes within engineers and within contractors themselves. The clarity of risk sharing and allocation is part of the clarity of the overall document, and has been discussed above in section 6.3.5. (Clarity).

Seven interviewees say that FIDIC is well-balanced, fair or relatively fair in that FIDIC views parties as partners. They have given some examples such as force majeure and termination clauses, clause 17 (Risk and Responsibility), and clause 18 (Insurance) that provide fair contracting principles. Also, claim procedure allows contractors to be compensated fairly. They say the fairness of these and other areas means that they provide equal and reasonable principles, but not necessarily clear. To put in other words, fairness and clarity are mutually exclusive.

Five interviewees argue that FIDIC is or tends to be unfair because it shifts most of the risks to contractors except few things like employer’s risks and force majeure. Many of the risks shifting towards contractors are illogical because they are weaker than clients to bear certain risks. For example, the contractor bears the risk of unavailability of materials or escalation of price even if
multiplied by 10. One contractor believes that risk sharing and partnering ethos are very useful to be part of the contract theory and philosophy.

6.3.9. Physical Ground Conditions and Weather Conditions

The interviewees have been asked about their opinions as regards the clarity and fairness of the physical ground conditions and weather conditions risks allocation in FIDIC clauses. Also, the interviewer has asked them about the certainty of meaning of phrases such as ‘foreseeable’, ‘experienced contractor’, and ‘exceptionally adverse climatic conditions’.

All interviewees agree that these terms are not clear-cut and therefore cause problems and disputes. They refuse and criticise such general descriptions and say these terms should be concise and precise in meaning. This generalisation is a big source of disputes, it is subjective and each one has his own understanding. At the end of the day, the winning of a dispute over ‘unforeseeable’ or ‘exceptional’ event depends on the lawyer or barrister skills, and lose the objectivity and fairness in allocating risks.

Four interviewees say that the definition of what constitutes physical conditions and its scope is not clear. Some propose to use more specific terms and to attach objective and sensible values to the conditions such as rainfall duration and intensity, wind speed, earthquake degree etc. While others propose to provide illustration or commentary about such vague matters, and to incorporate lessons learnt and precedence case law to bridge the gap in misunderstanding.

Six respondents state that climatic conditions rarely cause disputes due to the weather in Palestine. However, the expressions used to address weather conditions under which contractor is entitled to compensation is highly uncertain and does not resolve disputes but rather cause disputes.

One participant says that ‘experienced contractor’ is ‘hollowed out and meaningless term’. He suggests to link it to prequalification in terms of detailed criteria covering financial and technical strength, experience in similar projects etc. Also, there is a need to distinguish between the experience of the organisation itself, and the experience of its staff. Sometimes, new organisations hire staff with long experience in order to claim ‘expertise’ and then forms teams which suffer from low performance due to problems in team design, building, and development which needs certain time to overcome.

About the issue of fairness of these provisions, the respondents failed to reach consensus. Four people think they are fair because they protect the contractor from bearing the consequences of unforeseen and exceptional events and allow for reasonable compensation. However, eight participants think they are
unfair and inefficient in practice as the contractor always bears the impacts. This is because wise contractors and those of a risk-averse culture will increase their bid price to cover such contingences. On the other hand, risk-taking contractors and those who are in desperate need to gain more works will not allow for such risk events in their bid price. Then, they will either make large financial claims, or they will go bust and out of business. Obviously, both possibilities are unfavourable to employers who aim to finish their projects successfully without interruptions.

6.3.10. Variations and Changes

The interviewees have been asked if they think variations are a major source of disputes and why.

There was disagreement between the respondents about this issue. Some argue that variations often lead to disputes, while others claim that variations very rarely cause disputes. Another group stands in between and says disputes sometimes happen particularly when a variation order requires new prices or rates to be agreed. This disagreement between the interviewees may be because of the different definition and perception of what constitutes a dispute. Possibly, some consider the rejection or disagreement about the first quotation is a dispute, while others consider a dispute arises when disagreements occur after signing and agreeing the variation price.

The common practice in the Gaza Strip is to agree the price of the varied work before starting or commencing the works. However, contractors sometimes start working before agreeing the price to avoid delaying the project. Some people think that FIDIC is flexible in this way and does not oblige pre-pricing nor evaluation after execution. Yet, others think that FIDIC obliges the contractor to commence the work even if the price of this work has not been agreed. It has been shown by the majority of interviewees that variations more than likely cause disputes if the price is to be agreed after implementing the varied work. Disputes are usually avoided when they follow the pre-pricing route. One contractor states that sometimes disputes arise even if a schedule of cost components and analysis of the price breakdown structure are provided. The arguments go over the value of direct cost, and overhead percentage and so on. This conflict of interest is normal because contractors consider a variation to be opportunity to make profit, while employers want to adhere to the rates defined in the bill of quantities. All in all, this clearly indicates that NEC approach is much better than FIDIC to avoid disputes in the area of variations.

