



INVENTORY MANAGEMENT IN A SMALL CLOTHING  
RETAIL BUSINESS: A CASE STUDY OF THE ROOKIE SHOP

By  
TANET JARUSRUNGSIRIKUL

A Final Report of the Six-Credit Course  
SCM 2202 Graduate Project

Submitted in Partial Fulfillment of the Requirements for the Degree of  
MASTER OF SCIENCE IN SUPPLY CHAIN MANAGEMENT

ABAC School of Management  
Assumption University  
Bangkok, Thailand

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

**November 2008**

Project Title            Inventory Management in a Small Clothing Retail Business:  
                                 A Case Study of the Rookie Shop  
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ABAC School of Management, Assumption University has approved this final report of the six-credit course, SCM 2202 Graduate Project, submitted in partial fulfillment of the requirements for the degree of Master of Science in Supply Chain Management

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November 2008

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**ABAC School of Management**  
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and hereby certify that the verbiage, spelling and format is commensurate with the quality of internationally acceptable writing standards for a master degree in supply chain management.

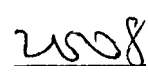
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## ABSTRACT

The purpose of this study is to reduce excess inventory, which is currently a crucial problem for the shop. Since the shop is located in the Pratunam area, a place offering many wholesale and retail places in the apparel or fashion business, the shop has to face direct and indirect competition within the area. For that reason, the shop often holds more inventory whenever some products are not salable or competitors are selling at a lower price for same product as the shop. Furthermore, because of invisible actual inventory status, no systematic management approach, no attractive promotion launch, no inventory control policy and no understanding of consumer behavior are the main factors affecting the shop's inventory problem on which the shop must focus.

In order to fulfill the purpose of this study, the shop firstly develops an inventory management worksheet in Excel to control overall inventory transactions, promotional alerts, and to expose the hidden actual margin of the business. Moreover, the study of consumer behavior in buying fashion goods must be emphasized, because the fashion business is uniquely different from other types of industry, and the shop has never realized or been concerned about customer preferences.

In this study, a questionnaire was developed to capture evidence of appropriate customer-orientation, and was distributed to customers who had already decided to buy a product or were walk-in persons. This is because only the preferences of target customers who like the overall composition of the shop and its products, should be the focus of this research. As a result, the correct implementation can be developed after analyzing customer responses and preferences by verifying the result variables. Finally, recommendations and suggestions are included for further study.

## ACKNOWLEDGEMENTS

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## **CHAPTER 1: INTRODUCTION**

### **1.1 Company Background**

#### **1.1.1 Background of the Pratunam Shopping Area**

The Pratunam Shopping Area is located in the Ratchaprarop Road. It was established in 1980. It is one of the most popular shopping areas in Bangkok. This place attracts both local people and foreigners who like to buy fashion apparel, wholesale and retail. People from all over the world prefer to go Pratunam to do shopping and to see the new trends in fashion.

Initially, there were not many shops and shoppers. There was one market area called *Talad Charemrup*. Pratunam gained its well-known reputation very quickly due to the low selling price and good quality of products. Soon, many more buyers came from overseas and the market expanded rapidly to cover a wider area.

Presently, there are many buildings and shops clustering in this shopping area which are Talad Charemrup, Baiyoke1, Baiyoke2, City Complex, Krung Thong Plaza, Indra Fashion Street and Platinum Fashion Mall. There are approximately 7,000 shops in the Pratunam shopping area, and about 1,000 shops for fashion garment entrepreneurs.

#### **1.1.2 Background of the Shop**

Rookie is a small retail shop in Platinum Fashion Mall, Pratunam, Bangkok managed by a family business owner. Rookie offers women's fashionable clothes, including T-Shirt, Shirt, Dress, Tube top, Short, Pant, Jeans, Skirt, Suspender, and Scarves. Rookie normally focuses on imported clothes from many suppliers in Asian countries such as Hong Kong, Korea, and China. On some special SKU, Rookie has its own designs and patterns developed uniquely according to the current trends.

Rookie was established in February 2006. Rookie firstly opened only one shop on the fourth floor in the Platinum Fashion Mall. At that time, Rookie could achieve its goal,



that is, to develop the loyalty of many customers. The Rookie business was successful and profitable since the customers often repeat their buying, and new buyer numbers always increased during the year. Thus, in January 2007, Rookie opened its second shop on the third floor in the Platinum Fashion Mall to gain more customers, and that has also been successful.



Since Rookie is located in the Pratunam area, which has very high competition in selling Fashion Clothes, there are so many cases of customers finding some substitute product that they buy products from competitors instead of Rookie. In order to compete in this market, the shop has to find own competitive advantages. For Rookie, the competitive advantage is "Unique Style of Clothes".

## 1.2 Products

The imported products and own shop products emphasize current fashion trends. Rookie sells many styles of clothes such as Vintage, Chic, Working Women, Forward Modem, and Freestyle. The products are various; the total is currently more than 500 SKUs. However, demand for fashion products is absolutely uncertain and almost unpredictable. The shop can only guess the possibilities of sales of each SKU.

## 1.3 Business Process

The Business Process of Rookie starts from the owner setting a budget for sourcing the product from various suppliers. This budget will include every relevant cost including product cost, transportation cost, and miscellaneous costs. The owner will directly touch and see the product at supplier sites and make an order according to

appropriateness. Next, the suppliers will deliver the product ordered to 'Thai Cargo' which is responsible for taking care of products, quantity check, paying money to suppliers, delivery, and custom clearance from suppliers to Thailand and to the Rookie shop. At the shop, the business process is simply like a normal retail business, that is, customers also come and buy directly at the shop, and choose their own preferences before making a buying decision. However, Rookie sells its products to two types of customers: retail customers and wholesale customers.

## 1.4 Supply Chain Network

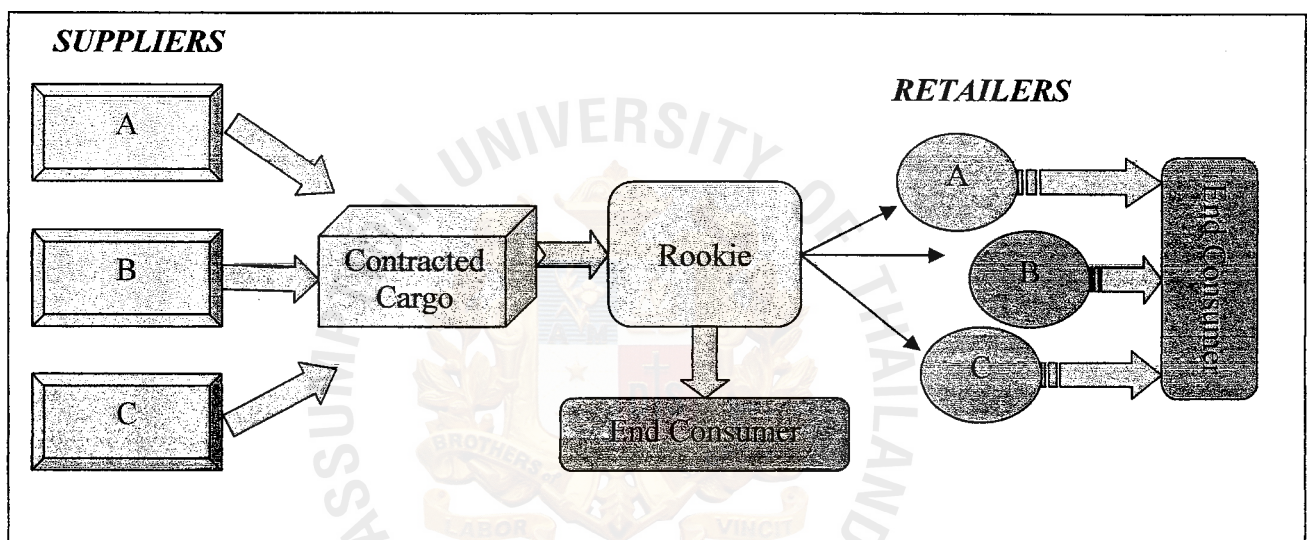


Figure 1.1: Rookie Supply Chain Network

### 1.4.1 Suppliers

Rookie normally sources the product by visiting directly the supplier sites in Hong Kong, Korea, and China. These suppliers mainly produce women's apparel in their wholesale marketplace, which consists of a lot of suppliers in the same place. Therefore, it seems that like the Thailand wholesale marketplace, high competition occurs and forces the suppliers try to offer the lowest price. This is very beneficial for Rookie and for Rookie's competitors. Moreover, in order to get the more competitive price from suppliers, the only one way to negotiate with suppliers is to focus mainly on volume discount due to the wholesale business nature.

After finishing agreement in the buying negotiation, the supplier will be responsible for delivering the product to Rookie's contracted third party logistics provider or Thai Cargo, which will be responsible to ship the product to Thailand continuously.

#### **1.4.2 Third Party Logistics Provider**

For a third party logistics provider, Rookie use Thai Cargo as a forwarder for sea shipment in order to transport the products ordered from various suppliers to Thailand. Thai Cargo has its own office in each country to combine the number of orders together before delivery to Thailand. They also offer additional service consisting of quantity checks to see whether it is correct or not: if not, they will follow up and correct the problem when the owner is not in that country, pay money to suppliers, deliver to Thailand, and complete customs clearance both at the supplier site and in Thailand and, Finally, they deliver to the Rookie shop or Rookie's storehouse.

#### **1.4.3 Customers**

Rookie has two types of customers – Wholesale Customer (The Retailer) and Retail Customer (End Consumer). According to the shop's historical data, Rookie serves more wholesale customers, which is estimated as 60% of total customers, while retail customers is accounted for 40%. Referring to historical data, Rookie has normally served 200 customers per week.

In order to classify the customer type, Rookie allows the customer to buy at the Wholesale price if they buy a minimum three pieces. On the other hand, if they prefer to buy just one or two piece(s), the shop will charge an extra 100 baht for each piece.

Wholesale customers will buy and resell Rookie's product at their retail shops and markup their prices at different rates in different location, normally far from the Pratunam area. Retail customers or people near to Pratunam gain more advantages due to very cheap retail prices compared to another area with exactly similar SKUs.

