

CHAPTER I

INTRODUCTION

This chapter explains about the introduction of final project which consists of a background of final project, formulation of the problem, objective of final project, limitation, and outline of the report.

1.1 Background

The development of technology produces various types of electronic equipment to help human work. Electronic equipment is often used in daily activities and has become a need, such as computer or laptop. Computer helps people in performing jobs such as generating data, processing data, searching and sharing of information. According to Uchino (2008), in 2006 it is estimated that there are approximately 28 million people using computers, either in the office or at home. **Figure 1.1** shows the percentage of households that own computer in Indonesia from 2008 until 2014 based on national social economic survey.

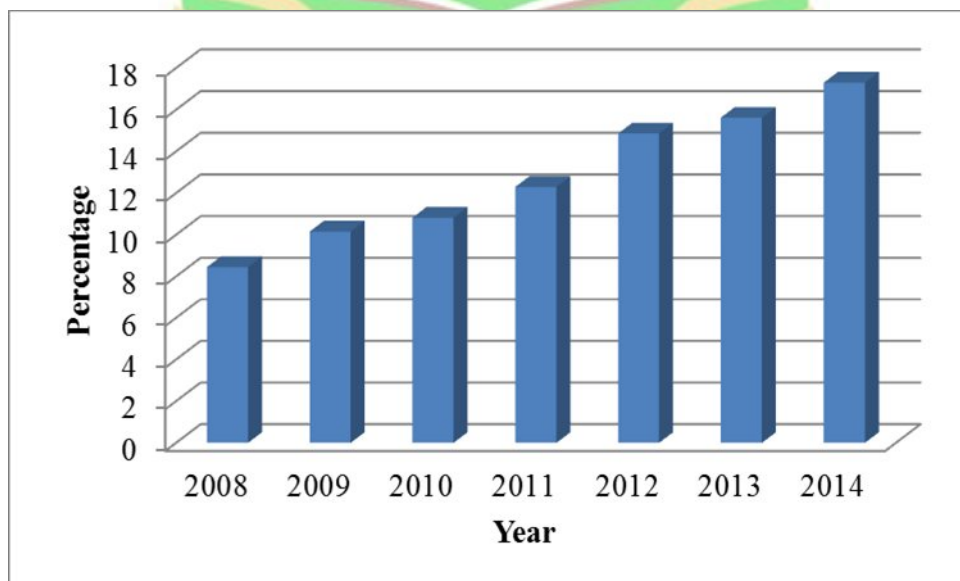


Figure 1.1 Percentage of Households that Own Computer In Indonesia
(Source : Widoyono et al., 2014)

Household's computer ownership is continuously to increase from year to year. **Figure 1.1** illustrates the percentage of households that own computers in Indonesia from 2008 until 2014. In 2014, the percentage of household that own computers reach 17,30 percent, rose more than twice compared to 2008 with only 8,25 percent. During 2008 until 2014, computer ownership in household grew about 1,15 percent per year (Widoyono et al., 2014). The number of computer ownership is also high in West Sumatera. **Figure 1.2** shows the percentage of population aged 5 years and over who use the computer in West Sumatera.

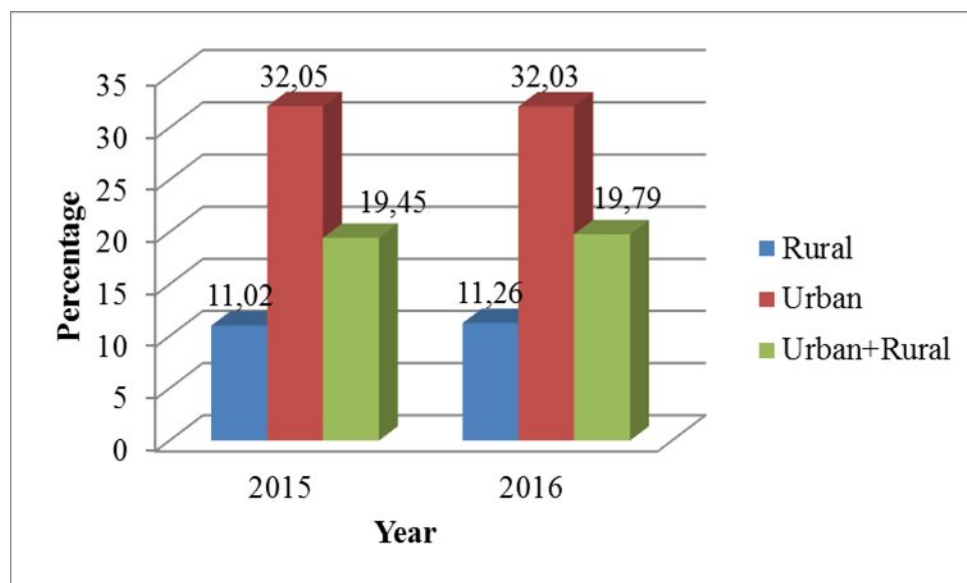


Figure 1.2 Percentage of Population Aged 5 Years and Over who Use Computer in West Sumatera
(Source : Subdirektorat Statistik Rumah Tangga, 2016)

From the **Figure 1.2** we know that the percentage of population use computer in West Sumatera increased by 11,02 percent in 2016 to 11,26 percent for rural. In 2016 for urban was high and reached 32,03 percent. The increased percentage of population who use computers was effected by growing of people need computers.