It has been shown that disputes do not only arise from disagreement about evaluation, but also from the definition of variation. In some cases, the engineer instructs the contractor to do certain work, which
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fell outside the contract and thus constitutes a variation in fact, but refuses to acknowledge that his order constitutes a variation. While in other times, the contractor attempts to ‘make up’ variations by delaying the progress or sequence of works, or otherwise by his fault, which necessitates a new work. Also, contractors may argue that a normal instruction which does not constitute variation, to be variation.

6.3.11. FIDIC and Palestine

The interviewees have been asked if they think the clauses of FIDIC are appropriate for the abnormal conditions in Palestine and why.

All respondents agree that FIDIC clauses do not address the special circumstances and needs of the construction industry in Palestine. This point should not be viewed as criticism or weakness of FIDIC, but rather an evidence and recognition that a universal standard form is difficult, if not impossible, to be achieved. The participants say that a special appendix is usually attached to the contract documents in order to address these conditions.

For instance, contractors need to follow tough procedures and communications with a unit in the Israeli Ministry of Defence called COGAT (Coordinator of Government Activities in the Territories) to be able to import certain materials and plants. UNRWA provides additional clauses such as a clause entitled “Provision of Assistance in Importing Prohibited Items” to deal with the abnormal conditions in the Palestinian Territories. This clause provides a mechanism whereby UNRWA, as an international development agency, may endeavour to facilitate, on behalf of the contractor, the importation of any such prohibited item. This is because Israel may prohibit or otherwise restrict the contractor from importing into the Gaza Strip many construction materials including cement, reinforcing steel, aggregate, base course, bitumen and others.

6.3.12. Contract Management

Finally, the interviewees have been asked what the main problems and challenges facing them in managing contracts are, and if they think the contract can be the tool to minimise their occurrence and/or impact of disputes. The respondents gave a range of answers that are summarised hereafter.

Clients (municipalities, ministries etc.) have low capabilities and competencies, low experience and unqualified human resources, imperfect designs and supervisions. Also, the engineers have no adequate understanding/ knowledge/ experience in the contract administration. Sometimes, they produce defective and faulty tender documents and specifications, and make significant amendments to the
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contract conditions without full understanding and recognition of the exact legal consequences and the consistency of the changed clauses as a whole.

Contractors face many troubles in procuring equipments and materials, and they experience financial difficulties. Another problem with contractors is that they win contracts from different clients, and then manage all the projects as a one mega project. There is no independency of each project, which results in financial problems, and resource bottlenecks. Furthermore, contractors tend to produce low quality products combined with inadequate quality control and assurance methods and procedures. Contractors usually finish the project within budget, but they often fail to deliver and hand over the project on time.

Adjudicators are not in a good position to make strong, reasonable, and correct decisions or awards because they are pure engineers without legal knowledge, or lawyers without construction or engineering background.

Another problem in administering the contract is in communication process. There are no routine communications between the parties to manage the project as a team, and to inform each other with the works progress or anything happening or might happen. One employer states that he feels there is a segregation or gap between the parties, and suddenly communications (in the form of emails, letters, notices, etc.) start to flow heavily to claim for extra cost or time extension. He is really disappointed that communications channels are closed/blocke through a long period of time, and it opens only when something bad happens in order to claim, or blame. Obviously as shown in the literature review, NEC can be the solution for this problem which FIDIC is unable to meet.

In the Palestinian Territories, certain currencies (US dollar, Euro, shekel, and Jordanian Dinar) govern different projects and even different contracts with suppliers and subcontractors within the same project. This depends on the preference of employer and donor organisations. Obviously, the fluctuation of currency exchange rates poses significant troubles and threats to contractors.

The construction industry is in desperate need for reliable and strong national institutions to give standards, regulations, legislation etc. to regulate construction practices. Also, the construction market suffers from low barriers to entry and highly competitive market economy combined with competitive bidding tendering procedure that awards the contract to the lowest bidder. This may lead to awarding the contract to small unqualified contractors, the thing which causes disputes and increases the cost during the project lifecycle.
Some interviewees point out that an imperative problem in managing contracts is the mentality of people. A contract should not be used as rigid legal terms nor a sword on the other party’s neck. A spirit of cooperation is necessary.

