CHAPTER 2
LITERATURE REVIEW AND THEORETICAL BACKGROUND

2.1. Literature Review

There are two types of retail which are traditional retail and modern retail. Based on the research (Singh & Singla, 2012), the presence of modern retail has consequences for the decreasing in the number of regular customers visiting the outlets owned by traditional retailers. Therefore, the traditional facing the decline in sales as well as the turnover. To face this problem, regulation making for modern retail is needed so that the existence of traditional retail is maintained. Other than that, the support by development agencies for traditional retailers to enable them to compete with quality and cost efficiency can be helpful.

One of the components that had to be maintained to achieve the cost efficiency is about the stock of the product. According to Purdescu et al. (2017), product availability is one of the most important components of the customer service and greatly influences both the customer service level that a company provides to its clients and the logistics costs associated with carrying and keeping the respective stocks. The problems related to the stock that faced by the retail are about out of stock and excessive stock. Out of stock can result in the customer dissatisfaction, loss of sales, but the amount of the financial resourced that used is low. While, excessive stock will maintain the customer satisfaction, but can caused no return in the financial resources.

To solve problems related to stock and the replenishment process of the product, d'Avolio et al. (2015) had conducted a research through case study about the replenishment process in the luxury fashion Italian firms. Based on this research, replenishment process is highly connected to the merchandise planning process. Merchandise planning can be distinguished to pre-season planning and in-season planning where merchandise budgeting can describe the pre-season planning and OTB can describe the in-season planning.

Besides of merchandise budgeting and OTB, one process that important in the merchandise planning is the category management. According to Tanase (2011), Merchandise planning encompasses selecting the right categories and the items within them. The lowest level of detail identifying a product in the retailer's assortment is the stock keeping unit (SKU), which identifies a particular item. The

number of SKUs at various retailers varies tremendously. While hard discounters often carry less than 1,000 SKUs, a typical hypermarket assortment accumulates to around 100,000 SKUs. Items in the assortment can be grouped in terms of many different criteria. These criteria will help in the process of controlling the stock of each product.

Merchandise planning can be implemented both in traditional retail and modern retail. Bowrin (2012) has implemented budgeting and financial analysis process for the afro-caribbean craft product in order to help Ms. John as a retailer to run her business and to decide about the new store that will be open in the Piarco International Airport. Djiwang (2016) has implemented merchandise budgeting in one of the traditional retail in Rantepao, Indonesia. This implementation show that merchandise budgeting in term or retail merchandise planning can be implemented in traditional retail although the retail already has information system to record the data of sales and purchased for every month. Meanwhile Resmi (2017), has implemented category management, merchandise budgeting and open to buy in the smaller retail that do not has information system in record the data of sales and purchase. This research show that merchandise budgeting can be implemented in the traditional retail despite the scale of the retail is not in big scale of retail.

Seven Papers about retail and the process of merchandise planning has been reviewed to help in designing the method in solving the problem regarding to the excessive stock in traditional retail. The paper was classified based on the focus of the method that used in the paper and also the type of retail which is traditional or modern retail. The paper are classify in the table 2.1.

Table 2.1. Literature Review

No	Title	Author(s)	Year	Retail Category		Method		
				Traditional Retail	Modern Retail	CM*	MB**	OTB***
1	Fresh Food Retail Chains and Traditional Fruit and Vegetable Retailers in India	Singh & Singla	2012	√	√	-	-	-
2	A Better Logistics Approach for Improving Product Availability	Purdescu, Danalache, &Ioanid	2017	√	√	-	-	-
3	Exploring replenishment in the luxury fashion Italian firms: evidence from case studies	d'Avolio and Bandinelli, Pero, Rinaldi	2015	-	√	-	√	√
4	The Retailers' Merchandise Mix Planning and the Process of Category Management	Tănase	2011	-	√	√	-	-
5	Afro-Caribbean Craft Products: A Case in Budgeting and Financial Analysis	Bowrin	2012	√	-	-	√	-
6	Merchandise Budgeting at Mitra Mart Rantepao	Djiwang	2016	√	-	-	√	-
7	*Penerapan* Merchandise Planning *pada Toko Lestari*	Resmi	2017	√	-	√	√	√

