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**Alexandria University
Faculty of Commerce
Accounting Department**

**Integrating Activity Based Costing with the Theory of
Constraints for Special Manufacturing Decisions:
An applied study**

A Thesis

**In Partial Fulfillment of the Requirements for the Master
Degree in Accounting**

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INTRODUCTION

Over 100 years ago, the industrial revolution changed the way companies were run; size and efficiency became the major determinants of success that created industrial giants in steel making, transportation and oil production (Mckewon and Leitch, 1993). Now, the importance of information has increased as it has become the means to effective management of company resources. In this information revolution era, system integration has been a recent trend in the business environment with the objective of realizing more accurate and reliable information and avoiding problems that are related to single systems.

For example: a logistics management system (LMS) has been developed by IBM for operations management. The system combined expert system simulation and decision support system. In addition, it included computer aided manufacturing and distributed data processing subsystems which provide management with a tool to help in resolving crisis and planning (Turban, 1993, p.722). Also consolidation in real estate software vendors such as the recent acquisition of DYNA by ARGUS and QUANTRA by SS & C as well as coordination between vendors to create links between their software platforms highlights the industry's thirst for integration (Loftin, 1999, P.34).

The role of accountants in this information era is not just to report information; but to participate in strategic management. This can be done through the development and implementation of new accounting models integrating financial and nonfinancial information (Joseph, 2006).

In order to perform this, management accountants should be proactive in playing their roles. The traditional roles of problem solving, scorekeeping and attention directing needs to be expanded to include the development of new integrated systems if necessary.

Following the manner of handling systems problems, integration to reach better systems has occurred in many fields of management accounting (Activity Based Costing (ABC) and Theory of constraints (TOC), (ABC) and Economic value added (EVA), (ABC) and German cost accounting emphasis on marginal cost and resources, the balanced scorecard (BSC) and Intellectual capital (IC)). This research will be focusing on the integration between ABC and TOC as an example of the integrated methodologies that can be developed by management accountants.

Attempts are made to integrate ABC with TOC to develop a system capable of realizing the strengths of both methodologies that occurred to overcome the inability of traditional cost systems to cope with the technological development that changed the environment in which the traditional systems were designed to operate (Sheu et al, 2003).

ABC and TOC were viewed as contradicting and competitive in their first appearance. This is due to the fact that decisions resulting from the use of the techniques on the same application could differ.

The main differences between ABC and TOC lies in the area of information provided to manage capacity and time horizon considered in making decisions. In the case of information provided to manage capacity, ABC focuses on areas with excess capacity and how managers can eliminate or reallocate such capacity. This has been explained by Copper and Kaplan (1992), p.2, "The ABC resource usage cost information can be used by managers to