

CHAPTER 1

INTRODUCTION

1.1. Background

Tea is one of the famous drink in the society. After mineral water, tea is the most widely consume nowadays. There are so many kinds of tea around the world. It is used as a drink or beverage such as medicine and fertilizer for the plants. Based on the observation of Indonesia Investment, Indonesia is in the seventh rank producer of tea in the world. The provinces produce the most tea are West Java, Central Java, and North Sumatra. About a half of tea production in Indonesia is exported another country, such as Rusia, Inggris, and Pakistan.

The consume of global tea increases three percents each year (Indonesia Investment, 2015). Almost in every restaurant or cafe serves tea in one of menu that available. There are so many small medium enterprise sells some kinds of tea. Dealing with the unstable condition of tea, the restaurant or the cafe should have a proper inventory system. If the stock is overload, it will cause a higher holding cost, also expired to the tea. If the stock is too low, it will cause a stock out condition that makes the customer disappointed.

Based on the direct observation, two of three small medium enterprises has a poor management inventory. A proper control of inventory can significantly bring down the operating expenses and increases profit (Abuizam, 2011). The company which operates a relative low margin profit results a failure when it has a little bit inventory. The higher inventory of raw material results the higher transaction costs of the company (Hussey and Hussey, 1997). According to Ishak (2010: 159), inventory as a source of power idle (idle resources). The resources have not been used because the idle waiting for further processing. When the raw materials of the company exceeds the plan needs for the production process, the company bears the risk of considerable cost, both storage costs and the risks are associates with the material damage.

Therefore, Assauri (1993) states the product inventory would be too large (over stock), results the high costs to store and to maintain the product during the storage in a warehouse. It covers many areas such as sales system, purchasing system, inventory system, and scheduling system. Based on those systems, one often occurs in the production activities and affects the cost of production such as

inventory control system. So, the inventory control becomes one of the subject in the preparation of this research (Gonzalez and González, 2010). In order to have an appropriate results for any inventory model, an accurate product costs, an activity costs, a forecasts, a history, and a lead times need to be place correctly.

Cv. Laresolo Tea House is one of the small medium enterprise or a tea house serves some kinds of drink and food. It is located on Babarsari Street Ruko Raflesia II Blok N, Yogyakarta. The special menu in this tea house are many kind of tea. This Tea House is established on December, 30th 2012 with Mrs. Siti Alfiah Kusumawardani as the owner. The tea house operational hour start from 09.00 to 23.00 WIB and closed every major holyday. The total number of worker are six person.

There are five variants tea that available in Laresolo Tea House such as Black Tea, White Tea, Oolong Tea, Green Tea, and Thai Tea. From this five variants of tea, there are 36 different menu of tea. Therefore, the special menu in this tea house is a tea.

The Tea is conveyed from Bogor, West Java, and also import the tea from China and Thailand. Laresolo orders the raw material (tea) from a supplier, name Mr. Bambang from Bogor, West Java. From the local and imported tea, Mr. Bambang will make a concoction according to the menu in the Laresolo before send it to the Laresolo. The time delivery of tea from Bogor, West Jawa is seven days. The total order inventory cost for all tea is Rp 3.500.000 per month. Those cost is already include the shiping that is Rp 18.000/kg. There are no special requisition (maximum or minimum order) by Mr. Bambang if Laresolo want to order the tea. There is also an expired date for the tea and the expired time is after the packaging of tea already open for four months. Laresolo Tea House has a policy to limit the stock of tea according the data above, they are stocking the tea in a storage of shelves with the capacity five kilo grams/shelve and they have five shelves available. The total capacity of a storage is 25.000 grams for all tea.

Laresolo Tea House is not long enough to establish which is four years since 2012, therefore they needs a lot of improvement, especially in the inventory management of raw materials (tea). In fact, the owner of Laresolo Tea House does not have a method to calculate and to plan the inventory of raw materials, in consequences the owner still uses an estimation to reorder the tea from the supplier based on customer demand in the past.

Basnet and Leung (2002) said that the exactly results single item of the inventory model has been worked out by Wargner and Within (1958) gives an algorithm Wagner and Within as the solution. In the real life, there are multiple items in planning multi periods, so that the process of inventory and production planning need lot sizing for the raw materials needed and the treatment of more than a single item. Thus, there will be a calculation and determination of the activities of raw material multi item inventory control in order to obtain maximum profit by observing when and the quantity of the optimum ordering raw materials.

According to the case, Laresolo needs to reanalyze about the quantity of reordering the tea to the supplier. The order quantity should in the exact number, because if it is not, it can caused over buying or shortage buying then lead to the stock out condition and a higher quantity of expired tea. Laresolo also need the calculation of when and how much tea that should be order to the supplier. Based on this case, the tea house has to improve the raw material inventory system to achive the minimum total cost of inventory.

1.2. Problem Formulation

The probabilistic demand of tea affects the unstable condition for the stock. It will be stock out condition or higher expired date for the tea depends on the quantity of tea that will be stock and order to the supplier. While, Laresolo does not have a method to deal with this condition. Therefore, the problem that they are faced about having no method to calculate the inventory that can lead to over buying or shortages buying the tea and affect to higher expired tea also stock out condition . The company does not have exact number or quantity to order and the time when the company should to order the raw material. So, the company just based on an estimation for the quantity and the time to order the raw material.

1.3. Objectives

Laresolo does not have a method to calculate the inventory. It can lead to over or shortage buying. Then the objectives of this research are to determine the optimum quantity and the time to order the tea or how many tea and the time when to order raw materials (tea). It is to avoid the over buying or shortages buying the tea to minimize the total inventory cost by considering the capacity of the storage that available.

1.4. Scope and Limitations

In conducting the research require a limitation, so that the problem is not too extensive research. The limitation such as:

- a. Research was conducted at Laresolo Tea House, Babarsari Street Ruko Raflesia II Blok N, Yogyakarta
- b. The focus of this research is on local and import tea as the main raw material inventory in Laresolo Tea House.
- c. Problem analysis was going to be conducted by using Microsoft Excel Software.
- d. Research was carried out according to the data on January 2015 to February 2016.
- e. For eight special tea which has two lot size are going to be separated in different calculation.
- f. There is no change in swapping between two order from customer.