ASSESSMENT OF KETCHUP COMPANIES
PERFORMANCE IN MALAYSIA

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UNIVERSITI TEKNOLOGI MALAYSIA
ASSESSMENT OF KETCHUP COMPANIES PERFORMANCE IN MALAYSIA

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A project report submitted in partial fulfilment of the requirements for the award of the degree of Master of Engineering (Industrial Engineering)

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To my beloved mother, father

&

brother
I would like to express thanks to Allah, with his blessing in fulfilling my thesis and sustaining me throughout this research.

I would also like to express my sincere appreciation to my supervisor, Dr Azanizawati Ma’aram, for her encouragement, guidance, advices and critics. Without her continued support and interest, this project would not have been the same as presented here.

Further I would like to appreciate the invaluable cooperation of Mr. Mohd Nazri Bin Ismail, Production Manager of Zara Foodstuff Industries Sdn Bhd as well as Mr. Syukri Mohammad, Production Manager of Bumi Hijau Food Industries Sdn Bhd for facilitating data gathering process.
Performance measurement is a vital part of any successful organization. One of the most important challenges for measuring the performance is defining the critical metrics and measures. For many companies, the critical metrics determined based on their supply chain strategies. However, companies do not have a clear understanding on their adopted supply chain strategy and are incapable of introducing the most critical metrics for measuring their performance. This study determines the supply chain strategy adopted by ketchup companies in Malaysia; it also specifies the most critical factors for measuring companies’ performance based on Balanced Scorecard (BSC) perspectives and finally conduct a comparative performance measurement for six ketchup companies which located in Johor, Malaysia. The results of study show that the appropriate supply chain strategy for ketchup companies in Malaysia is lean supply chain strategy; also the companies’ supply chain strategy alignment with product type has more significant effect on companies’ performance rather than companies’ process structure and manufacturing techniques alignment with product type.
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CHAPTER 1

INTRODUCTION

1.1 Introduction

Performance measurement is a vital part of any successful organization. One of the most important challenges for measuring the performance is defining the critical metrics and measures. For many companies, the critical metrics determined based on their supply chain strategies (Chenhall, 2005). So, defining supply chain strategy of company is a perquisite for measuring its performance.

1.2 Research background and motivation

Measuring performance has been part and parcel of any successful business entity. It is vital due to the fact that the long run existence of any organization rely on its performance. Managements use performance measurement to assess the overall health of their organization.
However, in measuring performance, undoubtedly, many organizations still face the following problems; specify the most suited performance measurement system to their business and supply chain strategy, variables to be considered, methodology to be used to evaluate the solidity of the variables and generate values for the variables.

There are many examples of companies discovered that they were not measuring the things that really matter to their customers due to selecting misaligned metrics (Hausman, 2003). Dell initially thought that their personal computer customers were most interested in buying the fastest processor available while in fact customers wanted a consistent and corporate common platform product. So, features same as component’s stability, consistency, and backward-compatibility were more valuable to customers compared to component’s speed or advanced graphical features. Another example is a metric for monthly output of a factory producing personal computers. The metric was on output only without considering meeting due dates for specific orders. So, this could lead to on-time fulfilment of low-margin, easier- to- produce items while for higher-margin items customers might be forced to wait. (Hausman, 2003)

Many performance rating agencies in attempts to provide answers to the above problems have adopted various approaches and strategies. Business Week (2002), in measuring performance of “500 Best Companies” considered variables like total return (1yr), total return (3yrs), sales growth (1yr), sales growth (3yrs), net margin and return on equity. On the other hand, Fortune Magazine (2000) in its attempt to measure performance of “50 Best Companies” Globally considered variables like innovativeness, quality of management, employee talent, financial soundness, use of corporate assets, long-term investment value and quality of product(s). In addition, Nigerian stock Exchange (2003), in an attempt to measure performance of “Best 20 Quoted Companies” in Nigeria focused attention on the financial ratios/performance of performance.
Despite attempts to determine appropriate metrics, there is still need to investigate firms’ performance vis-à-vis supply chain strategy for better understanding of the relationship.