*CM = Category Management; **MB = Merchandise Budgeting; ***OTB = Open to Buy

2.2. Theoretical Background

Retail is derived from the old French verb *retailer* with the meaning "to cut up". Retail can be defined as the sale of small quantity of commodities to the ultimate customer (Risch, 1991). Many people believe that the term of "Retailing" and "Merchandising" is the same. But actually, the definition of them is different. Retailing is all business activities that needed in order to sell goods or services to the end consumer. Meanwhile, merchandising is one of those business activities in retailing that concerned about the planning and control involved in the buying and selling goods and services to help the retail its objectives. To achieve the success in merchandising activity, total financial planning and control is required (Dunne & Lusch, 2008).

Merchandising makes sure that the goods or services available at the right place, at the right time, at the right time, at the right price, and at the right quantity to the target customer. In merchandising, planning of sales and inventory is important to reach the aims of merchandising which are maximizing the Return of Investment and profitability. Merchandise planning done by maximizing the sales potential and minimizing losses from mark downs and stock-outs, planning and controlling merchandise inventory to balance the expectation of the target customers with the strategy of the retail (Ray, 2010).

One of the problem that occurred in retail is about the stock. According to Dunne & Lusch (2008), it is just as bad to have too much inventory on hand as it is to have too little. Stocking too much inventory could result in inventory holding costs that outweigh the gross margins to be made on sale of the merchandise. Stock to sales ratio is the ratio that show the amount of extra stock in inventory. The calculation of sale to stock ratio can be done using formula 2.1.

$$Stock\ to\ Sales\ Ratio = \frac{BOM\ Inventory}{Net\ Sales} \qquad (2.1)$$

It is important to always review the stock to sales ratio because if they are set too high or too low, too much or too little inventory will be on hand to meet the sales target. According to Risch (1991), Stock-to-sales ratios are immediately available to the retail merchant, either from historical internal data (the past relationship of inventory to sales) or from published figures readily obtainable from trade sources such as the National Retail Merchants Federation, Menswear retailers of America,

or Dun and Bradstreet. Based on Dun and Bradstreet historical data, the amount of ideal stock to sales ratio in average from 2016 to 2018 is 2,57.

Related to the problem of excessive stock, merchandise planning can be done through merchandise budgeting and open to buy, with the help of the category management to classifying or grouping merchandise.

2.2.1. Merchandise Budgeting

Merchandise budgeting is an exercise of planning in term of financial about the amount of sales that the retail is going to make, the amount of stock needs to hold and the amount of merchandise needs to procure. It is a financial plan, which gives an indication of how much to invest in product inventories (Ray, 2010).

According to Risch (1991), one of the most important features of the merchandise budget is the projected balancing of inventories in relationship to planned sales and the assistance this offers in the achievement of an adequate gross margin on those sales. Thus, the merchandise budget provides an effective control over purchases and tends to prevent an overstocked or understocked position. In effect, the merchandise budget controls and manages the dollar value of the merchant's inventory, by detailing the components of the operating statement down through gross margin. Therefore, the calculation of the operational cost and the profit had to be done to determine the planned sales.

According to Berman & Evans (2007), gross profit (margin) is the difference between net sales and the cost of goods sold. While cost of goods sold is the amount a retailer pays to acquire the merchandise sold during a given time period. Based on the definition, the formulation of gross profit can be seen in formula 2.2.

$$Gross\ Profit = Net\ Sales - Cost\ of\ Goods\ Sold \qquad (2.2)$$

While, Operational cost or Operational expenses is the cost of running a retail business. Electricity cost is one of the operational cost that has to be spent in running a retail business. Based on *Peraturan Menteri Energi dan Sumber Daya Mineral Nomor 28 Tahun 2016,* the calculation of electricity cost that used starting May 1, 2017 can be seen in formula 2.3.

