شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

HANAA ALY

Selecting Standard Form of Construction Contracts using Text Analysis and Multi Criteria Decision-Making Techniques

By

Yasmine Mokhtar Hassan Elkhayat

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the Requirements
for the Degree of
MASTER OF SCIENCE
In
STRUCTURAL ENGINEERING

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Title of Thesis:
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Keywords:
Standard form of construction contracts, Text Analysis, Multi-Criteria Decision-Making, AHP, TOPSIS.

Summary:
Delivering successful projects is a quite challenging task that requires establishing a well-drafted contract between the parties that fulfills all the parties' needs through setting balanced rights and obligations between them. Standard Forms of Construction Contracts (SFCCs) are international standard forms that are used in construction projects to set all the contractual related issues that may take place during the course of the project. Furthermore, identifying the main causes of construction conflicts is the key to overcome these problems. Therefore, this research identifies five main aspects with fifteen sub-aspects that are considered the factors affecting contract selection. This research analyzes three of the most commonly used SFCCs; FIDIC Red Book 2017, JCT Standard Building Contract with Quantities 2016, and NEC4 Engineering and Construction Contract. Firstly, contract analysis is performed using a text analysis tool to extract hidden information found in unstructured data. Afterward, the clauses and provisions of the three SFCCs are compared based on the output of the text analysis process. Accordingly, forty-nine questions are developed to assist the user in selecting the most suitable SFCC based on a hybrid Multi-Criteria Decision-Making model. Finally, a recommendation system is developed to advise the user for some tips to be considered in the contract formation stage.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.
I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Yasmine Mokhtar Elkhayat Date: ../../…

Signature:

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Table of Contents

List of Figures

Chapter 1:

Chapter 2:

Chapter 3:

Chapter 4:

Chapter 5: