

THE EFFECT OF INVENTORY MANAGEMENT ON  
COMPETITIVE ADVANTAGE: A STUDY ON  
MANUFACTURING SME IN MALAYSIA.

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'I hereby acknowledge that I have read this works and in my opinion, this works is sufficient in terms of scope and quality for the submission and award of a Bachelor Degree of Management Technology (Innovation) with Honors'

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THE EFFECT OF INVENTORY MANAGEMENT ON COMPETITIVE  
ADVANTAGE: A STUDY ON MANUFACTURING SME IN MALAYSIA.

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This Report Submitted In Partial Fulfillment of The Requirements For The Award  
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“I hereby declare that this thesis entitle “The Effect of Inventory Management on Competitive Advantage: A Study on Manufacturing SME in Malaysia.” is my own work except for the quotations summaries that have been duty acknowledged”

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## DEDICATION

This thesis is dedicated to my father, Quah Hoe Chong, who taught me to never give up even facing the greatest pressure and problems in my life. It is also dedicated to my mother, Cheng Poh Suan who taught me that even the largest task can be accomplished if it is done one step at a time. It is also dedicated for their endless love, support and encouragement

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This research will bring forward as a requirement in completing my studies to graduate in Bachelor of Technology Management at Universiti Teknikal Malaysia Melaka (UTeM). Last but not least, I want to thank again to all of them mention above, without helps from them, I would face many difficulties while doing this research. Thank you very much for sharing the kindness.

## ABSTRACT

The purpose of this study is to investigate the effect of inventory management on competitive advantage of manufacturing SME in Malaysia. Data was collected from the companies that implemented effective inventory management. Questionnaire survey was used to collect the data. Regression analysis was conducted to understand the relationship between the effects of inventory management on competitive advantage. The respondents were asked to rate of competitive advantage of effective inventory management. The average mean score for each area will calculate and some statistical analysis were then performed. The results of this study highlight the importance of inventory lead time, inventory management system and inventory management to create competitive advantage. The framework was developed through survey conduct in manufacturing small and medium enterprise (SME) in Malaysia.

## ABSTRAK

*Tujuan kajian ini adalah untuk menyiasat kesan pengurusan inventori dalam kelebihan daya saing daripada kilang pembuatan Perusahaan Kecil dan Sederhana (PKS) di Malaysia. Data dikumpulkan daripada syarikat yang melaksanakan pengurusan inventori yang berkesan. Kajian soal selidik telah digunakan untuk mengumpul data. Analisis regresi telah dijalankan untuk memahami hubungan dalam pengurusan inventori dengan kelebihan daya saing. Responden diminta untuk menilai sejauh mana pelaksanaan bagi setiap bidang ini. Purata skor min bagi setiap bidang akan dikira dan beberapa analisis statistik kemudiannya dilakukan. Hasil kajian ini menekankan kepentingan “inventory lead time”, sistem pengurusan inventori dan amalan pengurusan inventori untuk mewujudkan kelebihan daya saing. Rangka kerja ini dibangunkan melalui kajian selidik yang dijalankan di kilang pembuatan PKS di Malaysia.*



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**LIST OF SYMBOL**

$H_0$	=	Null Hypothesis
$H_1$	=	Alternative Hypothesis
%	=	Percentage
R	=	Point of estimate
$R^2$	=	Point of estimate Square
P	=	Value
N	=	Number of respondent

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## CHAPTER 1

### INTRODUCTION

#### 1.0 Research Background

An inventory is a warehouse or storage location where a business maintains stocks of its products so it can ensure to meet the demand of the products. With the ever increasing demand in products, more and more space needed to occupy by ready stocks. “Inventory can be significantly reduced by reducing uncertainty at various points along the supply chain” (Russell and Taylor, 2011). Supply Chain managers and production managers around the world have long acknowledged that effective inventory management is essential (Haizer and Render, 2011). Inventory management is very important to a company’s bottom line which is to determine the minimum amount of warehouse space required to store the maximum amount of inventory necessary for the company’s ongoing production needs.