$$Electricity\ Cost = Duration \times Power \times Cost\ per\ kWh \qquad (2.3)$$

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Based on the formula 2.2. the data that needed are duration of the electronic object, the power that used, and the cost per kWh. For calculating electricity cost, cost per kWh is distinguished based on the power limit that used. The cost for each power limit can be seen in figure 2.2.

| NO. | GOL. TARIF | BATAS DAYA | REGULER | | PRABAYAR (Rp/kWh) |
			BIAYA BEBAN (Rp/kVA/bulan)	BIAYA PEMAKAIAN (Rp/kWh)	
1.	R-1/TR	s.d.450 VA	11.000	Blok I : 0 s.d. 30 kWh : 169 Blok II : di atas 30 kWh s.d. 60 kWh : 360 Blok III : di atas 60 kWh : 495	415
2.	R-1/TR	900 VA	20.000	Blok I : 0 s.d. 20 kWh : 275 Blok II : di atas 20 kWh s.d. 60 kWh : 445 Blok III : di atas 60 kWh : 495	605
		900 VA-RTM	*)	1.352	1.352
3.	R-1/TR	1.300 VA	*)	1.352	1.352
4.	R-1/TR	2.200 VA	*)	1.352	1.352
5.	R-2/TR	3.500 s.d. 5.500 VA	*)	1.352	1.352
6.	R-3/TR	6.600 VA Keatas	*)	1.352	1.352

Catatan:
*)   Diterapkan Rekening Minimum (RM):
     RM1 = 40 (Jam Nyala) x Daya Tersambung (kVA) x Biaya Pemakaian.

Figure 2.2 Electricity Cost
(***Peraturan Menteri Energi dan Sumber Daya Mineral Nomor 28 Tahun 2016***)

Besides of electricity cost, operational expenses can be in form of salaries, advertising, cost for supplies and shipping (ordering cost), insurance, cost for maintenance, and others.

According to Dunne & Lusch (2008), It is important to use recent trends in determining the planned sales. All too often retailers in no-growth markets merely used last season's figures for the current season's budget. This method overlooks two major influences on projected sales volume: inflation and competition. If inflation is 10 percent and no other changes have occurred in the retail environment, then the retailer planning on selling the same physical volume as the previous year should expect a 10 percent increase in this season's dollar sales.

After determining the planned sales percentage, merchandise budgeting process can be done. The process of calculating the merchandise budgeting according to Ray (2010) is described as follows:

1. Assume that the retailer want to make the merchandise budgeting for the first six months in year 2009. First, he needs the data of sales in the same period of last year.

2. Calculate the monthly sales as percentage of total sales for last year. This calculation is needed to know the effect of seasonality. Assume that the seasonality will be repeated for the next year. The calculation of the percentage can be done using formula 2.4.

$$Monthly\ Percentage = \frac{Monthly\ Sales}{Total\ Sales} \times 100\% \tag{2.4}$$

3. Calculating the project overall sales. The formulation of planned sales for the month can be seen in formula 2.5.

$$Planned\ Sales\ for\ the\ month=$$
$$(Planned\ Sales\ Percentage\ for\ the\ month) \times (Planned\ total\ sales) \tag{2.5}$$

4. The stock of sales ratio and percent of retail reductions for every month need to be estimated. The reduction is come from the markdown, employee discount, shrinkage, etc. The equation of the stock sales ratio can be seen in formula 2.1. While the calculation of reduction can be done using formula 2.6.

$$Planned\ Retail\ Reduction\ for\ the\ month=$$
$$(planned\ sales\ for\ the\ month)$$
$$\times \tag{2.6}$$
$$(planned\ retail\ reduction\ percentage\ for\ the\ month)$$

5. The beginning of the month (BOM) stock requirements and the end of the month (EOM) Stock requirements need to be calculated. The EOM stock for one month is the BOM stock for the next month. Only the end of month (EOM) inventory for last month, i.e., for June 2009 needs to be projected. The calculation of BOM stock can be done using formula 2.7.

$$BOM\ Stock=Monthly\ Sales \times Stock\ Sales\ Ratio \tag{2.7}$$

6. Determine the planned EOM stock for every month. Planned EOM Stock for this month is the same with the Planned BOM Stock for the following month.