To operate a system computer it needs some peripheral devices. Peripheral devices are extra hardware that connected to the computer. This peripheral devices help the performance of the computer such as mouse, flash drive, hard drive, printer and others. Because the demand of computer is high so that the

demand for the peripheral devices is high too. The increase in the need for peripheral devices leads to an increase in peripheral devices sales business. The increase of selling peripheral devices will increase the stores that provide peripheral devices.

The increase number of stores that offer peripheral devices makes the competition between the stores high. Peripheral devices stores are competing to get customers and customers loyalty. "Loyalty is a repeat purchase made by a customer for a commitment to a brand or company" (Kotler, 2005). Customers who have been loyal to the stores will only buy the product they need at the same store continually. Customers give full credence to the store and do not move to other stores that provide different bids for the same types of products. This loyalty can also attract new customers to choose the store.

Stores that have earned the loyalty from customers should be able to maintain their existence in the business field. Stores must consistently provide the best service to customers. Challenge of each store is to be able to meet the uncertainty demand of products. The stores need to stock the product in the store (inventory) to meet the uncertainty demand. The inventory policies are needed to ensure the availability of an item in the store. The store should control the inventory. According to Tersine (1994), the control and maintenance of inventory is a problem common to all organizations in any sector of the economy.

To supply products, the stores need distributors. One of distributors of peripheral devices in Padang is CV Fircomindo. This distributor is located at Kampung Jawa Street, Padang. CV Fircomindo sells their products in Padang and other city or region in West Sumatra. Currently, there are two types of business of CV Fircomindo. First, CV Fircomindo is supplying the product to stores and the second, it is directly selling the product to the end customers. Fadli the owner of CV Fircomindo said, CV Fircomindo keep trying to meet the demand and retain old customers to keep buying the product from CV Fircomindo and also ensure the availability of product. The appropriate inventory level will increase the

service level, but on the other hand the high inventory level will also increase the cost.

CV Fircomindo offers many types of peripheral devices with different brands. In general, peripheral devices can be classified into eleven family products. Family items are Adaptor, Ink, Cartridge, CD-DVD, Flash Drive, Game Pad, Drum, Hard Drive, Cables, Hardware, and USB. From discussion with Fadli, CV Fircomindo have a problem at inventory, it can be seen by comparing the demand and the inventory level.

The graphs in **Figure 1.3** shows that the comparison between demand (the red line), the number of inventory level (the green line) and average inventory in each period in 2016. The inventory level in the graph shows the inventory level for each period. From the graphs, it can be seen that inventory has two conditions. Firstly, when inventory is more than demand and the secondly when inventory is less than demand. Especially, inventory more than demand is for the family product Adaptor, CD-DVD, Game Pad and Harddisk, inventory lower than demand is for another family product. The problem of CV Fircomindo is when inventory more than demand, it means that many keeps for inventory, otherwise when inventory less than demand it is mean CV Fircomindo can not meet the demand and become lost sale for that product. When the unit number of peripheral devices is converted to a unit of money, the average of inventory for peripheral devices in a month is Rp 259.149.083. The number of assets in the average is around Rp 500 million. So, the average inventory equal to 51.83% of assets. The inventory passes its normal value of 20%-40%. According to Tersine (1994), a review of American industry balance sheets reveals that many businesses have 20%-40% of their total assets tie up in inventory.

The highest numbers of inventory was caused by the difference between the numbers of supply and the numbers of demand. CV Fircomindo have many customers with the different number of demand, there are sixty three customers in Padang and fifty one customers in other city. To ensure the availability of product