## 1.5 Problem Analysis

### 1.5.1 Problem Background

Since Rookie must order the products in lots (approximately 120 pieces per SKU) in order to get more volume discount from suppliers. Thus, Rookie holds all inventories by themselves. On saleable SKUs, there are no inventory problems because they enable fast-moving inventory. Occasionally, a saleable SKU can be sold out in just one day, and Rookie can repeat the order suddenly if that happens. On the other hand, some SKUs that the shop expected to sell well do not, and excess inventories are always a huge impact issue.

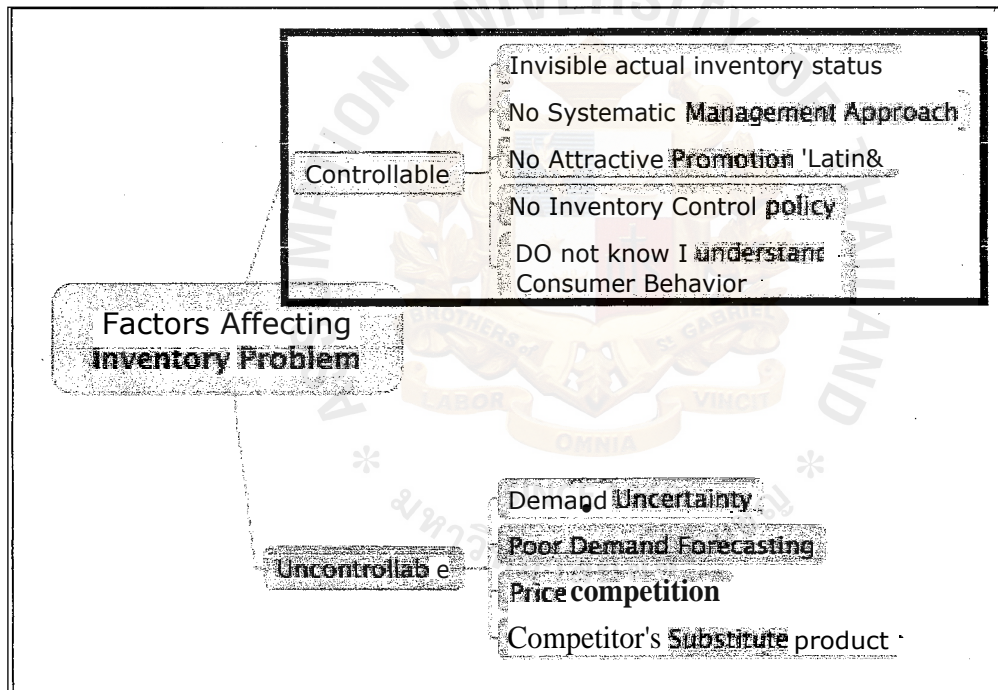


Figure 1.2: Root Causes Analysis of Factors Affecting Inventory Problem by Mindmap Program. (Buzau, 2007)

The Root Causes Analysis of "Factors Affecting Inventory Problem" by using the Mind map Program helps in listing possible factors that really happen in the Rookie shop. Mind map also enables people to find out what main problems are priorities and should be solved as soon as possible.



After listing and analyzing each factor, this reveals that there are nine factors that are causing Rookie's Inventory Problem (see Figure 1.2). These can be divided into two categories: (1.) Controllable and (2.) Uncontrollable

**Controllable factors (Internal factors)** – The shop will encounter these factors since they are internal factor.

- **Invisible Actual Inventory Status** – Since the Rookie shop operates inventory management by only a manual check sheet and counting by hand, sometime Rookie encounters goods lost or an excess goods count leading to inventory problem.
- **No Systematic Management Approach** – No computerized system is operated, and the shop manages by guessing possibilities of sale.
- **No Attractive Promotion Launch** – There are several times that the shop decide to make some selected items 'sale' items, but customers are still not interested in these sale items. This is because Rookie does not know what sale promotions customers really like. When the promotion is not attractive for customers, the higher inventory level will be a huge issue.
- **No Inventory Control Policy** – The Rookie shop does not have a policy for Inventory Management. Not realizing this, in calculating how many days products the shop should keep as inventory, it is not protected from loss if the inventory cost is carried on too long.
- **Do not know / understand Consumer Behavior** – Since Rookie does not know or understand consumer behavior towards clothing-choosing criteria, that causes Rookie to focus on incorrect buying and decision-making since the hidden important customer preferences have not yet identified.

**Uncontrollable factors (External factor)** – The shop may be unable to encounter these factors since they are external factors, but all these factors also have a huge impact on the shop.

- **Demand Uncertainty** – Customer Demand is always changing. For the same SKU sold in different periods, total sales of each period show a big difference.

- **Poor Demand Forecasting** – The nature of the Apparel or Fashion business practically deals with unpredictable demand. (Levy & Weitz, 2007c)
- **Price Competition** – Rookie's competitors are actually the shops who sell exactly the same SKU or a close style as Rookie does, so that price competition is freely based on each shop's decision and truly out of Rookie's control. Customers may decide to buy from competitor shops if cheaper.
- **Competitor's Substitute Product** – Rookie's competitors are free to source the same SKU or a close style as Rookie does. Customer may decide to buy from competitor shops if they find preferable ones before come to Rookie's shop.

From the Root Causes Analysis above, the shop must focus on the Controllable factors: it is more vital to start handling the factors that are internal. The shop will develop a solution to build the right Inventory Management Approach in a Small Fashion Business.

### 1.5.2 Problem Statement

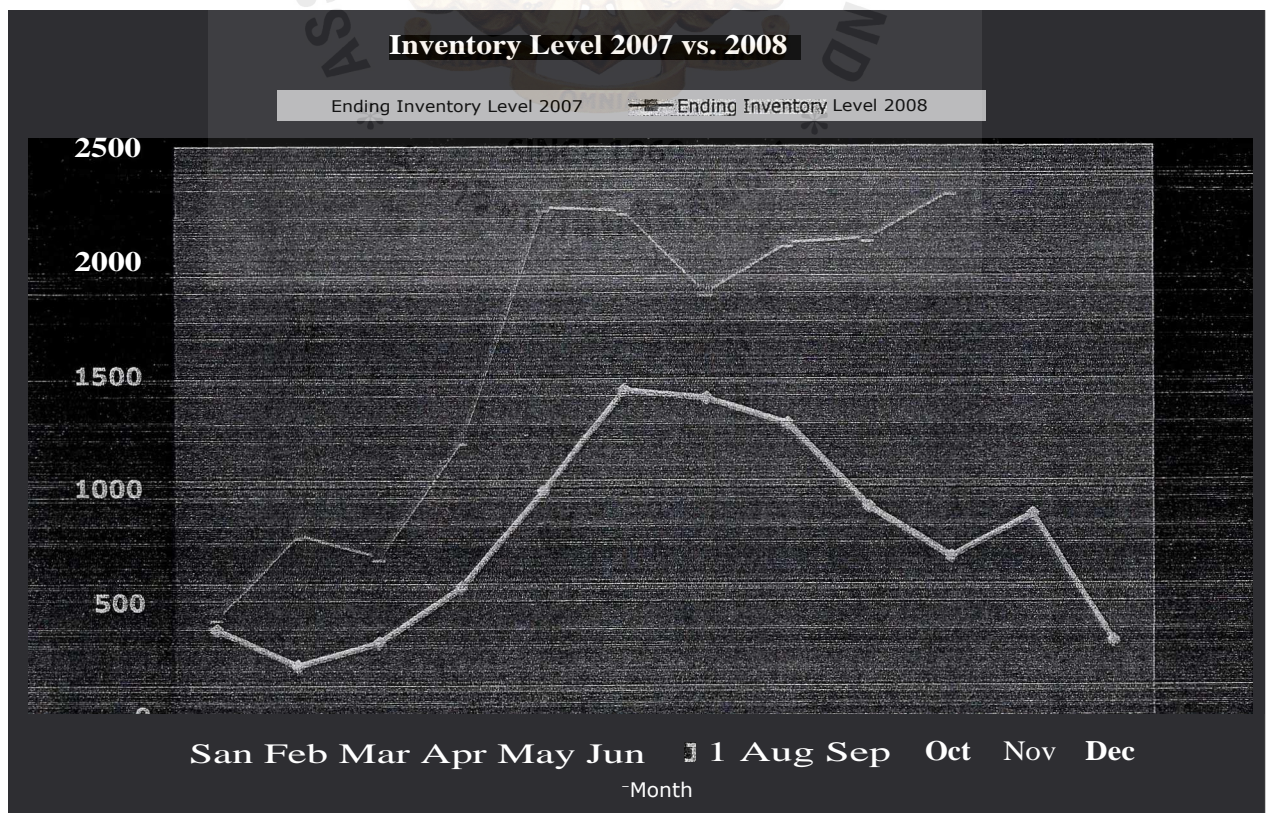


Figure 1.3: Inventory Level between 2007 and 2008

From Figure 1.3 implies that the inventory levels between years 2007 and 2008 are significantly different. In 2007, inventory level was under the shop's inventory control, and thus the trend line of inventory level declined at the end of that year. In contrast, in 2008, the inventory level has been accumulating since April.

As mentioned in the Problem Background, Rookie is encountering an Inventory Problem – Excess Inventory. Currently, it is found that a lot stock of the Winter collection from year 2007 is still kept in the stock house and cannot be sold until the winter season in November 2008. Moreover, there are also many new collection clothing SKUs stocks at the shop for more than two months, which is too long and becomes an unprofitable issue and loss as time passes.

### **1.6 Objective of the project**

- To study how to reduce excess inventory.
- To find what is the appropriate tool to improve and control the inventory management system.
- To understand consumer behavior both in Wholesale and Retail customers and attempt to serve consumers' needs.

### **1.7 Scope of the project**

- To develop and design an inventory management system to be operated in the Rookie shop.
- To study the consumer preferences of launching different sales promotions.
- To study the impact of fashion clothing criteria affecting customer's buying decisions.
- To study consumer behavior through specific sample size and hypotheses.

### **1.8 Deliverables (Expected Result)**

- Be able to reduce excess inventory of the shop.
- Develop a shop's systematic inventory management.
- Serve the actual consumer needs for shopping at Rookie.
- Building loyalty through current customers and gaining new customers to the shop.