The parties agree to some extent that a contract can be the tool to ‘minimise’ disputes but certainly not to avoid it. When the contract covers as many eventualities and possibilities as it can, this provides the parties with the framework they need to work within. Contracts can be a barrier or shield to disputes. However, they cannot avoid them completely. This is simply because the compliance of contract clauses, and interpretation of its terms, depends on the people, their thinking, behaviour, attitude, and culture, at the end of the day.
Chapter 7: Conclusion and Recommendations

7

Conclusion and Recommendations

7.1. Introduction
Again, this study set out to examine and evaluate the role of the standard form of contract in dispute minimisation. Then, an assessment of whether FIDIC or NEC helps to tackle the ‘adversarial culture’ and disputes between employers and contractors is to be carried out.

In the literature review, the main facets, aspects, features and characteristics of FIDIC and NEC have been examined, compared and contrasted. Chapter 6 (Interview Results and Discussions) provides access to the real world practice of project management and contracting in Palestine, and particularly the Gaza Strip. The literature review and empirical enquiry represented by the interviews provide the evidence over which conclusions are built and from which they are drawn.

This chapter provides sound and logical conclusions the author has induced and deduced with reference to the aim and objectives and from the evidence shown in the previous chapters.
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7.2. Conclusion

First and foremost, it is worth mentioning that a great part of this conclusion is valid, applicable and transferable anywhere even though generalisation is still dilemma facing research studies, and this study is no exception. This generalisation could be justified by the fact that project management practices, techniques and procedures tend to be the same, or at least built on and emerge from the same principles and basics. This is particularly true in the contemporary globalised world in which people get the same learning, work on the same projects etc. On the other side, the rest of this conclusion deals directly with the common problems and challenges facing the construction industry in the Gaza Strip.

In order to illustrate the coming arguments, the mind map and thinking process, and the overall framework of the conclusions, the author gives the following metaphor:

*The role of the standard forms of conditions of contract in the project context is like the role of traffic lights in the streets network. The former regulates the contractual relationships between the contracting parties, while the latter regulate the traffic movements between the drivers. The traffic lights do improve and enhance the traffic flow, make it efficient and smooth, and reduces accidents to minimum. However, accidents still happen. Likewise, the standard forms of contracts make the works on the project smoother and more efficient by providing the parties with a standardised set of terms and conditions, and making clear the roles and duties of everyone. Unfortunately; however, disputes still occur.*

Now, the question which firstly comes to mind, or should have, is ‘why disputes still happen?’ The answer can be drawn from the statements and sentences of the literature review, and the comments and opinions of the interviewees. Assuming an ideal contract, the answer can be summarised in one word, ‘people’. Obviously, people are the drivers, and they are the contracting parties as well. If users can comply with the regulations, they will be able to reach their objectives without disputes. It could be argued that the problem is in the regulators themselves (that is the traffic lights or the conditions of contract) and this is fairly true, indeed.

This part of ‘dispute generation’ should be recognised, acknowledged and admitted because the ‘theory of contracts’ seems to be incapable and unable to cope with the challenges of ‘uncertainty’. Basically, the conditions of contracts quite properly address the ‘certainties’ as rights and obligations of the parties. Certainties, located at one end of the continuum, are those things that are certain to occur. For instance, building foundations is a certain activity in a tower construction project, as usually shown in the contract documents. Thus, the owner has this item as a right while the contractor has it as an obligation. At the middle of the continuum, risks are located. Risks are those events that may or may not occur. They can be assigned probability values and hence undergo probability test (NEC terms) or foreseeability test (FIDIC terms). The conditions of contracts deal with risks by assigning
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Responsibilities to the parties. That is, who is responsible for the impacts and consequences of which risks? Most, if not all contracts, and FIDIC and NEC are included, adopt the principle of allocating the risks to the party best able to control them. This may be by reducing the probability of its occurrence by doing certain precautions and actions, or reducing the impact by providing some mitigation responses and fall-back contingency plans.

At the other end of the continuum lie the ‘uncertainties’. Uncertainties are events that cannot be assigned probability values, and cannot be expected or predicted. For instance, an earthquake striking an area of low seismic activity where no earthquake happened previously, can be classified as uncertain event.