Customer demands amended products with rapid and more precise deliveries at a lower cost (Shrihari & Raji, 2012). Act in response to these demands, manufacturing companies have to compete in numerous measurements, such as efficiency, quality, delivery time and process flexibility (Olhager, 2013). Manufacturing companies could practice the strategy of differentiation, cost leadership or focus to achieve a competitive advantage (Lysons & Farrinton, 2012).

Effective inventory management offer opportunities to establish sustainable competitive advantage and enhance the competitive position of companies. This

involves reduction in cost of holding stocks by preserving just enough inventories, in the right place and the right time and cost to make the right amount of needed products. Procurement performance will affect adversely by high levels of inventory held in stock out of the capital being held which influences cash flow leading to reduced efficiency, effectiveness and distorted functionality. Inventory represents an important decision along the supply-chain of the company from manufacturing to distribution and sales, furthermore it is the major of total current assets of many organizations. According to Heizar and Render (2011), inventory is one of the most expensive assets of many companies, representing as much as 50% of total invested capital. Since inventory constitutes a major segment of total investment, it is crucial that good inventory management be practiced to ensure organizational growth and profitability.

### **1.1 Problem Statement**

Manufacturing firms rarely focus inventory at the plant level and it is not because inventories are in great shape, but the firms did not have any kind of a metric for inventory (Fast, 2015). The more inventory keeps by manufacturing firms the more exposed to uncertainty costs related with holding them. High inventory levels can lead to scrap, outdated products, increased inventory costs.

“Malaysian manufacturers confront with poor inventory performance” (Kamaruddin, Abdul, Herman, & Wan, 2014). Manufacturing Small-Medium Enterprise (SME) at times does not control their inventory holding, resulting in under stocking and affecting the firms to stay off production, thus resulting to ineffectiveness creating relationship problems between inventory management and the firm productivity, profitability and effectiveness. “Inefficient inventory management that leads to the company losses as reported in The Star Online” (Syed, Nurul, Nabihah, & Raja, 2016). Too much inventory consumes physical space, creates financial burden, and increases the possibility of damage, spoilage and loss to the manufacturing SME in Malaysia. On the other hand manufacturing companies strive to have the lowest level of inventory possible but still be able to respond to customer demands (Pong & Mitchell, 2012). If customer demands are not met, manufacturing companies may lose money

due to lost sales. Therefore, it is important for manufacturing firms have control over their inventory levels (Pong & Mitchell, 2012). Managing the inventory level with the minimum amount of warehouse space required to store the maximum amount of inventory necessary for the company's ongoing production needs to be able to meet customer demands.

## **1.2 Research Question**

This study aims to answer the following research questions:

1. What reason causes inventory management to attain competitive advantage?
2. What are the factors of inventory management to attain competitive advantage?
3. Which factors of inventory management are effective in attaining competitive advantages?

## **1.3 Research Objective**

The general objective of this study was to investigate the effect of inventory management on competitive advantage among the manufacturing SME in Malaysia. This research consists several specific objectives of the study. The objectives are shown as follows:

1. To investigate the causes of inventory management to attain competitive advantage.
2. To examine the factors of inventory management system to attain competitive advantage.
3. To measure the factors of inventory management that effectively in attaining competitive advantages.

#### **1.4 Scope and Limitation of the Research**

The scope of this research is the effect of inventory management on the competitive advantage of manufacturing SME in Malaysia. The researcher only focuses on the supply chain and warehouse department of manufacturing company. The main consideration of selecting SME must therefore be a manufacturing company which has the three main categories of inventory which are raw materials, work-in-process and finished goods. This research is not conducted for other than manufacturing SME due to the study mainly focusses on the inventory management of manufacturing SME which is the most suitable.

#### **1.5 Significance of the Research**

This research study could provide information on the problems with inventory management of manufacturing SME. This study will be beneficial to the manufacturing SME if the effective inventory management is applied which will attain competitive advantage. By understanding the cost of holding inventory is high and it is a waste to manufacturing company, so effective inventory management will change inventory from a threat to competitive advantage for the company. Therefore, it is important for manufacturing firms have control over their inventory levels (Pong & Mitchell, 2012).

#### **1.6 Key Assumption**

To answer the research question, the researcher assumes that respondent be honest during answer the questionnaire. The cooperation from respondent is very thankful and to collect the validity of data. Lastly, this research hopefully very practical and useful for manufacturing SME after implementing the effective inventory control to attain competitive advantage.