## CHAPTER 2: LITERATURE REVIEW

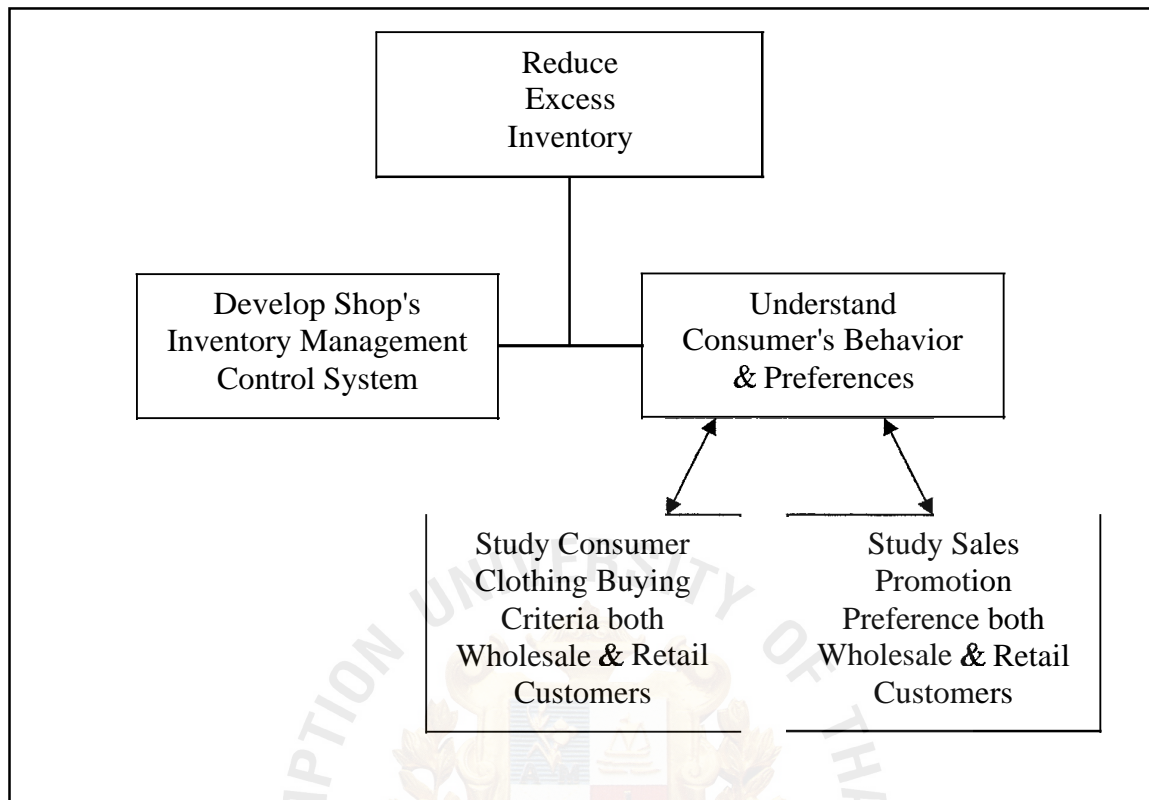


Figure 2.1: Literature Review Framework

This chapter describes a literature review of definitions, and other company's inventory management applications. It also mentions factors affecting consumer behavior and preference related to the study of Consumer Clothing Buying Criteria and Sales Promotion Preference. All aspects of this research have the same objective, to reduce excess inventory.

### 2.1 Inventory Management

Inventory management means determining and controlling stock levels within the physical distribution function, to balance the need for product availability against the need for minimizing total inventory cost

The scope of inventory management also concerns the lines between replenishment lead time, asset management, inventory forecasting, inventory evaluation, inventory

visibility, future inventory price forecasting, quality management, replenishment, returns of defective goods, and demand forecasting. (Anonymous, 2007b)

### 2.1.1 Types of Inventory (Morgan, 1963)

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**Pipeline stocks:** The materials actually being worked on, or moving between work centers, or being in transit to destination. This is also called process stock.

- **Cycle stocks:** The materials procurement takes place in batches, which can occur because of two reasons:

- a. **Economies of scale.** If the average cost of producing, purchasing, or transportation decreases as the lot sizes increase, it is more preferable to operate with large quantities at a time.
- b. **Technological requirement.** The design of the process may require certain batch sizes.

Cycle stocks can also called lot sizes inventory, and shows the time behavior that alternates between a high point, corresponding to the delivery of batches to stock, and a low point that immediately precedes delivery to stock.

- **Seasonal stocks:** The material requirements for each item of product vary with the time of year.

**Safety stocks:** Inventory is carried because of future demand uncertainty. To prevent losses and shortages, safety stocks have to be held in the form of extra inventory above the level that would result from planning on the basis of the demand forecast alone.

Inventory is the most significant financial asset of women's clothing retailers. The majority of successful retailers look at inventory management as a tool to improve customer satisfaction through refined merchandise assortments and in-stock position.

Satisfying customer needs results in increased revenues, lower inventory levels, greater liquidity, and improved return on investment. (Anonymous, 1998)

Rookie has to deal with all types of stock except safety stock due to normally **unrepeated** orders of fast fashion issues. Thus, there is no need to keep stock for any uncertainty. However, there is no systematic approach to control the inventory system. As mentioned in Chapter1, this will cause inventory problems accordingly.

### 2.1.2 Developing Inventory Management Control System

Table 2.1: Inventory Management Report for Rubbermaid SKUs

WORKSHEET									In-Season Management			
	Quantity on Hand	Quantity On Order	Sales last 4 wks	Sales last 12 wks	Forecast Next 4 wks	NMecast Next 8 wks	Product Availability	Backup Stock	Turnover Planned	Turnover Actual	Order Point	Order Quantity
RM Bath												
-RM Bath(Avocado)	30	60	72	215	152	229	99	18	12	11	132	42
-RM Bath(Blue)	36	36	56	130	115	173	95	12	9	10	98	26
-RM Bath(Gold)	41	72	117	325	243	355	99	35	12	13	217	104
-RM Bath(Pink)	10	12	15	41	13	25	90	3	7	7	13	0

In referring to a large firm's inventory management, we consider that of Rubbermaid, the large manufacturer of household plastic products. The firm uses the Inventory Management Report on Worksheet to provides information about the current sales rate or velocity, sales forecasts, inventory availability, the amount of orders, decision variables such as product availability, the backup stock needed to provide the product availability desired, performance measures such as planned and actual inventory turnover, and the appropriate order decision for each SKU (Levy & Weitz, 2007b).

Table 2.2: Six-Month Merchandise Budget Plan for Men's Casual Slacks

<b>WORKSHEET</b>		<b>Financial Planning</b>							
	Spring								
		April	May	June	July	August	September		
1. Sales % Distribution to Season	100.00%	21.00%	12.00%	12.00%	19.00%	21.00%	15.00%		
2. Monthly Sales	\$130,000	\$27,300	\$15,600	\$15,600	\$24,700	\$27,300	\$19,500		
3. Reduc % Distribution to Season	100.00%	40.00%	14.00%	16.00%	12.00%	10.00%	8.00%		
4. Monthly Reduction	\$16,500	\$6,600	\$2,310	\$2,640	\$1,980	\$1,650	\$1,320		
5. BOM Stock to Sales Ratio	4.00	3.60	4.40	4.40	4.00	3.60	4.00		
6. BOM Inventory	\$98,280	\$98,280	\$68,640	\$68,640	\$98,800	\$98,280	\$78,000		
7. EOM Inventory	\$65,600	\$68,640	\$68,640	\$98,800	\$98,280	\$78,000	\$65,600		
8. Monthly Additions to Stock	\$113,820	\$4,260	\$17,910	\$48,400	\$26,160	\$8,670	\$8,420		

Also, as Table 2.2 shows Men's casual slacks at a national specialty store chain, the system for managing fashion merchandise categories, or it is called a merchandise budget plan, is used in their business. The merchandise budget plan specifies the planned inventory investment in dollars in a fashion merchandise category over time. It is used as a financial plan that specifies how much money will be spent each month to support sales and achieve the desired inventory turnover (Levy & Weitz, 2007b).

Finally, Inventory Management control system through Worksheet can be developed and adapted with the information available about the Rookie shop. Implementing, controlling, and calculating can be practically applied to the Rookie business. (Levy & Weitz, 2007a).

## **2.2 Demand Management**

Demand Management is the supply chain management process that balances the customer's requirement with the capabilities of a supply chain (Keely, Douglas, & Sebastian, 2002).

Demand Management is the art or science of controlling economic demand to avoid a recession. The term is used to describe the activities of demand forecasting (Anonymous, 2007a).

It implies that Demand Management is mainly emphasizes Forecasting customer demand. Therefore, the aspects of Appropriateness for Using the Forecasting Method in the fashion business are critical issues to be studied because the fashion business is uniquely differentiate from other industries.

### **2.2.1 Using Forecasting in the Fashion Business**

Table 2.3: Appropriateness on Forecasting Usage in Fashion Business. (Anonymous, 2007a; Dhanapal & Anita, 2006; Hunter & Russell, 1996; Marshall & Rajaram, 2004)



Author	Appropriateness on Forecasting Usage
Dhanapal P., And Anita S.	The fashion apparel business is volatile, in such situation Forecast result will become inaccurate
Hunter, N.A. And King, R.E.	For fashion items, color and style are difficult to forecast
Marshall F., And Rajaram K.	Fashion is short-life cycle product, leads Highly Unpredictable in Demand
Anonymous	The demand in fashion is influenced by trend accorded to trend setter or the designer

According to two authors, Dhanapal and Anita(2006), they directly indicated that forecasting is relatively straightforward and accurate for products with a long lifetime and steady sales. However, the fashion apparel business is one of the most volatile because it always launches products that are new, highly seasonal or have a short lifetime. Thus, whenever the situation occurs, the forecast result will become inaccurate and it causes the company to markdown the selling price to remove unwanted goods remaining at the end of a selling period, while, other literatures also find the same, that fashion items are difficult to forecast and unpredictable in demand.

Moreover, one author mentioned that customer demand in the fashion business would be dependent on trend, which is according to trendsetters or designers who create innovative ideas of fashion to catch the public eye, so the fashion trend is created by them. This means that the Rookie shop is only following fashion trends, that leads the shop into not knowing what the popular fashion trend in the future will be.

