

# The Integration between Resource Consumption Accounting Approach and Theory of Constraints to Rationalize Capacity Utilization Decisions

"An Applied Study"

#### **Thesis**

Submitted in Fulfillment of the Requirements of the Master Degree in Accounting

Submitted by

### Nariman Mohamed Mohamed El-Essawy

Teaching Assistant
Accounting & Auditing Department
Faculty of Commerce – Ain Shams University

### **Supervisors**

#### Prof. Dr. Kamal Hussein Ibrahim

Dr. Mohamed Morsi A. Khodair

Professor of Cost Accounting Faculty of Commerce Ain Shams University Lecturer of Accounting and Auditing
Faculty of Commerce
Ain Shams University

# بِثِنْ النَّالِحِ الجَوْزِ الْجَحْمَةِ عُ

# وقُل اعْمَلُوا فَسَيَرَى اللَّهُ عَمَلُكُمْ وَلُونَ وَرَسُولُهُ وَالْمُؤْمِنُونَ وَرَسُولُهُ وَالْمُؤْمِنُونَ

صدق الله العظيم سورة التوبة آية (١٠٥)



#### Faculty of Commerce Accounting and Auditing Department

Researcher name	Nariman Mohamed Mohamed El-Essawy
Degree	Master degree
Department	Accounting & Auditing department
Faculty	Faculty of Commerce
University	Ain Shams University



#### Faculty of Commerce Accounting and Auditing Department

## **Thesis Approval**

Researcher Name: Nariman Mohamed Mohamed El-Essawy

Thesis Title: The Integration between Resource

Consumption Accounting (RCA) and Theory of Constraints (TOC) to Rationalize Capacity Utilization Decisions

"An Applied Study"

#### **Dissertation Committee**

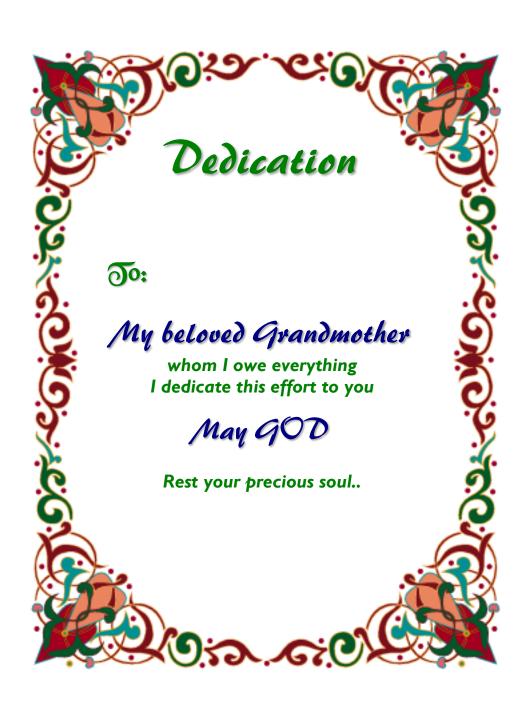
Professor Dr.	Ahmed Farghly Mohamed Hassan	Head of
	Professor of Accounting and Former Dean of	Committee
	Faculty of Commerce- Cairo University	
Professor Dr.	Kamal Hussein Ibrahim	Supervisor
	Professor of Cost Accounting	& Member
	Faculty of Commerce-Ain Shams University	
Ass. Professor	Mohamed Abd El-Kader	Member
	Ass. Professor of Accounting and Auditing	
	Department	
	Faculty of Commerce-Ain Shams University	

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Nariman Mohamed Mohamed El-Essawy



# **DECLARATION**

I declare that this thesis has not been previously submitted for any degree.

Also, it contains no materials published previously by anyone, and only the sources cited have been used.



#### **Abstract**

Nariman Mohamed Mohamed El-Essawy- The Integration between Resource Consumption Accounting Approach and Theory of Constraints to Rationalize Capacity Utilization Decisions "An Applied Study", Faculty of Commerce, Ain-Shams University, Accounting & Auditing Department, 2018.

The rapid development in the contemporary economic, technological, and political systems has led to a faster increase in fixed costs than variable costs in organizations, which is a result of the increase in the number of operations and product diversity that require a varied set of activities, in order to cope with these developments.

Expanding operations may lead to problems such as the existence of unused capacity or bottlenecks. Unused capacity leads to overspending which reduces income, while limited capacity resources represent bottlenecks which slow down operations. Both unused capacity resources and bottlenecked resources represent problems facing the organization. Organizations find it difficult to balance between the effective utilization of the capacity of its available resources and the constraints imposed on some of these resources. Accordingly, the main purpose of this study is to suggest a management accounting framework based on both resource consumption accounting (RCA) and theory of constraints (TOC) to rationalize capacity utilization decisions.

A case study was applied on one of the production lines of Dice Sports and Casual Wear organization based on actual detailed cost data from this organization. A mixed-integer programming model was constructed in order to integrate RCA with the TOC philosophy.

The integration between RCA and TOC will rationalize capacity utilization decisions. Organizations should focus on resources capacity and areas of constraints in order to achieve the best utilization of the capacity of resources and to maximize profits. This model will help organizations greatly to achieve this objective.

**Keywords:** Resource consumption accounting, theory of constraints, capacity utilization decisions.