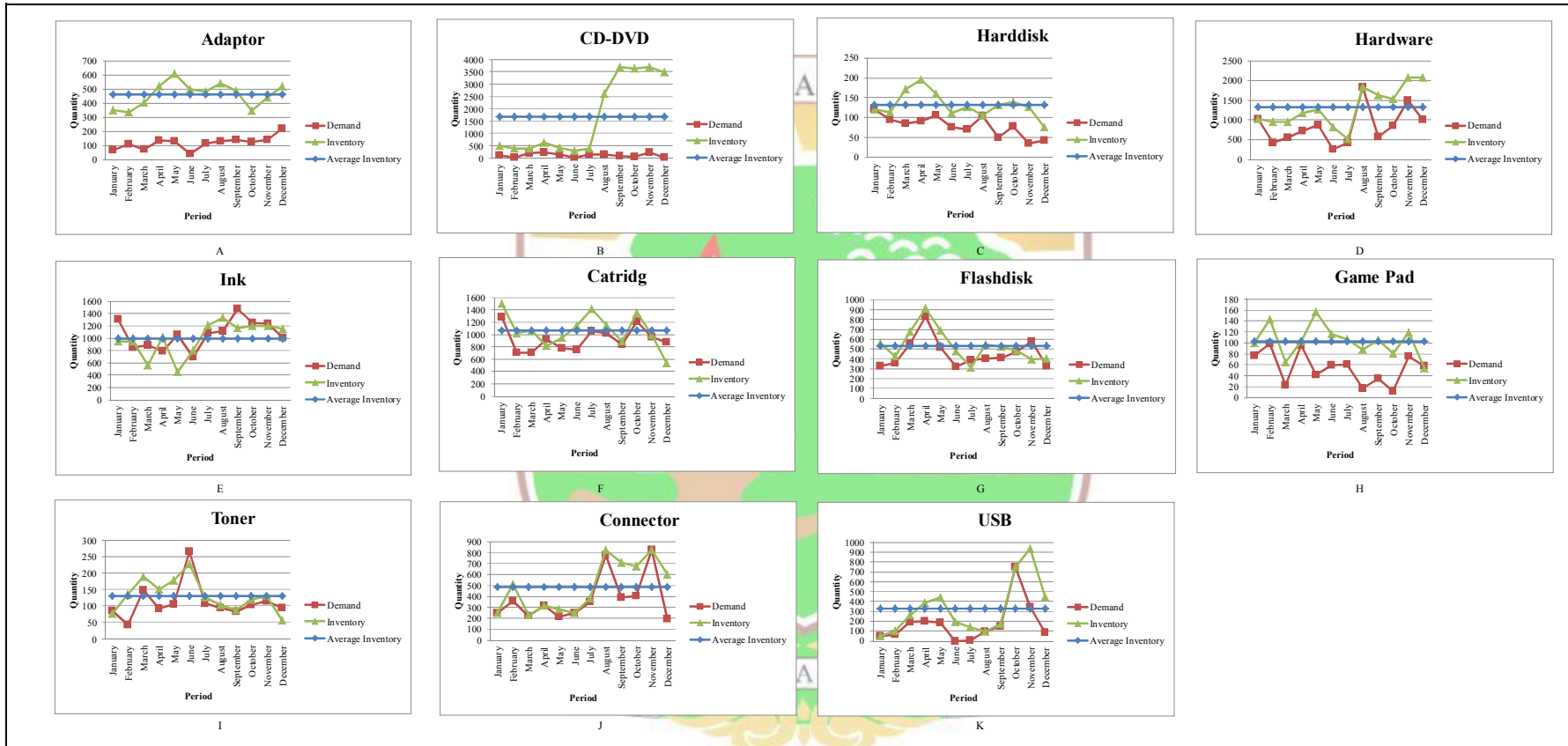


Figure 1.3 Inventory Level and Demand
(Source : CV Fircomindo, 2016)

CV Fircomindo have safety stock. Safety stock is extra stocks that maintained to reduce the risk of stockouts. The estimated number of safety stock from CV Fircomindo is show in **Table 1.1**.

Table 1.1 Safety Stock and Average End Inventory

No	Family Item	Estimated number of Safety Stock from CV Fircomindo	Average End Inventory in Real Condition
1	Adaptor	20	344
2	Ink	100	94
3	Catridge	50	181
4	CD DVD	25	1563
5	Flash Drive	100	99
6	Game Pad	50	50
7	Drum	10	27
8	Hard Drive	2	53
9	Hardware	30	53
10	Cables	75	138
11	USB	100	164

(Source : CV Fircomindo, 2016)

Based on **Table 1.1** in average, the number of end inventory in real condition is more than estimated number of safety stock. End inventory is the number of inventory at the end of each period. If the end inventory is more than estimated number of safety stock, it means the inventory level is overstock and not as expected. From the table, it can be seen the problem of number inventory level is over than expected.