The aforementioned discussions illustrate the boundaries and the extent of the contract capability to tackle disputes. It is the opinion of the author that the significant causes of disputes are the users of the contracts and not the contracts themselves. Nevertheless, there is no clear demarcation line between the shortcomings of the standard form of contract, and the pitfalls of people. To give one example, the issue of clarity may be attributed to the contract’s complicated drafting or to the user’s lack of knowledge and experience to understand the contract. Such arguments are expected to go on and on.

It has been shown in the literature review and interviews that people quite often argue about a risk event once it occur. Simply, they blame each other because they are unwilling to pay money. For instance, it has been shown that they nearly always argue whether certain circumstance constitutes force majeure or not. In many other cases, they argue about a variation order, its definition and evaluation. All these areas are classified under ‘risks’ category. Quite surprising, the parties sometimes tend to disagree and argue even about ‘certainties’, as indicated by more than one interviewee. This may be attributed to two reasons. Firstly, they either do not quite understand their roles, authorities, powers, rights and obligations. Secondly, they just attempt to manoeuvre to prolong the time of certain determination, or try to put pressure on the other party to settle for less, or move towards his needs and desires.

Honestly, a part of this unsatisfactory and inadequate performance of the parties is due to their limited knowledge, experience, capabilities, and competencies. This can be tackled and overcome by training sessions, capacity building programmes etc. Nevertheless, the other serious part is ‘people’ mindset, thinking, culture and mentality, behaviours and attitude. It has been shown in the literature review that NEC tries to meet this challenge by introducing partnering ethos and principles requiring the parties to
work ‘in a spirit of mutual trust and cooperation’. However, the real effect of this step is still vague, and it is questioned how a non-contractual problem (people’s thinking) can be resolved by contract! However, NEC at least has acknowledged this – unlike FIDIC- and moves towards and push for cooperative atmosphere, which would minimise unjustified claims and disputes. All in all, it becomes very obvious that the best and optimum results and performance can be achieved by integrating the people and contracts.

Meanwhile, the focus of this research is about the role of the standard form of contract in dispute minimisation. The comparison between FIDIC and NEC concentrates on the most problematic and serious issues and terms usually giving rise to disputes.

Clarity of the contract’s language and structure has been shown in the literature review and interviews to be very problematic. Clarity and simplicity were one of the objectives of NEC as well as FIDIC 1999 Rainbow edition. Although there are many arguments with and against, it seems that NEC has won the ‘battle of clarity’ against FIDIC. Obviously, the clearer the contract the fewer the disputes.

It has been shown that both FIDIC and NEC are flexible to certain extent. However, NEC provides more options for payment systems, shorter timescale for payment, and greater flexibility in the ‘configuration’ of the conditions to constitute the contract. Therefore, NEC has probably won the ‘battle of flexibility’ which better fulfils the users’ needs and reduces misunderstandings and disagreements.

Then, it has been shown that NEC is the only contract in the world embedding project management procedures besides the legal distribution of liabilities. In fact, FIDIC is nearly silent on any management process, tool, technique, procedure etc. to be implemented by the parties during managing the project. Indeed, when the parties follow the NEC’s management procedures, they will end up with cooperative environment and fewer disputes.

As risk allocation directly or indirectly affects the attitudes of the parties and then disputes, FIDIC and NEC attempt to allocate risks fairly and reasonably between the parties in order to avoid or mitigate disputes. However, NEC was clearly much more advanced than FIDIC in the area of risk management the thing which enables dynamic and proactive identification and response to risks, and hence reduces claims and disputes.
Chapter 7: Conclusion and Recommendations

The literature review and interview surveys of this dissertation shows that *force majeure* or prevention events are one of the most disputes making areas. Both contracts have tried to tackle this problem but defining these events in clear and precise way seems very difficult. Therefore, it can be argued that both contracts failed to treat this troublemaking area.

As one of the most reasons of disputes between the parties, the physical and weather conditions provisions in FIDIC and NEC have been compared. Both contracts have commendable approaches, but NEC uses more objective way which leads to fewer disputes. Nevertheless, both contracts can be enhanced more in this area by making a full geotechnical test mandatory where necessary and assigning this obligation probably to the owner.

Based on the arguments presented in the literature review and the statement articulated in the interviews chapter, it can be argued that NEC adopts more effective way to minimise disputes resulting from disagreement over the evaluation of varied works.

Actually, the dispute resolution procedures provided for in both contracts are very successful. However, they still can be improved by considering the advantages of both methods and combining them into an effective mechanism to avoid disputes as well as quickly, economically and sensibly settle them once they arise.

