

# CHAPTER 1

## INTRODUCTION

### 1.1 Background Review

Retail competition has developed in the market. Retailers must have a strategy to keep consumers loyal to the stores. Therefore a sales forecasting strategy is needed. Inventory system is an extension of product planning process, organizing and controlling process of products that has aim to minimize inventory investment and to maintain the balance of the stock. On the other hand, this process has aim to reduce procurement and make an effective stock. Inventory system that was not managed properly will lead to an increase in the scale of product in the warehouse and increase inventory costs simultaneously (Ali, 2011).

Sales forecasting can be influenced by 2 factors, namely internal and external factors. Internal factors are things that can be multiplied by retailers such as sales territories, products offered, etc. External factors are things that cannot be controlled by retailers, for example supply and demand, weather, seasons or trend , inflation rates, etc. Problems that often occur in retail are usually weather or seasonal factors. From these 2 factors, we can categorize merchandise according to the conditions of the 2 factors, for example, indoor and outdoor goods. Category management and the assortment decision starts with a category forecast which (Kök.,2015) suggest is based on trend analysis supplemented by judgment. The assortment decision on which brands (or SKUs) to exclude as well as which new products to add is dependent on the SKU level demand forecasts: the effects on aggregate category sales of the product mix depend on the cross-elasticities of the within category SKU level demand forecasts, with a long (12 month) time horizon using the merchandise assortment retailer category can provide customer experience to get customer profits and loyalty.

Retailers can assess customer lifetime but assess customer lifetime is also caused by internal and external factors. Retail certainly does not want to have

surplus or scarcity stock, therefore sales forecasting and merchandising are needed to determine demand and supply at the point where the purchase price and sales price are balanced. Careful timing of the sale of seasonal merchandise is of concern for retailers who handle these products. If the product is presented to consumers too early, the product will not sell. If offered too late, the demand may also be low and the consumers may need price reductions in order to be motivated to buy. Unless retailers take seasonal planning into careful consideration and co-ordinate through supply chain management, end-of-season stock will remain unsold (Al-Zubaidi and Tyler, 2004). (Hubner et al., 2013) To meet the customer demand, retailers intend a broader range of product variety at a most competitive price; ensure sourcing efficiency at an optimum level, which ultimately gives higher profit to the company through vertical integration and efficient channel management.

UD. Bintang Semeru was founded in 2008. The company provides many kinds of electronic goods. Electronics in the UD. Bintang Semeru is divided into 2 items, those are outdoor necessities and inside needs for shopping or personal needs. Outdoor items include antennas, coaxial cable, twisted cable, LED halogen hood, spiral lights, street lamps, spotlights, decorative lights, for indoor goods such as sockets, switches, ceiling fittings, house lights, cables. The goods offered by the company are consumer goods that are always needed by consumers for everyday. UD.Bintang Semeru has competitors with other electrical appliance stores, for example CV.Delta and CV.Sumber Hasil.

UD.Bintang Semeru is located in an area that is often passed by many people and flanked by many shops and supermarkets. there are obstacles experienced in the company that result in changes in sales and stock of goods in a particular month due to weather changes. The following is data in 2019 which shows that sales and stock of goods are affected by weather changes.

**Table 1.1**  
**General Sales and Stock in 2019**

<b>Month</b>	<b>Sales</b>		<b>Stock</b>		<b>Remarks</b>
	<b>Items (outdoor)</b>	<b>Items (indoor)</b>	<b>Items (outdoor)</b>	<b>Items (indoor)</b>	
<b>January</b>	High sales	High sales	High volume	High volume	Normal Season
<b>February</b>	High sales	High sales	High volume	High volume	Normal Season
<b>March</b>	High sales	High sales	High volume	High volume	Normal Season
<b>April</b>	High sales	Low sales	Low volume	High volume	Expectation on April in fact dry season but still rain.
<b>May</b>	Low sales	High sales	Low volume	High volume	Effect from april indoor still high
<b>June</b>	High sales	Low sales	Normal volume	Normal volume	Effect from may
<b>July</b>	High sales	Low sales	Normal volume	Normal volume	Effect from June
<b>August</b>	High sales	Normal sales	High volume	Normal volume	Effect from July
<b>September</b>	Normal sales	Normal sales	Normal volume	Normal volume	Effect from August
<b>October</b>	Low sales	Low sales	High volume	High volume	Expectation on October in fact rainy but it still dry

