CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Just-In-Time (JIT) application is one of the most popular application that has been implemented in the industries in around the world such as manufacturing, oil and gas, transportation and so on. JIT manufacturing has been implemented successfully in Japan for the past 20 years. It is a philosophy as well as a technique that guides a manufacturing company in organizing and managing its business to become more effectively, and the operations becomes more efficiently in planning and controlling. It is a way to achieve high velocity manufacturing. The objectives of just-in-time application is to reduce or eliminate any waste in the production line, reduce lead time, reduce the product cost and achieve better quality in the company. JIT have a lots of advantages and strength in order to achieve the company’s goals and objectives.

On the phrase provide the goods just in time as promised when the order is placed by the customer. The opposite of the JIT production is known as JIC which is just in case system where it produces goods for inventory with the intention of having goods just in case a customer places an immediate order. JIT production system identifies the hidden problems in the value chain and reduces the production waste of the system while increasing the throughout sales to raw material cost. JIT is not cure all for every manufacturing problem, but if the system implemented properly, it is provided low cost method in order to improving the manufacturing process (Dr Ralph G Kauffman, 2004). Even though the JIT system seems to be interesting and less complicated it requires lot
of coordination with supply chain to avoid delays in the production schedule in the industries. The whole concept of the JIT is differentiated from traditional productions systems using push vs. pull systems of production. The push system of production pushes materials to the next stage of the production irrespective of whether time and resources are needed at the next level of production creating lot of inventories at each level of the production flow. The pull system is a method of maximizing individual production rates (Roberta S and Russell, 1990). The traditional manufacturing organizations adopt push system where they produce for inventory and work in progress or called WIP. The pull system of production is where the materials are pulled by next level of the production only when is signaled or required by the next stage of production. This drastically reduces the inventory held as it does not keep any WIP. JIT concept is built based on the concept of pull production which eliminates the total inventory.

The underlying concept of the Just-in-Time (JIT) philosophy is to smooth the manufacturing process through the efficient handling of materials such as providing the right materials in the right quantity and with the right quality just in time for production (Low and Chan, 1997) to eliminate or reduce waste in the company, thus producing the maximum value for the customer. JIT has helped to reduce lead time, throughput or set-up times, defects, ultimate costs, reworks, factory overheads, inventory levels and storage space, and it has also enhanced the competitive advantage of firms (Akintoye, 1995; Low and Chan, 1997; Low and Tan, 1998; Low and Mok, 1999). Researcher will focusing on the reduction of lead time of making the customize cabinet in the company that researcher has been choosed. This is because the reduction of lead time appropriately will improve the productivity and the time consuming in the process of making the customize or called custom made product in the furniture’s company.
1.2 BACKGROUND OF STUDY

The furniture company is an industry that produced varieties of furniture such as closet, cabinet, chair, table and other furniture. But in this study, researcher will focused on the furniture company that producing the customized cabinet which is have been produced based on the customer’s requirements. The study will identify the elements that contribute on the lead time process of producing the customized cabinet in the furniture company in Kuantan. The short lead times in the process will produce better performance to the company in the furniture to meet the demand from the consumers.

When seeing the process of producing the customize product in the furniture company, there are fundamental principles included with general philosophy of good practice. The just-in-time application can be apply in the process of making the customize furniture to meet the company’s goals and objectives. The JIT will control the cost, time, and waste during the process in the company and maintaining the quality of the product itself. The first step is identify the elements that contribute on the lead times process of making the customized cabinet and analyse the strategy that can be apply in the lead times process to reduce the lead time.

The purpose of this study is to introduce the basic JIT concept which is focusing on the response time in the process in the company. There are many sub process in the process of making the product in the company such as preparing the materials, cutting the woods, build the furniture and so on. The elements consumed time to become a finished product.

When the elements that contribute on lead time in producing the customized cabinet is fully recognized, the process will be suggested to implement the JIT application to meet the company’s goals which is reduce waste, cost and time consuming while to grab the better response time in the processing.