7. The monthly retail reductions need to be added as the quantity lost due to shrinkage, employee discount and markdowns also need to be replenished. The calculation of the planned purchases can be done using formula 2.8.

$$Planned\ Purchases\ at\ Retail\ for\ the\ Month$$

$$=(Planned\ Sales\ for\ the\ Month)+(Planned\ Retail\ Reductions\ for\ the\ Months)\quad (2.8)$$

$$+(Planned\ EOM\ Stock\ for\ the\ Month)-(Planned\ BOM\ Stock\ for\ the\ Month)$$

2.2.2. Category Management

According to Ray (2010), category management can be defined as a collaborative process between a retailer and supplier in managing categories as strategic business units, that done to increase the result by focus on delivering customer value. There are eight basic processes of category management, they are category definition, category role, category assessment, category balanced scorecard, category strategies, category tactics, plan implementation and category review.

One of the important processes in category management is defining a category. This process is important to classifying products in the retail into the categories. In defining a category of the products in retail there are five steps that has to be done. The steps of defining a category can be seen in figure 2.3.
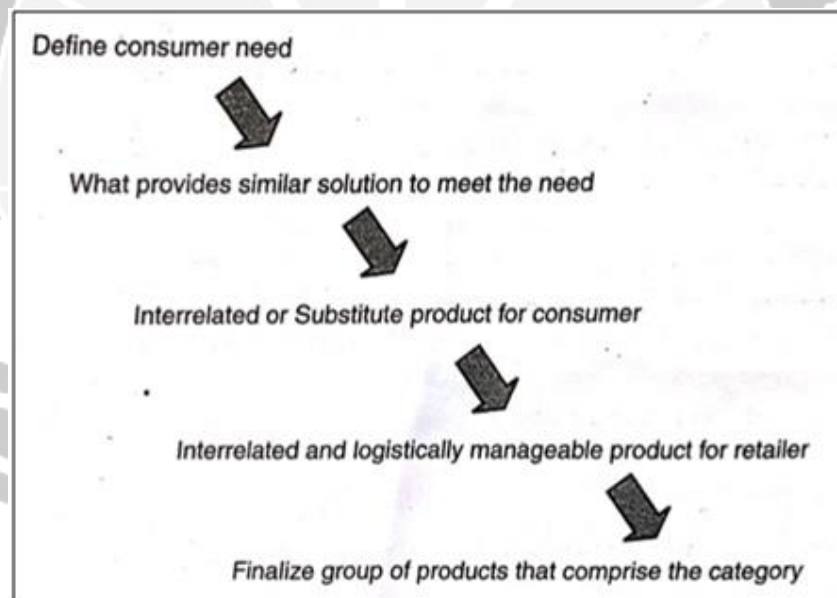
Define consumer need

What provides similar solution to meet the need

Interrelated or Substitute product for consumer

Interrelated and logistically manageable product for retailer

Finalize group of products that comprise the category

Figure 2.2. Steps in Defining a Category (Ray, 2010)

The final result of the process of defining a category is a category decision hierarchy or consumer decision three. Category decision hierarchy showed the classification of products from some Category to the sub category, then classifies it into some segment, and divided to the sub-segment until it meets the Stock Keeping Unit (SKU). Category decision hierarchy can help retailer in the process of merchandise planning in many aspects such us in controlling the stocks,