### 1.3 Problem statement

There is no doubt that there is a link between firm performance and supply chain strategy (Ali, 2011). However identification of the right variables to establish this relationship still exists. Previous attempts to measure firm performance have ignored the extent of the impact of some important variables which are related to supply chain strategy adopted by companies. For instance, a company with lean supply chain should focus on cost reduction (Naylor et al., 1999) and the indicators which manifest the company’s proximity to this goal.

The problems associated with the approaches used by previous researchers (Suwignjo, 2000 and Coates, J.B. et al., 2000) are that they ignored the impact of supply chain strategy adopted by companies on their performance. So, they were incapable of introducing the accurate and relevant metrics for measuring the performance of company.

Today, companies like Dell, Geae, Sears, Rock buck and Dow Channel have adopted performance measurement of their business unit based on total operation and awarding incentive pay based on their performance compared to competitors. Recently, more and more managers are looking for other measures to reflect growth in shareholders expectations and encourage strategic decision instead of short term planning.

The need for seeking qualitative variables that impact on supply chain strategy and consequently performance of firms has inspired this study. The study therefore used six selected companies in JOHOR, Malaysia for case research. Also,
the evaluation of these variables in measuring performance will assist organizations in making sure that the right and reasonable strategy is chosen.

1.4 Objectives of study

The study, aims to determine the critical performance measurement metrics for selected companies in Malaysia. The objective associated with the following aims:

1. Determine the supply chain strategy adopted by the company
2. Determine the critical performance metrics for ketchup company based on Balance Scorecard Framework
3. Conduct comparative performance measurement for six ketchup companies in Malaysia

1.5 Scope of study

The scopes of the project are limited to the following subjects:

1. The study focuses on determining the supply chain strategy of six manufacturers who produce the Ketchup sauce in Malaysia
2. Due to the limitations of time and management, the performance measurement system is not necessary to implement in the company
1.6 Significant of study

There is no known study of firm performance vis-à-vis supply chain strategy in Johor. This study attempted to provide more information in this area. It presents better understanding of performance measurement in supply chain strategy implementation control; in addition, it will draw out the attention of managers to the need of considering both quantitative and qualitative variables in measuring firms’ performance. It also aids similar firms in selecting the appropriate measurement system and the factors which are crucial to measure due to their supply chain strategy. The study could be served as a guide to supply chain strategy planning and as a reference material to business policy makers and future scholars in this area.

1.7 Organization of thesis

This thesis is organised into six chapters. Chapter one introduces the study background and motivation, statement of the research problem, research objectives, research scope and significant of study.

Chapter Two reviews relevant research studies on supply chain strategies, the levels of strategy and three most commonly accepted supply chain strategies which are lean, agile and leagile with their prerequisite definition such as postponement strategy and decoupling points. It also involves description of performance measurement from both operational and financial point of view and also the relationship between performance measurement, lean and agile supply chain strategy. The aim of this chapter is to identify relevant agile and lean supply chain capabilities, firm performance factors and establish a basis to examine the relationship between lean and agile supply chain capabilities, operational and financial performance.
Chapter Three provides the methodology of the study that carried out systematically. The major sections of this chapter are research framework and model, questionnaire and sampling design and choice of statistical technique.

Chapter Four provides the results based on the implementation of methodology. It mainly presents the general findings and statistics of firms resulting from questionnaires. The supply chain strategy and techniques adopted by companies and quantitative data which are vital for measuring the performance of system will also be discussed in this chapter.

Chapter Five discusses the empirical results and analysis of this study. It describes the results of measuring firms’ performance by selected metrics and holds data on assessment of firm performance based on objective and descriptive data. It also investigates the impact of supply chain strategy alignment with product type and process characteristic alignment with product type on performance of companies.

Chapter Six represents the final chapter within this thesis. This chapter provides a summary of study findings and contribution of this research. In addition, the suggestion and the direction for future research will be detailed.