### 2.2.2 Emphasizing ABC Analysis

Table 2.4: ABC Analysis Product Classification

Product Group	January 2005 - September 2008		
	Total Sales Volume	Percentage	Product Class
Vintage	12,305	43%	A
Chic	6,881	24%	
Working Women	4,099	14%	B
Forward Fashion	2,884	10%	C
Free style	2,218	8%	
Total	28,387	100%	

As mentioned in the previous topic, Demand Management is not practically appropriate to apply to the fashion industry because of resulting inaccuracy from forecasting. Every firm's capability to realize customer demand is to concentrate on ABC Analysis,

ABC Analysis is the analysis of a range of items which have different levels of significance and should be handled or controlled differently. It is a form of Pareto Analysis in which the items are grouped into three categories (A, B, and C) of estimated importance. "A" items are most important, "B" items are important, and "C" items are marginally important. (Tapping, Luyster, & Shuker, 2002)

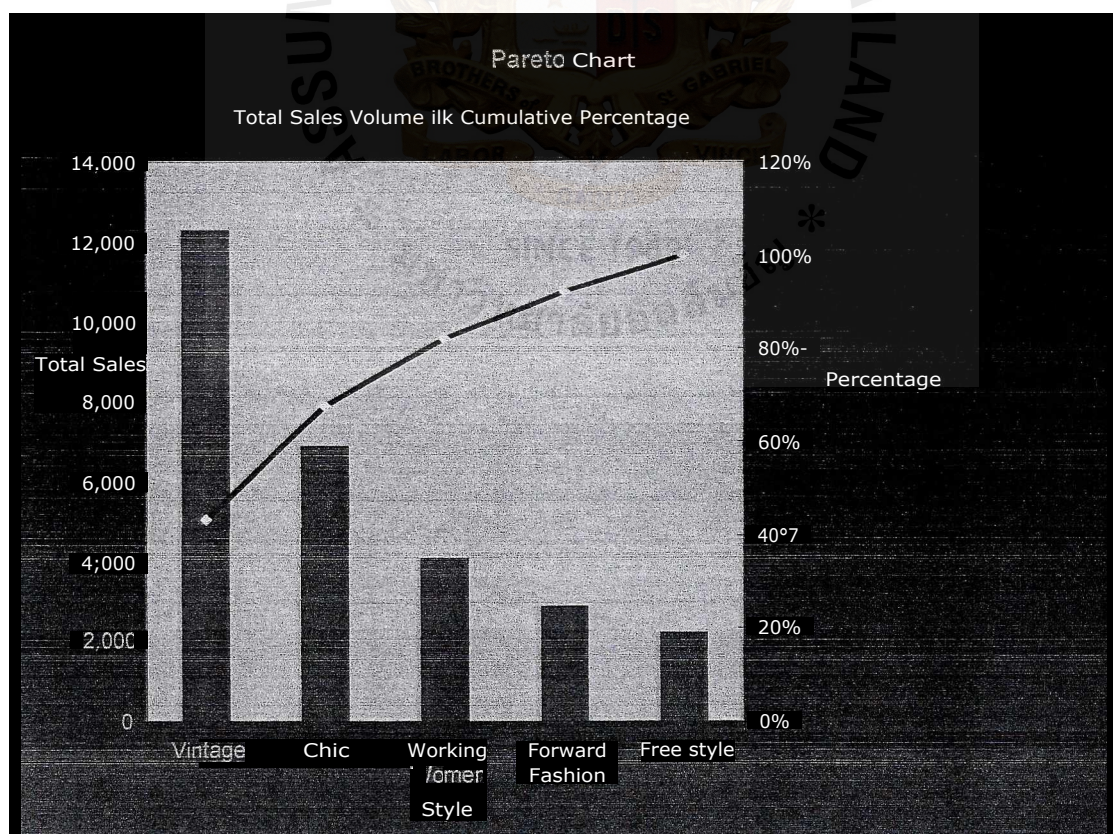


Figure 2.2 Rookie Shop's Pareto Chart

The Analysis demonstrates 20:80 Rule (20% of product type accounts for 80% of total sales volume). Table 2.4 and Figure 2.2 indicate that at 81% of the total sales. Three product categories, which are in the style of Vintage, Chic, and Working Women, are the best sales volume products. Thus, Rookie shop must focus on these items as implementation considerations.

### 2.3 Identifying Fashion Clothing Choice Criteria

Table 2.5: Comparing Clothing Choice Criteria affecting Consumer Buying Decisions

Author	Criteria	
	Extrinsic Criteria	Intrinsic Criteria
Eckman, M., Damhorst, M.L. and Kadolph, S.J., 1990	Price Brand Country of Origin Store; Store Image Coordination with wardrobe Salesperson's evaluation Department in Store Approval of Others Warranty	<b>Product Composition</b> <ul style="list-style-type: none"> <li>• Style</li> <li>• Color / Design</li> <li>• Fabric</li> <li>• Appearance</li> <li>• Fibre content</li> </ul> <b>Product Performance</b> <ul style="list-style-type: none"> <li>• Care</li> <li>• Fit / Sizing</li> <li>• Durability</li> <li>• Comfort</li> <li>• Safety</li> <li>• Colorfastness</li> </ul> <b>Quality</b> <ul style="list-style-type: none"> <li>• Construction / Workmanship</li> <li>• Physical</li> <li>• Fabric</li> </ul> <b>Sex Appropriateness</b>
Beaudion, Moore, and Goldsmith, 1998.	<ul style="list-style-type: none"> <li>• Good fit</li> <li>• Durability</li> <li>• Ease of care</li> <li>• Good price</li> <li>• Comfort</li> <li>• Quality</li> </ul>	

	<ul style="list-style-type: none"> <li>• Choice of color</li> <li>• Attractiveness</li> <li>• Fashionableness</li> <li>• Brand name</li> <li>• Appropriateness for occasion</li> <li>• Choice of style</li> </ul>
Hsu, H-J, & Burns, L. D., 1998	<ul style="list-style-type: none"> <li>• Fabric</li> <li>• Comfort</li> <li>• Size/fit</li> <li>• Quality</li> <li>• Location</li> <li>• Color</li> <li>• Pleasing to others</li> <li>• Brand name</li> <li>• Appropriateness</li> <li>• Price</li> <li>• Style</li> <li>• Coordinating with other clothing</li> </ul>

- Clothing choice criteria are defined as intrinsic (inherent to the product) and extrinsic (product-related, but not part of the physical product) product attributes that are associated with desired benefits or incurred costs as consumers make buying decision among clothing alternatives (Davis, 1985; Eckman, Damhorst, & Kadolph, 1993; Forney, Pelton, Caton, & Rabolt, 1999; Hatch & Roberts, 1985; Hawkins, Best, & Coney, 1995). Intrinsic product attributes are those that cannot be changed without altering the physical characteristics of the product, while extrinsic ones are those that are exerted by manufacturers or retailers and do not form the component parts of the product.
- Different criteria may have varied importance in every consumers mind. Consumers would assign high importance to the criteria that can really reflect their underlying characteristics and experiences. Since the critical characteristics of apparel can always determine its ultimate purchase acceptance or rejection by consumers (Sproles, 1979), the criteria that consumers use in clothing purchase decisions have long been regarded as an important issue for investigation in many previous consumer behavioral



studies. Researchers have identified many product attributes and criteria that are critical for fashion consumers in clothing purchase, and basically all these can be summarized under intrinsic and extrinsic categories. Eckman et al. (1990) have summarized the criteria that influence consumers' evaluations of apparel products in 21 clothing related studies (see Table 2.5).

- Beaudion, Moore, and Goldsmith (1998) also analyzed the customers' attitudes toward buying domestic and imported apparel products using a selection of attributes: Good fit, Durability, Ease of care, Good price, Comfort, Quality, Choice of color, Attractiveness, Fashionableness, Brand name, Appropriateness for occasion, and Choice of Styles.(Beaudoin, Moore, & Goldsmith, 1998)
- Hsu and Burns (2002) also made a study, related to the Clothing Evaluative criteria of a Cross-National Comparison of Taiwanese and United States Consumers. their analysis was of when they purchases a specific clothing item for themselves. The objective focuses on the consumer decision-making process, which will provide important information to managers in the development of international marketing strategies. The important twelve clothing evaluative criteria consist of: fabric, comfort, size/fit, quality, location, color, pleasing to others, brand name, appropriateness, price, style, and coordination with other clothing.(Anonymous, 2002)

Clothing or apparel has frequently been recognized as a product category likely to persuade high involvement by customers. In general, involvement is a state of motivation, arousal, or interest. Personal relevance is a key concept in explaining, defining, and operationalizing involvement (Kim, Damhorst, & Lee, 2002).

When consumers form an attitude toward the product they make evaluative associations between the product and its attributes (Kim et al., 2002).

Consumers vary in their knowledge about a product and their degree of familiarity with it. Knowledge can come from product experiences, such as advertisement



exposure, interaction with salespeople, information from friends or the media, previous consumption, and usage experiences (O' Cass, 2001)

### 2.3.1 Selecting Fashion Clothing Criteria

In conclusion, the fashion clothing criteria of Eckman, Damhorst, and Kadolph, (1990) is the best summary because the other two studies identify the same criteria but do not cover all criteria, much as the first summary mentioned. Thus, this case study will be developed according to the summary of Eckman, Damhorst, and Kadolph (1990).

Since there are many studies which investigated the clothing choice criteria, the shop practically is able to develop the questionnaire survey employed as a tool to collect information of consumers' decision-making styles on clothing choice criteria. The benefit of surveying through this questionnaire is that the shop understands the customers' preferences and their buying behavior. After that, appropriate strategies are adjusted to be compatible with the survey result.

### 2.4 Identifying Appropriate Sales Promotions

Since Rookie is currently encountering an excess inventory problem, another way to reduce this problem is to apply appropriate sales promotions in the shop. Preeta (2007) mentioned that usage of sales promotion activities has a direct impact on behavior as it motivates a consumer to buy now rather than in future, enhances value of an offer temporarily till the promotion period, encourages switching, reinforces or rewards loyalty. Objectives set for these activities are (1) to generate store traffic, **(2) to move excess inventory**, (3) to enhance store image and (4) to create a price image (Preeta, 2007).