planning the amount of financial resource for the category of products, etc. The example of category decision hierarchy can be seen in figure 2.4.
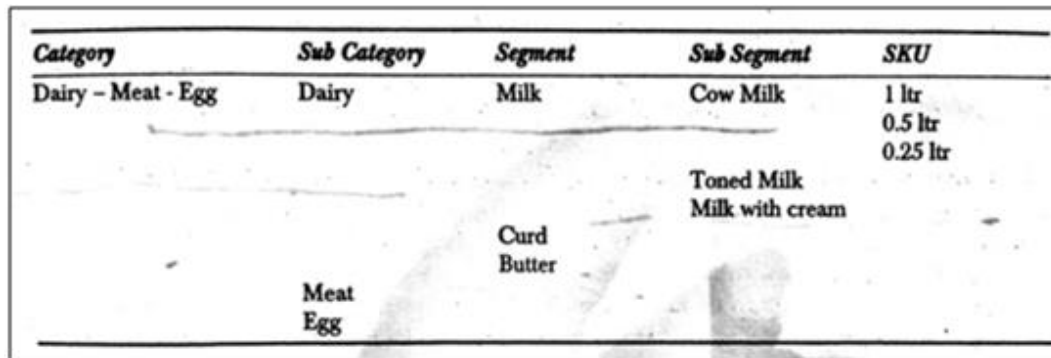
Category	Sub Category	Segment	Sub Segment	SKU
Dairy – Meat - Egg	Dairy	Milk	Cow Milk	1 ltr 0.5 ltr 0.25 ltr
			Toned Milk Milk with cream	
		Curd Butter		
	Meat Egg			

Figure 2.4 Category Decision Hierarchy (Ray, 2010)

2.2.3. Open to Buy (OTB)

Open to Buy (OTB) is a control system that controls merchandise procurement in a way such the stock availability at the retail store at any point, matches planned sales as closely as possible and ensure that the planned closing stock levels at the end of the period is not exceeded (Ray, 2010). The concept of OTB can be seen in figure 2.5.
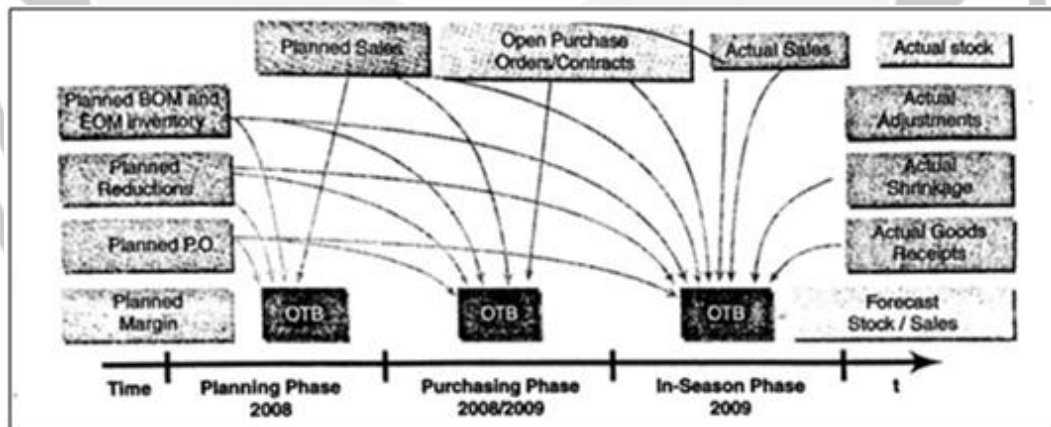

Figure 2.5 Concept of OTB (Ray, 2010)

There are three phase in OTB, there are planning phase, purchasing phase, and in-season phase. In this research, the phase of OTB that done is planning phase. According to Resmi (2017), in calculating Open to Buy, there are three steps as follows:

a. Calculating percentage of contribution for each category

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b. Calculating BOM, projected sales, and EOM by using the total amount of BOM, projected sales, and EOM multiply with the percentage of each category.

c. Calculating OTB

According to Dunne & Lusch (2005), the calculation of OTB can be done using formula 2.9.

$$OTB = Planned\ Sales + Planned\ Reduction + Planned\ EOM$$
$$-planned\ BOM - Planned\ PO \qquad (2.9)$$

The OTB system gives an idea to the merchandiser about how much actual money is available to him for making purchases for each category.