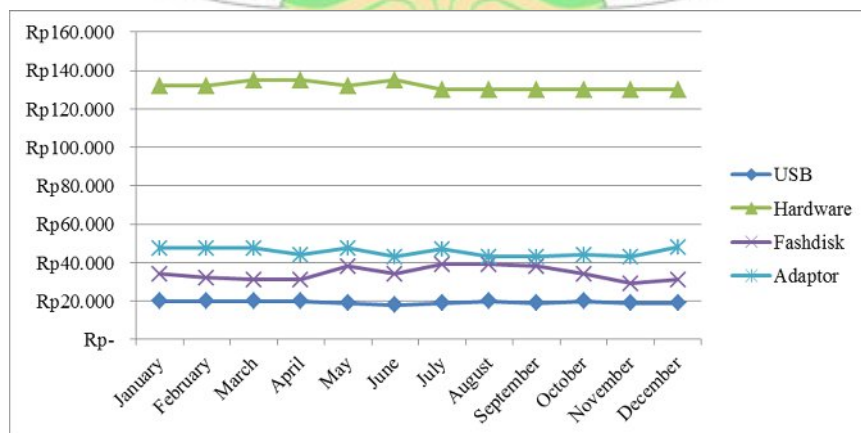


Figure 1.4 Price of Product
(Source : CV Fircomindo, 2016)

Another problem can be happen is fluctuating price. Fluctuating price can be caused by continuous computer development. The fluctuating price can be seen from **Figure 1.4**. It is shown fluctuating price in CV Fircomindo, but it is not too significant. Each line in graph is almost stagnant, then we can ignore that. So, the problem of CV Fircomindo is the highest number of inventory level. Based on this situation, this final project wants to solve the problem of inventory level of CV Fircomindo to reduce the inventory cost.

1.2 Formulation of the Problem

The problem formulation of the final project is to determine the optimal inventory policy of peripheral devices, to reduce the inventory cost in CV Fircomindo.

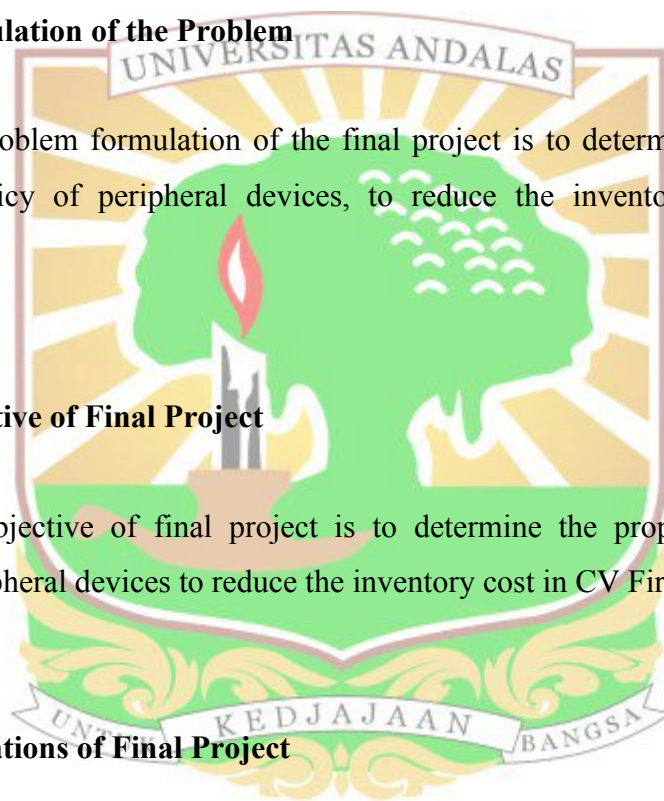
1.3 Objective of Final Project

The objective of final project is to determine the proposed inventory policy of peripheral devices to reduce the inventory cost in CV Fircomindo.

1.4 Limitations of Final Project

The limitations of final project are:

1. Data that will be used in calculation is the data in 2015 and 2016.
2. The purchasing and procurement price will be used is the price for each period in 2016.



1.5 Outline of the Report

This report consists of six chapters. The whole chapters will be described as follows:

CHAPTER I INTRODUCTION

This chapter explains the background of research, problem formulation, research objectives, limitations of the research and outline of this report.

CHAPTER II LITERATURE REVIEW

This chapter will explain about some theories related to problem of this research. The theories will be used as a guidance to determine the optimal solution of the problem in the research.

CHAPTER III RESEARCH METHODOLOGY

This chapter explains the steps to solve the problem of research. Research methodology describes all of the process of doing the research. It is started from doing the preliminary study, identifying the problem, getting the result and discussion, and concluding the research.

CHAPTER IV RESULTS

This chapter consists of result. Result explains about the process of data analyzing which is started from collecting the data and determining the solution.

CHAPTER V DISCUSSIONS

This chapter will explain analysis of data that have been processed in previous chapter.

CHAPTER VI CONCLUSION AND RECOMMENDATION

This chapter will explain the conclusion of the research and recommendation for the future research.