Sales Promotion is a key ingredient in marketing campaigns, consisting of a diverse collection of incentive tools, mostly in the short term, designed to stimulate quicker or greater purchase of particular products or services by consumers or the trade (Roberts & Scott, 1990).

Moreover, sales-promotion tools are useful in their specific objectives. Sellers use incentive promotion to attract new tryers, to reward loyal customers, and to increase the repurchase rates of occasional users. Sales promotions often attract brand switchers, who are usually looking for low price, good value, or premiums. Sales promotions are unlikely to turn them into loyal users.

Consumer promotion refers to promotional activities between retailers and consumers. Retailers have developed a wide variety of consumer promotion tools for both transaction building and brand building objectives. The main consumer promotions include price-off, samples, coupons, cash refund offers, premiums, prizes, patronage rewards, free trials, warranties, etc. (Kotler, 2003a).

One research paper from Indian Institute of Management at Ahingmedabad on the topic of "Sales Promotion Practices in Apparel Retail Sector and Challenges Ahead" by Preeta (2007) has studied the practices of sales promotion of apparel retail outlets to compare usage across exclusive and multi brand outlets and to explore rationale behind such activities by examining consumer behavior (Kotler, 2003b)

He studied sales promotion practices with six apparel retail outlets in the organized sector. As the purpose of the study was exploration, a sample of six was deemed fit as they would represent the population of organized apparel retail outlets in Ahmedabad market – a mini metro in western India. Ahmedabad being an important hub for textile industry in the past as well as in current times, such practices were studied in this market.

Also the nature of such activities is not likely to vary across different markets because most of the outlets were part of a chain and their head office would typically plan such activities and endorse the budget and promotional calendar which these outlets would undertake during the year.

Table 2.6: Store profile and information on sales promotion activities

Store Name	Pantaloon	Megamart	Lifestyle	Westside	Wills Lifestyle	Max
Format Type	Multibrand	Exclusive	Multibrand	Exclusive	Exclusive	Multibrand
Positioning	Family Store	Value for Money	N/A	Style & Affordability	Enjoying the Change	Family shopping destination & value pricing store
Categories	Apparel & accessories for men, women and children	Menswear, women wear, home furnishing	Apparel & accessories for men and women	Stylized clothes, footwear and accessories	Relaxed wear, body care products, apparel and accessories	Foot wear, accessories, home furnishing
Promotion type	Price-off, free gifts	Price Promotion, free gifts, contests, combo offer	Discounts, free gifts, contests, lucky draws	Discount, gift vouchers, contest, combo, coupons	Discount, gift vouchers	Discount, free coupons, lucky draws

In terms of type of consumer sales promotions, everyone used discount or price-off, so it is the most common tool for the apparel retailers. Moreover, they mostly used free gift or free gift voucher to arouse more customers' wants. Few retailers used lucky draws, contests, and combo offers such as buy one get one free.

#### 2.4.1 Selecting Common Sales Promotion used by Apparel Retailers

Table 2.7: Summary of common retailers' promotion tools.

Retailers	Pantaloon	Megamart	Lifestyle	Westside	Wills Lifestyle	Max
Promotion						
Price-off	4	4	4	4	4	4
Free gift	√	√	√			
Gift voucher				4	4	
Contest		4	4			

<b>Lucky Draw</b>			√			√
<b>Free Coupon</b>						√
<b>Combo Offer</b>		√				

In conclusion, Rookie needs to study consumer preferences to fashion clothing apparel sales promotions based on the common retailers' tools. These promotion tools will be surveyed in the questionnaire to analyze both Wholesale customer and Retail customer and make decisions on implementing promotional campaigns.



## CHAPTER 3: METHODOLOGY

This chapter describes the method used in this case study to fulfill the purpose of the project. It contains the research strategy and research approach.

### 3.1 Research Strategy

This research paper applies case study methodology. The purpose of this paper is to make a study of the methods of decreasing the excess inventory which occurs in the Shop. The methods used in this paper are as follows:

- **Developing an Inventory Management Control System.**
  - o transaction, the system must be developed to control all information as a centralized visible management.
- **Studying Consumer Behavior and Preferences through a Questionnaire.**
  - o Understand consumer behavior to encourage better sales and reduce excess inventory.

### 3.2 Research Approach

#### 3.2.1 Developing an Inventory Management Control System.

The approach is to design an appropriate Worksheet for the shop. According to the literature review in chapter 2, the mentioned companies are using Worksheet as their inventory management objective, adding further functions, and applying it through to the business appropriately. Rookie's objective is to control inventory flow in the shop systematically.

For Rookie, an additional function in the Worksheet is the Promotional Alert, this function assists the shop to notice which SKUs should be in a sales promotion campaign.



Table 3.1: Rookie Inventory Management Worksheet (Part1)

INVENTORY MANAGEMENT SHEET OF JULY																						
SKU	COST	Markup	Selling	Last Month	JULY				AUGUST				SEPTEMBER				OCTOBER				Stock-In	Stock-out
	BAHT		Price	Qty Sales	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
507GZ5176	115	184	190	0	1			1			2			1		35				40		
507GZ5177	115	184	190	37		2	1													40		
507GZ5182	109	174.4	180	46	5			1				1				2				60		
507GZ6183	118	188.8	190	58		1	1			1										60		

The table above mentions the inventory management sheet designed and developed in the Microsoft Excel sheet. The sheet contains Rookie's SKUs which are currently more than 500 SKUs, cost of product in Thai baht, estimated mark up price (about 60% of product cost), actual selling price, day, quantity of sold items in the last month, total number of stock in and stock out. The Excel sheet will enable accurate calculation on the remaining inventory level by simply subtracting the number of sold products from total stock in.

Table 3.2: Rookie Inventory Management Worksheet (Part2)

Stock-In	Stock-out	Overall	Inventory	Product cost for	Wholesale	Retail	Total	Actual	Alert
		Inventory	Cost	Sold Item	Income	Income	Income	Income	
40	40	0	1460	4600	7410	290	7700	1640	Sold out
40	3	0	5	345	190	580	770	420	Sold out
60	13	1	345	1417	1260	1680	2940	1178	Not yet
60	2	0	5	236	190	290	480	239	Sold out
60	0	2	140	0	0	0	0	-140	Launch Promotion

This table also indicates that the sheet provides the important Alert for each SKU. The Worksheet practically enables alerts of "Sold out" or "Launch promotion" whenever the cost reaches through the break-even of profit. This mean that if the actual income is less than or equal to zero, "Launch promotion" will appear in the Worksheet. On the other hand, if the shop is able to sell all stock, "Sold out" will be also alerted.

This is beneficial for reminding the shop to realize the SKU life cycle, because some SKUs should be sold as fast as possible to avoid the **higher** inventory cost that leads to a loss to the business.

3.2.2 Studying Consumer Behavior and Preference through a Questionnaire.

According to the objective of the project, Rookie attempts to reduce the excess inventory. The consumer behavior and preferences are the issues to be studied; the result from the study will be applicable to customers by serving consumer need and being compatible with the Inventory Management system sheet, which is the promotional alert. In order to study through a questionnaire, Hypothesis and Sampling Procedures are required.

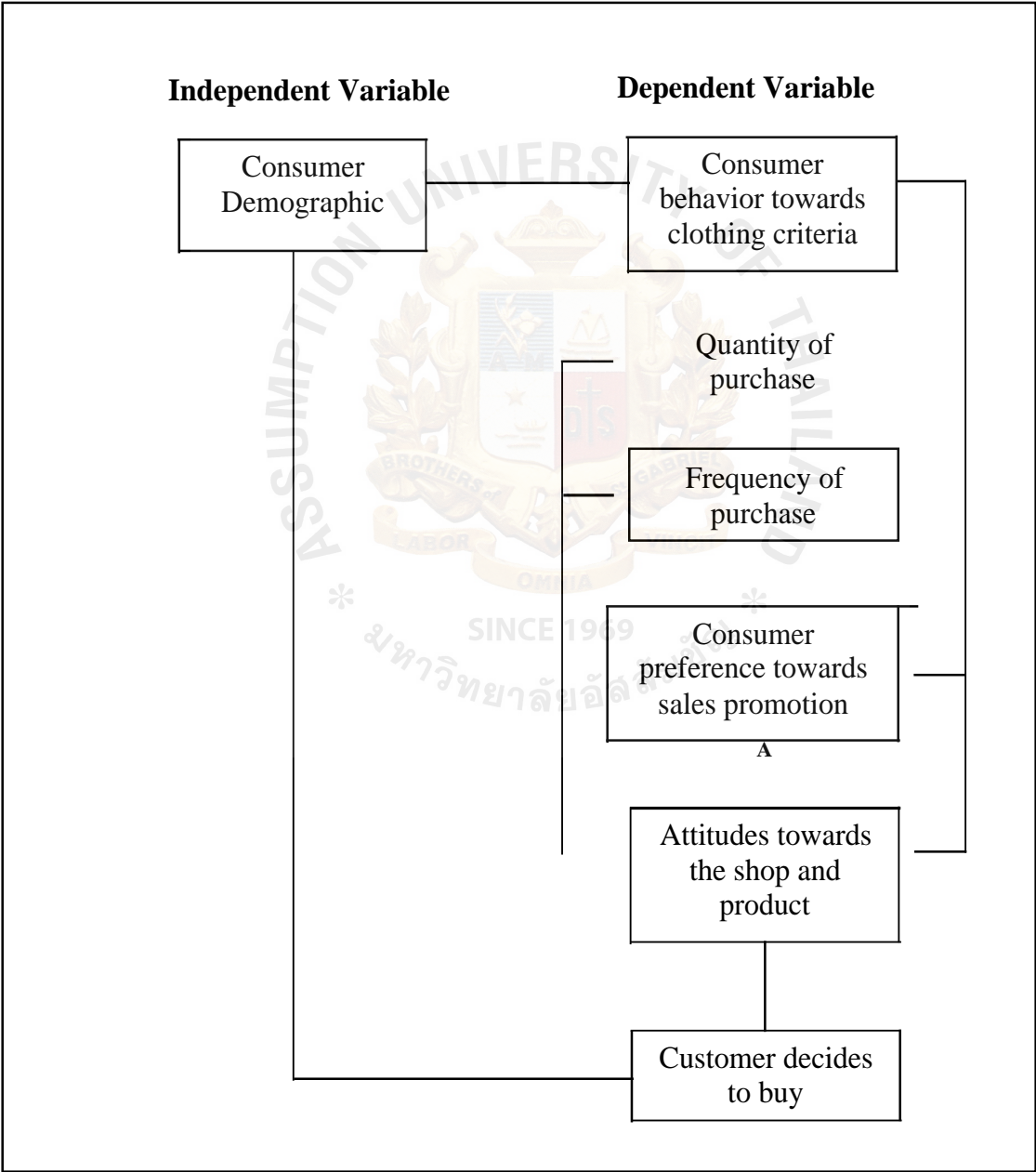


Figure 3.1: Hypothesis Framework of Independent variable and dependent variables of the consumer-buying decision.