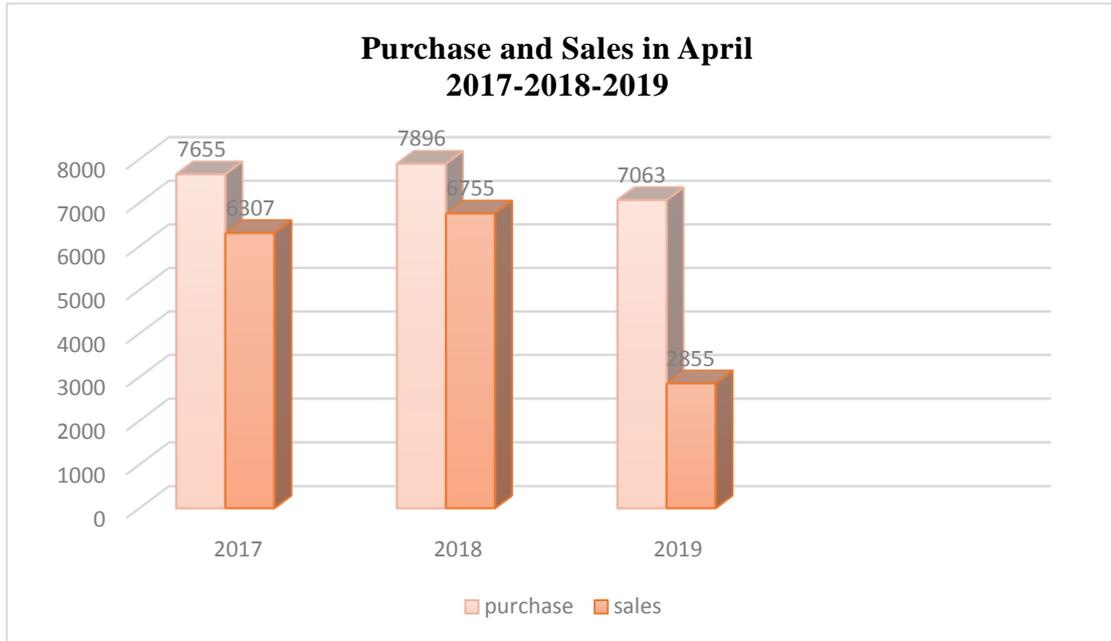
Month	Sales		Stock		Remarks
	Items (outdoor)	Items (indoor)	Items (outdoor)	Items (indoor)	
November	Low sales	Low sales	High volume	High volume	Effect from October and November
December	High sales	High sales	Normal volume	Normal volume	Effect from October and November

Source: UD.Bintang Semeru (2019)

Based on the Table 1.1, the researchers focused on 1 year in 2020 . The reason the researchers took 1 year in 2020 was because the sales and stock of outdoor goods match for forecast in 2020, there are affected by the uncertain weather in 2019 as a above data. Therefore researchers want to examine the effect of weather changes on sales and stock of goods.

UD. Bintang Semeru uses a viewing system of certain seasons based on existing demand and stock of goods. it can be a problem for researchers to want to analyze more about existing problems and help solve problems that are likely to occur in the next year, at least to minimize these problems. by looking at differences in sales and stock of goods researchers use time series to determine shifts due to weather changes. Walmart faces the problem of over one billion SKU × Store combinations (Seaman, 2018). In a fashion chain such as Zara the number of in-store items by design, colour and size can also be of the order of tens of thousands, although forecasting may be conducted at the “style” or design level, aggregating historical data across sizes and colours and disaggregating using size curves and proportions to arrive at the final SKU forecasts.

**Figure 1.1**  
**The comparison Purchase and Sales in April the last 3 years**



Source: UD.Bintang Semeru (2017,2018,2019)

**Figure 1.2**  
**The comparison Purchase and Sales in October the last 3 years**



Source: UD.Bintang Semeru (2017,2018,2019)

From the Figure 1.1 and 1.2 that can see purchase and sales in April 2017 and 2018 are still normal because the weather seasonal are still same like before the year or still stabilized. In 2019 April Purchase of the goods higher more that sales because the weather is different not like 2017 and 2018 , it can not prediction. Then , in October 2017 and 2018 it still same like April because the reason that also same effect of the weather. In 2019 October Purchase and Sales also more far different because the weather seasonal deeply impact of the sales and the merchandise. So , it can be more analyzed from demand of sales.