## **1.7 Summary**

From the point of view, inventory management is a practice that aims to effectively control the stock level and reduce wastages. The philosophy has mainly been applied in manufacturing firms. In this study, the main purpose is to highlight the role of inventory management on competitive advantage among manufacturing SME in Malaysia. The research methodology approach is related studies on inventory management and competitive advantage from journals, articles and books. This chapter provides a precise picture of what the research is about that include the research question, research objective, aim of research, scope and limitation of the study.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.0 Introduction

This section will be described the inventory management theories and theoretical framework on competitive advantage. The reviews were taken from what was happening all over the world, and not only in Malaysia. The theory of inventory management is explained, and the contribution of inventory management to create competitive advantage to provide clear understanding. According to Gopalakrishnan (2010), effective management of inventory will help in meeting customer requirement which creates competitive advantage to attract more customers.

#### 2.1 Inventory Management

According to Russel and Taylor (2011), “inventory is a stock of items kept by an organization to meet internal or external customer demand.” Nearly every type of the manufacturing firms still maintain some form of inventory in every department. Inventories signify those items which are either stocked for sale or they are in the process of manufacturing or they are in the form of materials, which are yet to be utilized. According to Swaleh and Were (2014), inventory management plays a critical part in the enhancement of efficiency and competitiveness of business initiatives. Efficient inventory management entails holding an appropriate quantity of inventory.

The interval between receiving the purchased parts and transforming them into final products differs from industries to industries upon the cycle time of manufacture. Therefore necessary to hold inventories of various kinds to act as a buffer between supply and demand for efficient operation of the system. Thus, an effective control of inventory is a must for smooth and efficient running of the production cycle with the least interruptions. As John, Etim and Ime (2015) argue, “managing inventory efficiently has become an important operational weapon for products and service firms wishing to survive the competitive pressures.” A study carried out by Bhausahab & Routroy, (2010) shows that companies are keen in managing their inventory so as to reduce costs, improve the quality of service, enhance product availability and ultimately ensure customer satisfaction.

According to Muller (2011) manufacturing inventory is basically being divided within three categories:

1. Raw Material

It is used to produce partial products or completed products. This inventory can be used to decouple suppliers from the production process. However, the preferred approach is to eliminate supplier variability in quality, quantity, or delivery time so that separation is not needed.

2. Work-in-process (WIP)

Items are considered to be WIP during the time raw material is being transformed into partial product, subassemblies, and finished product. WIP should be kept to a minimum. WIP occurs because of such things as work delays, longer movement times between operations, and queuing bottlenecks. Reducing cycle time of the operation reduces inventory. Often this task is not difficult, but WIP happen to extend the cycle time. During most of the time a product is “being made”, it is in fact sitting idle and it would be a waste of time by increasing the production cycle time.

3. Finished Product

This is product ready for current customer sales, but which have not yet been purchased by final customers. It can also be used to buffer manufacturing from predictable or unpredictable market demand. In other words, a manufacturing company can make up a supply of products during seasonal period.

According to Leseure (2010), manufacturing factories often involve many additional types of inventory:

### **Consumables**

Items of facility like lighting, towels, computer, stationery, papers, and so on are used in many operations. These are often treated like raw materials.

### **Service, repair, replacement, and spare items (S&R items)**

These are aftermarket items used to “keep things going.” As long as a machine or device will need service and repair in the future, it will never be obsolete. S&R items should not be treated like finished goods for purposes of forecasting the quantity of the normal stock. Quantity levels of S&R items will be based on such considerations as preventive maintenance schedules, predicted failure rates, and dates of various items of equipment.

### **Buffer/safety inventory**

This type of inventory can serve various purposes, such as:

- Compensating for demand and supply uncertainties.
- “Decoupling” and separating different parts of your operation so that they can function independently from one another.

### **Anticipation Stock**

This inventory is produced in anticipation of an upcoming season, such as fancy chocolates for Mother’s Day or Valentine’s Day. Failure to sell in the anticipated period could be disastrous, because you may be left with considerable amounts of stock past its perceived shelf life.