### 3.2.2.1 Hypotheses

With regard to the literature review in Chapter 2, there are survey issues for measuring consumer-buying decisions. One is to measure consumer behavior towards clothing criteria in terms of what criteria a consumer actually chooses before making a decision to buy. The other is to measure consumer preference towards sales promotions in terms of what sales promotion consumers most prefer and can arouse them to buy products. Moreover, it is important to find the relationship between variables in order to be convinced by the result of hypothesis. It is hypothesized that:

H1: Consumer Demographics have a significant effect on Attitudes towards the shop and products.

H2: Consumer considers clothing criteria buying decision has an effect on Attitudes towards the shop and products.

H3: Frequency of purchase has an effect on Attitude towards the shop and products.

H4: Quantity of purchase has an effect on Attitude towards the shop and products.

H5: Sales promotion has an effect on Attitude towards the shop and products.

H6: Consumer considers clothing criteria has an effect on Attitudes towards sales promotions.

A Questionnaire survey is employed as a tool to collect the' information from customers. The structure of the questionnaire consists of three sections: (A) Consumer Demographic, (B) Consumer behavior and preference of Wholesale customer, and (C) Consumer behavior and preference of Retail customer. The first part contains 4 questions, while Second and Third part contain 9 questions. The data collection from the answer will be analyzed accordingly.

Table 3.3: Statistical Method Usage (Thanin, 2008)

Statistical Method	Chi-Square	Pearson Correlation	Spearman Rank Correlation
Nominal Scale			
Ordinal Scale	✓		if
Interval Scale	✓	✓	
Ratio Scale	✓	✓	

In order to select the right statistical method, comparing the conditions of each method is required. Referring to the Level of Measurement, there are different usages in each method. The details of Level of Measurement are the followings:

- *Nominal Scale*: Data classification which allocates to different categories.
- *Ordinal Scale*: Data are arranged in order of magnitude but there is no standard measure of degrees of difference between them.
- *Interval Scale*: Differences between values can be quantified in absolute terms but zero point is fixed arbitrarily.
- *Ratio Scale*: Differences between values can be quantified in absolute terms and a fixed zero point is defined.

Table 3.3, mentioned the statistical methods, which are Chi-Square, Pearson's Correlation, and Spearman Rank Correlation, which have the same objective of verifying relationship between two variables but are different in terms of usage conditions. The usage conditions indicate that Spearman Rank Correlation can only be applicable with an Ordinal Scale. Pearson's Correlation can only be applicable with an Interval Scale and Ratio Scale, while Chi-Square can be applicable with all methods, however at least one of variables that is used in the measurement must be based on a Nominal Scale.

On testing this Hypothesis, SPSS will be used to analyze the result and find the relationship between variables in the hypothesis. In this case, Chi-square is only one tool applicable because the developed questionnaire is customer-oriented. Therefore, all questions are only in the range of Nominal and Ordinal Scales. Chi-Square is a comparison tool based on nominal scale versus every level of measurement for testing

both Independent variables and Dependent variables, with an identifying level of significance ( $\alpha$ ) of 0.05 or the margin of error that can be accepted (95% of reliability). Meaning, if P value or Probability is less than 0.05, it is interpreted as rejecting  $H_0$  and accepting  $H_1$ . On the other hand, if P value is greater than 0.05, then  $H_1$  is rejected and  $H_0$  is accepted.

$H_0$ :  $p = 0$  has no effect or relationship between variables.

$H_1$ :  $p \neq 0$  has effect on relationship between variables. (Thanin, 2008)

Table 3.4 Summaries of Hypotheses and Statistical Methods Used

HYPOTHESIS	STATISTICAL USED
H1: Consumer Demographic has a significant effect on Attitudes towards the shop and products	Chi-Square
H2: Consumer considers clothing criteria buying decision has an effect on attitude towards the shop and products.	Chi-Square
H3: Frequency of purchase has an effect on attitude towards the shop and products.	Chi-Square
H4: Number of piece(s) has an effect on attitude towards the shop and products	Chi-Square
H5: Sales promotion has an effect on attitude towards the shop and products.	Chi-Square
H6: Consumer considers clothing criteria has an effect on Sales promotion	Chi-Square

### 3.2.2.2 Sampling Procedures

The questionnaire was distributed to both wholesale customers and retail customers, specifically to who comes into Rookie's shop. The goal was to obtain at least 132 completed questionnaires according to the identifying sample size formula (From a population of 200 approximately walk-in people and customers).

$$n = \frac{N}{1 + N(e)} \quad (\text{Thanin, 2008})$$



Such that:      n = Sample Size  
                     N = Population Size  
                     e = margin of error at 5%

Therefore:

$$n = \frac{200}{1 + 200 (0.05)^2}$$

$$= 132 \text{ people}$$

Table 3.5: Determining Sample Size for Research Activities by (Krejcie & Morgan, 1970)

Population	Sample Size	Population	Sample Size	Population	Sample Size
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	156	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	323
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	334
70	60	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	347
85	70	440	205	4000	352
90	73	460	210	4500	356
95	76	480	214	5000	357

100	80	500		6000	361
110	86	550		7000	364
120	92	600		8000	
130	97	650		9000	368
140	103	700	1	10000	370
150	108	750	1	15000	375
160	113	800	260	20000	377
170	118	850	26	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

As Rookie has about 200 customers who come to shop, the sample size will be at least 132 people used in the case study.

## CHAPTER 4: RESULT AND ANALYSIS

This chapter will discuss the result of developing an inventory management control system compatible with the result of the study of consumer behavior and preference obtained through the questionnaire.

According to Chapter 3, the inventory management for the shop is totally circulated in Excel worksheet. All information of transactions each day must be recorded and summarized manually in Worksheet: the quantity of stock-in, stock-out, inventory cost per day, and actual income. The result is that every unit of product is identified for tracing accurately, it causes the shop has no product loss or over. As the following example in the Table below, when the shop has sold all stock of the SKU, the Worksheet obviously shows that there is no inventory left, which is accurate to the actual inventory in the shop.

Table 4.1: Rookie Inventory Management Worksheet (Part 3)

Stock-In	Stock-out	Overall Inventory	Inventory Cost	Product cost for Sold Item	Wholesale Income	Retail Income	Total Income	Actual Income	Alert
40	40	0	1460	4600	7410	290	7700	1640	Sold out
40	3	5	345	345	190	580	770	420	Sold out
60	13	1	345	1417	1260	1680	2940	1178	Not yet
60	2	0	5	236	190	290	480	239	Sold out
60	0	2	140	0	0	0	0	-140	Launch Promotion

Moreover, after the shop has the inventory management system, which is able to produce alerts for reminding to launch promotions, the subsequent issue is to launch the appropriate promotion.

This chapter also describes summary information of the respondents and data analysis of the study of customer's perspectives towards Rookie's shop and is used as a helpful decision-making tool, analyzing customer's perspectives, consumer behavior and customer preferences in the Bangkok area. There are three parts in this chapter. First, it describes Demographics. Second, it describes customer's perspective, behavior and preference towards shopping activity for wholesale customers. Third, it

describes customer's perspective, behavior and preference towards shopping activity for retail customers.

#### 4.1 Result Summary

The summary of results was produced from a total of 137 questionnaires, as mentioned in the following:

##### 4.1.1 Demographic Result (Wholesale Customer)

Table 4.2 Age

Age	Frequency	Percent
Under 21	3	3.7
21-30	34	42.0
31-40	34	42.0
Above 40	10	12.3
Total	81	100.0

From Table 4.2, the number and percentage of ages from a total of 81 questionnaires. The most important observation is in the age interval 21-30 and 31-40 (42.0%).

Table 4.3 Gender

Gender	Frequency	Percent
Male	9	11.1
Total	81	100.0

From Table 4.3, the number and percentage of gender from a total 81 of questionnaires. The most important observation is female (88.9%)

Table 4.4 Average Income

Average Income	Frequency	Percent
Less than 15,000	6	7.4
15,000-25,000	23	28.4
25,001-35,000	32	39.5
Above 35000	20	24.7
Total	81	100.0

From Table 4.4, the number and percentage of average income from a total of 81 questionnaires. The most important observation is in the average income interval 25,001-35,000 Baht (39.5%).

Table 4.5 Frequency of shopping

Frequency of shopping	Frequency	Percent
More than twice a week		8.6
Twice a week	20	24.7
Twice a month	15	18.5
	12	14.8
Longer than once a month		3.7
Total	81	100.0



Table 4.7 Gender

Gender	Frequency	Percent
Male	1	1.8
Female	55	98.2
Total	56	100.0

From Table 4.7, the number and percentage of gender from a total of 56 questionnaires. The most important observation is female (98.2%)

Table 4.8 Average Income

Average Income	Frequency	Percent
Less than 15,000	17	30.4
15,000-25,000	17	30.4
25,001-35,000	16	28.6
Above 35000	6	10.7
Total	56	100.0

From Table 4.8, the number and percentage of average income from a total of 56 questionnaires. The most important observation is the equality in the average income interval 15,000-25,000 Baht and 25,001-35,000 Baht (30.4%).

