DEDICATION

To the soul of Dr. Bakri Abdul Raheem for his guidance and support, may Allah bless him

To my family
ACKNOWLEDGEMENT

I would like to thank Dr Salma for her supervision and support.

Thanks to all my colleagues for their cooperation and help in distributing, getting questionnaire responses and providing rich and in-depth information.
Abstract

The objectives of this study are to convey the concepts and practice of implementing constructability to Sudan, measure the level of awareness about it, provide guidelines for local construction practitioners who would like to adopt this concept and explore the extent of implementation of constructability concepts in Sudan.

The methodologies adopted to investigate the research problems were case studies in the Dubai mall hotel project where it was decided to replace the traditional timber forms and steel false works by the self climbing scaffold as a modern prefabricated forms made of aluminium panels and rebar factories were sub-contracted to deliver the steel reinforcement ready cut and bent. As a complementary part to the case studies a questionnaire survey was conducted among the construction practitioners in Sudan.

A saving of 50% of time was achieved with approximately 40% of the labours needed for the traditional type of formwork. 90% of the time required for the normal procedures of cutting and bending the steel reinforcement by the labours was saved in addition to the saving of the fabrication yard space and quality and safety improvement.

75% of the questionnaire respondents agreed on the importance of the constructability review during the design stage, but owners are reluctant to invest money for additional efforts for constructability reviews. This could be mitigated in the case of the non-traditional contract approaches.

Though the traditional contractual approach is the most applied method; the non-traditional approaches such as design-build are increasingly growing with scoring of 1.68 against 2.55 for the traditional method. The major barriers for implementing constructability improvement programme were found staff issues and lack of awareness about the importance of constructability.
تحرييد

Table of Contents

IV
Chapter One: Introduction

1. Historical background ................................................. 1

1.1 The Research Problem ................................................... 2

1.2 Importance of the study .................................................. 2

1.3 Purpose and scope of the study ....................................... 3

1.4 Objectives ..................................................................... 3

Chapter Two: Literature Review

2.1 Project definition ............................................................. 4

2.2 Project Life cycle ............................................................. 4

2.2.1 Feasibility and conceptual planning phase ....................... 7

2.2.2 Design phase ............................................................... 8

2.2.3 Tender Phase ............................................................... 10

2.2.3.1 Traditional Procurement Method ................................. 11
Chapter Three: The Research Methodology

3.1 Case studies

3.1.1 The Project Background

3.2 Questionnaire Survey
Chapter four: Case Studies Analysis and Findings

4.1 Self Climbing Scaffold.................................................................69
4.2 Pre-fabrication of Rebar............................................................74

Chapter Five: Questionnaire Survey

5.1 Introduction..................................................................................78
5.2 Questionnaire Design.................................................................78
5.3 Questionnaire Sample.................................................................79
5.4 Questionnaire Piloting.................................................................80
5.5 Questionnaire Analysis and Findings.........................................81
5.6 Summary of the main findings..................................................95

Chapter Six: Conclusion and Recommendations

6.1 Conclusion...................................................................................96
6.2 Recommendations.......................................................................97

References.......................................................................................98

Appendices.......................................................................................100

Appendix A Survey Questionnaire
Appendix B Summary of the participants’ responses
Appendix C Data Coding
Appendix D Summary of the questionnaire analysis
List of Tables

2.1 Obligations of owner and contractor ............................................. 22
4.1 Time Consumed on Formwork ................................................. 73
4.2 Time Consumed for Rebar work .............................................. 75
5.1 Questionnaire Responses (General information) ........ Appendix B
5.2 Questionnaire Responses Experts Input ...................... Appendix B
5.3 Questionnaire Participants Responses (Part 2 constructability awareness) .... Appendix B
5.4 Questionnaire Responses Constructability awareness .... Appendix B
5.5 Questionnaire Responses (Reviews and Barriers) .......... Appendix B

VIII
List of Figures

2.1  Project Lifecycle .................................................................5
2.2  Project Main Stakeholders ..................................................6
2.3  Traditional Delivery Method ...............................................12
2.4  Design-Build Arrangement ...............................................13
2.5  Design-Build Procurement Process ....................................14
2.6  Management Contracting Procurement Method ..................15
2.7  Construction Management Procurement Method ................16
2.8  Construction Project Management Approach ....................18
2.9  Main Construction Personnel ............................................21
2.10 Industrial Project execution parts ....................................27
2.11 Constructability Historical Development .........................35
2.12 Realization of Cost and Schedule Savings .......................36
2.13 Constructability Cost Influence Curve ..............................37
2.14 Design-Build Contract ....................................................41
2.15 Design construction / integration ....................................54
2.16 Virtual Construction Model ..............................................54
2.17 3D model for cladding .....................................................55
2.18 3D animation showing how building components can be assembled

2.19 Breakdown of typical daily working hours on site activities

4.1 Self Climbing Scaffold at elevation

4.2 Installation of Self Climbing Scaffold

4.3 Self Climbing Scaffold at floor

4.4 Traditional Timber Formwork

4.5 Formwork comparison chart

4.6 Rebar Work Comparison Chart

5.1 Questionnaire Respondents Distribution by Firm

5.2 Questionnaire Respondents Distribution According to Areas of Work

5.3 Importance of Experts Input during the different stages throughout the Project life cycle

5.4 Importance of Constructability Review

5.5 Company Preferred Contract

5.6 Personal Recommended Contract

5.7 Constructability Major Barriers

5.8 Respondents Score on Constructability Major Barriers
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBS</td>
<td>Bar Bending Schedule</td>
</tr>
<tr>
<td>DB</td>
<td>Design Build</td>
</tr>
<tr>
<td>CII</td>
<td>Construction Industry Institute</td>
</tr>
<tr>
<td>CIIA</td>
<td>Construction Industry Institute of Australia</td>
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<td>CIRIA</td>
<td>Industry Research and Information Association</td>
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<tr>
<td>CM</td>
<td>Construction Management</td>
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<td>CSHK</td>
<td>China State Hong Kong (Contracting Company)</td>
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<td>EPC</td>
<td>Engineering Procurement Construction</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GMP</td>
<td>Guaranteed Maximum Price</td>
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<td>IFB</td>
<td>Invitation for Bid</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>ITP</td>
<td>Inspection and Test Plan</td>
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<td>JAFZA</td>
<td>Jabal Ali Free Zone Area</td>
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