شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأفلام قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

بعض الوثائق الاصلية تالفة

بالرسالة صفحات لم ترد بالاصل

CAIRO UNIVERSITY
FACULTY OF COMPUTERS AND INFORMATION
DECISION SUPPORT DEPARTMENT

Computer Simulated Management Games for Training and Education

A Thesis Submitted to
Faculty of Computers & Information Cairo University
In Partial Fulfillment of the Requirements for the Degree of
Master of Science
In
Decision Support

By
Sherin Magdy El-Meligy

Supervised by
Prof. Dr. Motaz Khorshid
Dr. Mohamed Saleh

Cairo 2006

CAIRO UNIVERSITY
FACULTY OF COMPUTERS AND INFORMATION
DECISION SUPPORT DEPARTMENT

Computer Simulated Management Games for Training and Education

By

Sherin Magdy El-Meligy

A Thesis Submitted to
Faculty of Computers & Information Cairo University
in Partial Fulfillment of the Requirements for the Degree of
Master of Science in Decision Support

Approved by:

Examining Committee	**Signature**
1. Prof. Dr. / Mohamed H. Rasmy	
2. Prof. Dr. / Motaz Khorshid	
3. Dr. / Sohair Hawala	

STATEMENT OF ORIGINALITY

This thesis is submitted to Cairo University for the M.sc. degree in the major of decision support. The work included in this thesis was carried out by the author in the department of Decision Support, faculty of Computers and Information.

No part of this thesis has been submitted for a degree or a qualification at any other university or institute.

Name: *Sherin Magdy El-Meligy*

Signature: Sherin Magdy

ACKNOWLEDGMENTS

It is a great honor for me to finish this thesis at the **Decision Support Department**. During my research period, many people helped me directly and indirectly to get this research project completed. I would like to take this opportunity to express my heartfelt appreciation to them all.

First and foremost I would like to thank my supervisor **Prof. Dr. Motaz Khorshid** for his support, supervision and encouragement throughout years of my candidature. Really, it has been an honor to be your student, and I could not have done this without you and your insights. Second, huge thanks to my supervisor **Dr. Mohamed Saleh** who supported me with his care, experience and confidence and was there for me every step on the way.

I would also like to genuinely thank **Prof. Dr. M. Rasmy** who was always encouraging and supportive and more like a father than a professor to me. I am sincerely thankful and so much grateful for the help of **Dr. M. El Beltagy** and his continuous support, your help was really indispensable for my work.

I would also like to express my gratitude to all other staff members especially **Dr. Assem Tharwat** and **Dr. Ihab El Khodary** for their valuable advices, recommendations and encouragement. In addition, I would like to thank **Dr. Sohair Hawala** for helping me with designing the questionnaire, giving me very useful remarks, and her kind and caring treatment.

I can never forget my supportive friends and colleagues **Sondoss Ashraf, Mahmoud Wanas, Shorouk Saber, Dima Saber, Shehab Marzban**, and **Mai Adel**. In addition, I am very grateful for all my colleagues and students who were willing to help me and participated in the experiment conducted in this research.

I am so grateful for all the back-up received from my family, thanks for your patience, your understanding and for caring about me so much. Finally, I would like to thank **Amr El-Hosseiny**, my fiancé, who has been so supportive, encouraging, and always pushing me forward until I finally completed my research.

Abstract

The rise of global markets and increasing competition between companies has motivated the continuous evolution of the supply chain and the techniques to manage it. Managers are now forced to invest their efforts in coordinating with heir supply chain partners. Complexity of today's markets is driving educators specifically in the field of management education to look for new innovative methods of teaching to help enhance their in-class teaching. The main goal of this research is to develop an advanced educational tool to support students' learning and promote their ability to apply their knowledge to a practical situation.

In this research, a simulation game for a detergent supply chain was designed and implemented. First a simulation model was developed for a complex multi-level supply chain; the modeling approach used was a hybrid one integrating both system dynamics and agent-based modeling approaches. Then, the model was embedded in a user friendly interactive environment to allow users to benefit from it as an educational tool. The objective of the game is to teach users about important supply chain concepts and help them not only acquire this knowledge, but also, comprehend and apply it in the gaming environment.

After development, the game was tested for validity by conducting an experiment on a sample of students. A questionnaire was designed to collect data about the impact of the game on players. The results showed that players were very interested in the idea of the game, and most students agreed that it was a good learning experience.

Table of Contents

List of Figures

List of Tables