Table 4.9 Frequency of shopping

Frequency of shopping	Frequency	Percent
More than twice a week	3	5.4
Twice a week	3	5.4
Once a week	14	25.0
Twice a month	15	26.8
Once a month	9	16.1
Longer than once a month	12	21.4
Total	56	100.0

From Table 4.9, the number and percentage of frequency of shopping from a total of 56 questionnaires. The most important observation is shopping twice a month.. (26.8%).

#### 4.2 Customer's perspective, behavior and preference towards Shopping Activity by Wholesale Customers

According to chapter 3, Chi-Square is generally used to study the relationship between dependent variables and independent variables.

Table 4.10 Chi-Square testing result summary of H1

Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)
age * shop and product	2.393(a)	6	0.88
gender * shop and product	1.666(a)	2	0.435
income * shop and product	5.298(a)	6	0.506

Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H1 found that the significance value of all demographic factors is greater than the level of significance ( $\alpha$ ) 0.05. The result can be concluded that there are no demographic factors, which have an effect on attitude toward the shop and product.

Table 4.11 shows the most important criteria affecting your buying decision for wholesale customer.

Criteria	1	2	3	4	5
Style	26	12	9	2	1
Color / Design	11	17	8	9	3
Price	9	15	15	7	4
Brand	3	1	4	4	2
Store / Store image (Display)	2	10	21	5	7
Fit / Sizing	1	0	5	13	10
Country of Origin	0	0	0	0	2
Coordination with wardrobe	0	0	0	0	0
Salesperson's evaluation	0	2	0	1	6
Department in Store	0	0	0	0	0

Approval of others	0	0	1	1	0
Warranty	0	0	0	0	0
Fabric	0	3	7	6	6
Appearance	0	2	0	2	7
Fibre content	0	0	0	4	0
Care	0	0	1	0	1
Durability	0	0	0	0	1
Comfort	0	0	0	0	0
Safety	0	0	0	0	0
Colorfastness	0	0	0	0	0
Construction Workmanship	0	0	0	0	1
Physical	0	0	0	0	1

Table 4.11 There are 6 most important criteria for wholesale customers. The most important factor is Style followed by Color / Design, Price, Brand, Store / Store image (Display) and Fit / Sizing respectively, Those 6 criteria will be used to test Hypothesis 2.

Table 4.12 Chi-Square testing result summary for H2

Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)
shop and product * brand	4.656(a)	10	0.913
shop and product * store	0.593(a)	6	0.997
shop and product * fit&sizing	3.719(a)	8	0.882

Table 4.13 CM-Square testing result summary for H3

Pearson CM-Square	Value	Df	Asymp. Sig. (2-sided)
frequency * shop and product	6.440(a)	10	0.777

Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H3 found that the significance value of frequency greater than the level of significance ( $\alpha$ ) 0.05. It can be concluded that frequency of purchase factor has no effect on attitude toward the shop and product.

Table 4.14 Chi-Square testing result summary for H4

Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)
quantity * shop and product	54.701(a)	8	0.000

Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H4 found that the significance value of quantity of purchases is less than the level of significance ( $\alpha$ ) 0.05. Therefore, quantity of purchase factor has an effect on attitude toward the shop and product.

Table 4.15 CM-Square testing result summary for H5

Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)
promotion * shop and product	81.019(a)	4	0.000

Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H5 found that the significance value of promotion is less than the level of significance ( $\alpha$ ) 0.05. Therefore, sales promotion factor has an effect on attitude toward the shop and product.

Table 4.16 Summary for Most preferred promotion of Wholesale customers

Promotion Type	Frequency	%
Buy 1 piece of Sales SKU in Wholesale price.	1	4.4
Buy Sales SKU and mix with new collection in total up to 3 pieces, get 5% off discount of Wholesale price.	10	12.3
Buy up to 3 pieces of Sales SKU, get 10% off discount of Wholesale price.	11	13.6
Buy up to 5 pieces of Sales SKU, get 25% off discount of Wholesale price.	6	7.4
Buy up to 12 pieces of Sales SKU, get 50% off discount of Wholesales price.	2	2.5
Buy 6 pieces of Sales SKU, get 2 pieces free of Sales SKU (Combo Offer).	0	0
Buy 6 pieces of Sales SKU, get free Scarf and Accessories (Free gift).	0	0
Buy 6 pieces of Sales SKU, get 1 piece free of any collection for next buying (Gift voucher).	0	0
Buy Sales SKU up to 1,000 Baht, receive 25% off discount of Wholesale price for any collection coupon for next buying (Coupons)	3	3.7
Buy Sales SKU up to 1,000 Baht, have a chance to draw the special rewards from shop (Lucky Draws)	1	1.2
No answer	12	14.8
<b>Total</b>	<b>81</b>	<b>100</b>

Table 4.16 shows frequency of promotion type with most preference from wholesale customers, and the result is Buy 1 piece of Sales SKU at Wholesale price (44.4%).

Table 4.17 Chi-Square testing result summary for H6

promotion type * style	54.853(a)	6	0.000
promotion type * color	84.685(a)	10	0.000
promotion type * price	57.454(a)	10	0.000
promotion type * brand	17.819(a)	10	0.058
promotion type * store	1.984(a)	6	0.921
promotion type * fit&sizing	8.073(a)	8	0.426



Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H6 found that the significance value of brand, store / store image (display) and fit & sizing factor is greater than the level of significance ( $\alpha$ ) 0.05. The result can be concluded that brand, store and store image (display) and fit & sizing factors have no effect on attitude toward promotion. But the significance value of style, color and price factor is less than the level of significance ( $\alpha$ ) 0.05. Therefore, style, color and price factors have an effect on attitude toward promotion.

Table 4.18 Other Recommendations

Recommendations	Frequency	Percent
Membership	3	3.7
Buy 1 Free 1	2	2.5
Do not answer	50	61.8
Total	81	100.0

#### 4.3 Customer's perspective, behavior and preference towards Shopping Activity for Retail Customers.

According to Chapter 3 Chi-Square is generally used to study the relationship between dependent variables and independent variables.

Table 4.19 Chi-Square testing result summary for H1

Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)
age * shop and product	3.258(a)	6	.776
gender * shop and product	.145(a)	2	.930
income * shop and product	3.563(a)	6	.736

Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H1 found that the significance value of all demographic factors is greater than the level of significance ( $\alpha$ ) 0.05. The result can be concluded that there are no demographic factors, which have the effect on attitude toward the shop and product.

Table 4.20 shows the most important criteria affecting your buying decision for Retail Customers.

Criteria	1	2	3	4	5
Style	35	25	18		
Price	24	22	33		
Color/ Design	13	26	27		
Brand	4	1	1	9	-
Store / Store image (Display)					
Fabric	1	3	3	18	17
Fit / Sizing	1	0	3	16	
Country of Origin	0	0	0	0	1
Coordination with wardrobe	0	0	0	0	0
Salesperson's evaluation	0	1	1	4	3
Department in Store	0	0	0	1	0
Approval of others	0	0	0	0	1
Warranty	0	1	0	0	1
Appearance	0	0	2	10	13
Fibre content	0	0	0	0	0
Care	0	0	0	3	1
Durability	0	0	0	0	2
Comfort	0	0	0	0	2
Safety	0	0	0	0	0
Colorfastness	0	0	2	0	2
Construction Workmanship	0	0	0	0	0
Physical	0	0	0	0	0

In Table 4.20 there are 7 most important criteria for retail customers. The most important is Style, followed by Price, Color / Design, Brand, Store I Store image (Display), Fabric and Fit / Sizing by order consequently. Those 7 criteria will also be used to test Hypothesis 2.

Table 4.21 CM-Square testing result summary for H2

Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)
shop and product style	37.079(a)	10	.000
shop and product price	37223(a)	10	.000
shop and product color	28.128(a)	10	.002
shop and product * brand	2.667(a)	10	.988
shop and product * store	3.325(a)	8	.912
shop and product * fabric	4.824(a)	8	.776
shop and product * fit/sizing	9.050(a)	8	.338

Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H2 found that the significance value of brand, store, fabric and fit/sizing factor is greater than the level of significance ( $\alpha$ ) 0.05. It can be concluded that brand, store, fabric, and fit&sizing factors have no effect on attitude toward the shop and product. But the significance value of style, price, and color/design factors is less than the level of significance ( $\alpha$ ) 0.05. Thus, style, price, and color/design factors have an effect on attitude toward the shop and product.

Table 4.22 CM-Square testing result summary for H3

Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)
frequency * shop and product	18.984(a)	10	.040

Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H3 found that the significance value of frequency is less than the level of significance ( $\alpha$ ) 0.05. It can be concluded that frequency of purchase factor has an effect on attitude toward the shop and product.

Table 4.23 CM-Square testing result summary for H4

Pearson CM-Square	Value	df	Asymp. Sig. (2-sided)
quantity * shop and product	58.514(a)	6	.000

Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H4 found that the significance value of quantity of purchase is less than the level of significance ( $\alpha$ ) 0.05. Therefore, quantity of purchase factor has an effect on attitude toward the shop and product.

Table 4.24 Chi-Square testing result summary for H5

Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)
Promotion * shop and product	56.533(a)	4	.000

Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H5 found that the significant value of promotion is less than the level of significance ( $\alpha$ ) 0.05. Therefore, sales promotion factor has an effect on attitude toward the shop and product.

Table 4.25 Summary for Most preferred promotion of Retail customers

Promotion Type	Frequency	%
Buy 1 piece of. Sales SKU in Wholesale price.	30	53.6
Buy 1 piece of Sales SKU, get 30% off discount of Retail price.	4	7.1
Buy 1 piece of Sales SKU, can mix with 1 piece of new collection in both Wholesale price.	4	7.1
Buy up to 3 pieces of Sales SKU, get 10% off discount of Wholesale price.	3	5.4
Buy 4 pieces of Sales SKU, get 1 free Scarf or Accessories (Free Gift)	1	1.8
Buy Sales SKU up to 600 Baht, have a chance to draw the special rewards from shop (Lucky Draws)	3	5.4
No answer	11	19.6
<b>Total</b>	<b>56</b>	<b>100.0</b>

Table 4.25 shows frequency of promotion type that is most preferred from retail customers. The result indicates Buy 1 piece of Sales SKU at Wholesale price is the most preferred (53.6%).

