SUPPLY CHAIN DESIGN NETWORK MODEL FOR BIOFUEL AND PETROCHEMICALS FROM BIOWASTE

By

Ismaail Amr Abd El-Kader Ahmed Emara

A THESIS SUBMITTED TO FACULTY OF ENGINEERING
CAIRO UNIVERSITY IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
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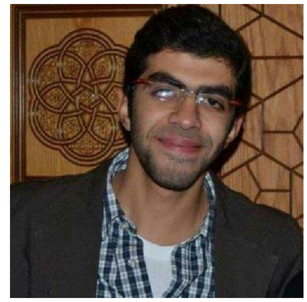

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Title of Thesis: **Supply Chain Design Network Model for Biofuel and Petrochemicals from Biowaste.**

Key Words: Supply Chain Design Model, Mixed Integer Linear Program, Biofuel and Biowaste, Sustainable Development.

Summary:

This thesis develops a decision-support tool for solving supply chain design including location problem of various facilities, using the MILP mixed integer linear problem solving programming model. EXECL SOLVER TOOL, MATLAB with a GUI (graphical user input interface) programmed by the C# software are used. A typical three layers medium term planning MILP model for supply chain design is presented and applied for two applications for chemicals and biofuel production from rice straw biomass and biodiesel production from waste cooking oil WCO

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Dedication

To my parents and my family.

Table of Contents

List of Figures

List of Tables