**Table 1.2**  
**Supply and Demand 2017 , 2018 , 2019**

Year	Month	Product	Total Quantity Demand	Total Quantity Supply	Remarks
2017	JANUARY-DECEMBER	- Antena Digital PF	1.222	1.008	Quantity demanded and the quantity supplied are still normal
		- Jiamei Kap	3.671	2.421	
2018	JANUARY-DECEMBER	- Antena Digital PF	1.233	1.008	Quantity demanded and the quantity supplied are still normal
		- Jiamei Kap	3.784	2.544	
<b>2019</b>	<b>JANUARY-DECEMBER</b>	- <b>Antena Digital PF</b>	<b>1.384</b>	<b>831</b>	<b>Excess Demand</b>
		- <b>Jiamei Kap</b>	<b>3.461</b>	<b>2.017</b>	

Source: UD.Bintang Semeru (2017,2018,2019)

Based on the data above, demand and supply in 2017 and 2018 are the same because they correspond to the previous year or there is no change in season. Then in 2019 demand and supply experienced a shift which resulted in excess stock of

goods due to weather instability. Therefore inefficient inventory, lack of sales, costs incurred, falling prices so that demand is greater than supply.

## **1.2 Research Focus**

The Research focus is understanding the weather seasonal can be impact to sales and merchandise with that to find the strategy to forecast in 2020 . In the past year data on sales have a fluctuation sales and the stock unorganized. The project research can make the problem minimize and improve the sales forecasting and merchandising in 2020.

## **1.3 Research Question**

Based on the background of existing problems then, the research question in this study is as follows:

1. Does weather impact the sales in UD. Bintang Semeru ?
2. How weather really affect the sales and merchandising in UD. Bintang Semeru?
3. How to improve the reliability on sales forecasting and merchandising in 2020 ?

## **1.4 Objective of the Study**

Based on the research question that exist, the objective of the study is as follows :

1. To understand whether seasonal have impact on the sales in UD. Bintang Semeru
2. To know how the impact weather on sales and merchandising in UD. Bintang Semeru.
3. To improve reliability and ensure profitability in sales and merchandise in 2020

## **1.5 Research Scope**

This study covers the intricate correlation between seasonal weather and the sales in UD.Bintang Semeru. The research scope is limited to UD.Bintang Semeru's historical sales from the past three years, which are 2017,2018, and 2019. Furthermore, as UD.Bintang Semeru carries an electric range of products, this study focuses on 9 specific items among its best-sellers. The items are thence classified under two main seasonal product categories, which are indoor and outdoor.

## **1.6 Significant of the Study**

### **1.6.1 Academic**

The results of this study are expected to be useful for the application of future sales more efficiently in managing stock of goods in a chaotic stock of sales due to weather changes in terms of sales and merchandising. The results of this study can be a learning and open mind for retail and wholesale entrepreneurs who experience the same problem.

### **1.6.2 Practical**

This research is a reference for UD. Bintang Semeru to improve the sales system and stock of goods to increase the profitability of UD. Bintang Semeru business. Hoping the results and research can be applied in the business model.

## **1.7 Systematic Thesis Writing**

This thesis consists of 5 chapters which in order to facilitate the reading of research results made by researchers, as follows:

### **CHAPTER 1: INTRODUCTION**

This introduction chapter discusses the background of problems that are continuous with the problem objects of this study problems or phenomena that

occur in the object of research are about how when sales and merchandise are influenced by seasonal factors. the purpose of this study is to reduce or minimize problems in the sales system and taking stock of the wrong goods so that there is excess or lack of goods which are included in the object of the research, the scope, and the benefits of research.

## CHAPTER 2: LITERATURE REVIEW

Chapter 2 contains several theories including inventory management, optimizing stock, sales forecasting, weather seasonal, merchandising, and also discussing about previous research and conceptual frameworks to summarize problem clarification.

## CHAPTER 3: RESEARCH METHODS

Chapter 3 discusses researchers taking operational concepts to examine sales and merchandising issues for prediction. The tool used in this method is a way to find out information in the company.

## CHAPTER 4: ANALYSIS AND DISCUSSION

Chapter 4 is a discussion of the object of research. The discussion in this chapter discusses the calculation of sales forecasting and merchandising using the method of operational concept, namely ARIMA in Minitab for sales forecast and Open to Buy to find out stock on hand for inventory, with the discussion in this chapter prediction information is obtained for sales and stock.

## CHAPTER 5: CONCLUSIONS, LIMITATIONS, AND SUGGESTIONS

Chapter 5 contains conclusions from the discussion of the results of research that answers the questions of the research object, then the researcher also finds weaknesses in the research process and provides suggestions for better corporate planning.