The topic of the employer’s representative role is very complicated indeed, as shown in the literature review and interview surveys. Both FIDIC’s engineer and NEC’s project manager have benefits and shortcomings. Despite the fact that NEC’s approach is not the perfect or ideal, it seems to be the most appropriate especially in the Palestinian Territories. This is mainly because there is wide ignorance of the real nature of the engineer’s role under FIDIC and it is considered to be almost like the NEC’s project manager. The separation of roles into different entities could be very helpful.

In a word, the answer to the research question is that the standard form of contract does affect disputes occurrence and consequences, and NEC tends to be much better than FIDIC in this area. However, the standard form of contract is not everything; it is not a panacea. Even a perfect and ideal standard form is vulnerable to the threat of amendments. Thus, the main and imperative part in which the problem and solution of disputes exist is the people’s knowledge, people’s experience, and people’s behaviour. Those three characteristics constitute the ‘competency’ of people.
Chapter 7: Conclusion and Recommendations

This research makes several noteworthy contributions to the body of knowledge in providing wide comparison between FIDIC and NEC. This extends to many areas which the existing literature has not covered. Also, it has revealed wide and deep knowledge and understanding of the construction industry norms and practices in Palestine. Furthermore, it provides new insights into the three main groups (certainties – risks – uncertainties) from which contractual disputes arise. This division and categorisation helps to tackle the contractual problems and disputes.

7.3. Recommendations

This research has thrown up certain questions in need of further investigation. Based on this dissertation, the following could be possible areas for future research that may be beneficial to the industry:-

1. A study investigating the root causes of the adversarial culture between the demand side and supply side in the construction industry. This can provide new insights to overcome this problem.

2. Further research might explore the viability of introducing partnering principles within procurement practices in the Palestinian construction industry in tackling the adversarial behaviours and reducing disputes.

3. A potential future study might examine the effects of unclear and unfair allocation of risks to the parties through the standard forms on the attitude of the parties and ultimately the disputes level.

4. An elaborate study investigating the clarity and simplicity of FIDIC 1999 may be worthwhile investigation.

5. Considerably more work will need to be done to compare FIDIC and NEC suite of contracts more holistically and comprehensively. This should mainly examine the contracts of the main works between the employer and the contractor.

   Because all the above areas are still relatively uncovered, the recommended exploratory studies should possibly use qualitative methods to acquire data.

6. The topic of translating a standard form into Arabic or other languages can be worthwhile investigating. It may cover the main problems and obstacles probably render translation ineffective. Also, examining the effects of the difference between the two Arabic translations of FIDIC is important.

7. A further study evaluating the practice of dispute resolution and ADR techniques in Palestine is necessary because of the weak and deteriorated knowledge and application. This could combines qualitative and quantitative methods.
Chapter 7: Conclusion and Recommendations

In addition to the above, the research comes with the following steps recommended for implementation in the construction industry, in an attempt to improve the performance and reduce disputes:

1. It is highly recommended that the big employers and development agencies in Palestine testify the use of NEC in their projects. Nevertheless, two facts need to be emphasised here.

   Firstly, the main obstacle against introducing NEC would be the human natural reluctance to change from the familiar forms to a radically different contract. In fact, this desire to adhere to the status quo (known as inertia) can be attributed to laziness, complacency, or fear of the unknown. It is not uncommon to find criticisms of anything which is new particularly if it changes the thinking behind construction contracts. Usually, the change from familiar contract such as FIDIC to new one such as NEC is triggered by either complete state of dissatisfaction in the industry, or by the external influence and endorsement by the government and major employers and donors.

   Secondly, the other obstacle is the need for training and time to pass the learning curve. The staff training especially for first-time users is necessary to become familiar with the novel characteristics of NEC. However, this needs an investment of time and money which many contractors are unwilling to undertake until NEC becomes widespread. Yet, this training may be a worthwhile investment because the training costs will be offset by better project and risk management practices and reduced claims.

2. One of the most imperative and serious problems is the proliferation of the standard forms in the Palestinian Territories. Coordination or agreement between financing organisations and employers to unify as much as possible their conditions of contracts is strongly recommended.

3. It is vital to organise training sessions in order to raise the awareness of professionals and practitioners about dispute resolution, and equip them with the required skills to administer the contract in the best possible way.

4. As shown by the interviews, people do not prefer litigation or arbitration. Therefore, a legislation supporting adjudication to be used as binding resolution technique may be effective to enhance the contracting practice and reduce claims and disputes.
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