Table 4.26 Chi-Square testing result summary for H6

Pearson Chi-Square	Value	df	Asymp. Sig. (2-sided)
promotion type * style	38.123(a)	10	.000
promotion type price	45.219(a)	10	.000
promotion type color	38.389(a)	10	.000
promotion type * brand	10.709(a)	10	.381
promotion type * store	4.894(a)	8	.769
promotion type * fabric	7.376(a)	8	.497
promotion type * fit&sizing	8.698(a)	8	.368

Remark: Significant at  $\alpha = 0.05$

Hypothesis testing of H6 found that the significance value of brand, store / store image (display), fabric and fit & sizing factor is greater than the level of significance (a) 0.05. Thus, brand, store / store image (display), fabric and fit & sizing factors have no effect on attitude toward promotion. But the significance value of style, price and color factors is less than the level of significance (a) 0.05. This can be concluded that style, price and color factors have an effect on attitude toward promotion.

Table 4.27 Other Recommendations

Recommendations	Frequency	Percent
Membership program	19	33.9
50% Discount	2	3.6
Do not answer	35	62.5
Total	56	100.0



#### 4.4 Result Analysis

Table 4.28 Summary of Hypotheses and Statistical Method Used

HYPOTHESIS	STATISTICAL USED
H1: Consumer Demographic has a significant effect on Attitudes towards the shop and products	Chi-Square
H2: Consumer considers for clothing criteria buying decision has an effect on attitude towards the shop and products.	Chi-Square
H3: Frequency of has an effect on attitude towards the shop and products	Chi-Square
H4: Number of piece(s) has an effect on attitude towards the Shop and products	Chi-Square
H5: Sales promotion has an effect on attitude towards the Shop and product.	Chi-Square
H6: Consumer considers clothing criteria has an effect on Sales promotion	Chi-Square

Table 4.29 Result Summary of Hypotheses

Ho:  $p = 0$  has no effect or relationship between variables.

H1:  $p \neq 0$  has effect or relationship between variables.

HYPOTHESIS	WHOLESALE	RETAIL
H1	Cannot Reject Ho, Reject H1	Cannot Reject Ho, Reject H <sub>1</sub>
H2	Reject Ho, Cannot Reject H1	Reject H <sub>0</sub> , Cannot Reject H <sub>i</sub>
H3	Cannot Reject Ho, Reject H1	Reject Ho, Cannot Reject H1
H4	Reject Ho, Cannot Reject H1	Reject Ho, Cannot Reject H1
H5	Reject Ho, Cannot Reject H1	Reject Ho, Cannot Reject H1
H6	Reject Ho, Cannot Reject H <sub>i</sub>	Reject H <sub>0</sub> , Cannot Reject H1

From the result of the study, it is found that in the Wholesale business, the age interval of customer is mostly between 21-40 years old, which accounts for 84% of total customers, and they are mostly female customers with a highest average income of 25,001-35,000 or 39.5% of total customers. For Retail business, most customers

are female in the age interval of 21-30 years old, which accounts for 62.5% and significant average incomes are Less than 15,000 Baht, and 15,000-25,000 Baht account for 30.4% for each interval. However, referring to the result in Tables 4.10 and 4.19, it indicates that consumer demographics have no effect on attitudes towards the shop and product for both type of customers, because even each demographic for each customer is different but their attitude depends on their behavior not age, gender, or income.

Therefore, the study of consumer behavior is important. Table 4.11 indicates the Wholesale customer's 6 most important criteria affecting buying decision for wholesale customer, which are Style, Color! Design, Price, Brand, Store / Store Image (Display) and Fit/ Sizing respectively. And Table 4.20 indicates the Retail customer's 7 most important criteria which are Style, Price, Color/Design, Brand, Store Store Image (Display), Fabric and Fit/ Sizing respectively. Those criteria were used to test the relationship with the attitudes towards the shop and its products which is Hypothesis 2 testing. For the result in the Wholesale part, Style, Color / Design, and Price factor have an effect on attitude towards shop and product while other criteria have no effect. While the Retail part shows the three same important criteria, they are different only in the order of preferences, which are that Style, Price, and Color / Design have an effect on attitude towards the shop and products. It means that for consumer behavior in buying clothes, for both two types of customer, the three most important criteria are used to arouse customers to buy the product.

Next, for wholesale customers, frequency of purchase factor has no effect on attitude towards the shop and products. The reason is that it depends on Wholesale customer **performance**. The faster they can sell the more frequency of buying, so that there is no effect on attitudes towards the shop and product. On the other hand, the result shows that frequency of purchase factor has an effect on attitude towards the shop and products for retail customer because they buy for their own usage, so that if they prefer and love Rookie shop they will come more often, and that increases the chance to sell more and reduce stock.

The result of Hypothesis 4 shows that quantity of purchase factor of both wholesale and retail customers has an effect on attitude towards the shop and products, because

the shop requires a minimum of three pieces for wholesales buying, and retail customers mostly also prefer to buy the product at a wholesale price. Thus, customers have to find three pieces of their favorite clothes before they decide to buy.

Importantly, for both types of customer, sales promotion has an effect on attitude towards shop and product (Hypothesis 5). It can be interpreted that sales promotion can also arouse customer to buy more of the product.

Style, color and price factor have an effect on attitude toward promotion for both wholesale and retail customers (Hypothesis 6). This means that besides customers having their consideration on clothing criteria; they also prefer sales promotions as another incentive to buy the product.

Table 4.30: Summary of implementation

Implementation	WHOLESALE	RETAIL
1	Cutting Own Rookie Brand Style of Vintage, Chic, and Working Women	
2	Offer at least various 3 colors per SKU	
3	Lower the selling price	
4	-	Membership Program
5	Buy 1 pieces at Wholesale price	

In conclusion, the relationship between the above Hypotheses can be summarized that the shop must consider three most important criteria which are Style, Color / Design, and Price. Firstly, as mentioned in the Company background, the Rookie shop has competitive advantage on its "unique style of clothes", and from the result of ABC Analysis as mentioned in Chapter 2, the shop will focus only on the styles of Vintage, Chic, and Working Women, but there is always a problem of competitors' substitute products. Therefore, Rookie will focus mainly on its own style (based on style of Vintage, Chic, and Working Women) by cutting clothes of its own Rookie brand in order to develop stronger loyalty, because customer will not see the same SKU at other competitors' shop. Secondly, the shop currently offers only two colors per SKU,

and that may causes customers to be able to buy only two pieces of that SKU which is not enough for Wholesale buying, so the shop will offer at least three colors for customers to have more choice. Obviously, the quantity of the product that customers decide to buy also depends on the above criteria. Lastly, as the shop has decided to cut more clothes in its own Rookie brand, the shop has found that cutting its own brand has lower cost than suppliers' imported clothes because shop can select its own preferred fabric, color or design: in such a situation, the overall product cost will be under shop's control, resulting in Rookie's selling price being lower accordingly.

According to the customer expectation of sales promotions they would like to see in Rookie, many aspects of the answer were discovered through the questionnaire. The most frequent expectation from Retail customers is that they would like Rookie to offer them a membership program like a bonus card. For example, they can collect points from buying Rookie products, and then collect a reward of discount or free gift whenever the points reach a specific target. However, this implementation can only be applicable to retail customer because Hypothesis 3 indicated the result that frequency of purchase of retail customer has an effect on attitude towards shop and its products. Thus, in order to increase the frequency, a marketing program can be used as a tool, and importantly it is what customer prefer. While wholesale customers have no effect on the same issue because of the rejection of  $H_1$  in Hypothesis 3.

Moreover, clothing criteria also has an effect on sales promotions, which verifies that customer considered both clothing criteria and sales promotions. Referring to Tables 4.16 and 4.25, wholesale customer and retail customer prefer to buy one piece at Wholesale price, so Rookie shop should implement this promotion whenever one of the SKU alerts occurs to launch the promotion in Excel Worksheet. In case those criteria will still be unable to serve customer needs, sales promotions can help to arouse more need to buy. The result of this implementation will enable the clearing of obsolete stock as fast as possible, fast and more frequent inventory turnover, and importantly help the shop hold less inventory, which is the main objective of this case study.

## **CHAPTER 5: CONCLUSION AND RECOMMENDATION**

### **5.1 Conclusion**

Chapter 1 mentioned the important objectives of this case, which consists of (1) to study how to reduce excess inventory, (2) to find what is the appropriate tool to improve and control the inventory management system, and (3) to understand consumer behavior and preferences both in Wholesale and Retail customers and attempt to serve these consumer needs.

Initially, the most crucial issue for this case is to reduce excess inventory. Customer demand is almost unpredictable in the fashion business. Therefore, the inventory model such as EOQ (Economic Order Quantity) cannot be applicable for this case because EOQ assumes demand to be constant but the fashion business creates fluctuation in demand and is always altering and changing style, design, pattern, etc along with seasonality. This means that there are no repeat orders for the same SKU, and only small lot size is ordered each time, which are the reasons why the shop cannot forecast customer demand for future SKUs. The methodology used will be connected to the objective (3); the shop must understand consumer behavior and preferences both in Wholesale and Retail customers.

Also, the second objective is to find an appropriate tool to improve and control the inventory management system is. As the Rookie shop is only a small retail business, the huge investment from implementing an ERP system in the shop is not as valuable as the Excel Worksheet which can be very applicable for the Rookie business. It provides information about current products or inventory availability, total cost, total sales of Wholesale and Retail, actual income, and stock alerts. It encourages the shop to have a systematic approach to recording every transaction of each day to prevent the problem of inventory shortage / loss or over stock and also be the reminder of each SKU status.

Finally, a discussion in Chapter 4 was about the results of the study consumer behavior and preferences both in Wholesale and Retail customers. The shop already understood the customers' perspective. Thus, the Rookie shop can implement the



right strategy to persuade customers to buy more, which is also a response to the main objective (1), to reduce excess inventory.

## **5.2 Limitations**

According to the methodology used, there were limitations in implementing the case study, as follows:

1. All information and transaction have to be inputted into the Inventory Management System Sheet manually.
2. The competitors' strategies may affect the needs of customers.
3. The condition of each SKU sales promotion has to be developed according to the total cost and appropriateness that the shop can offer.
4. Customers may have been biased in answering the questionnaire..
5. Perspectives from the people, who do not come into the shop, are from people not used to analyzing their preferences.

## **5.3 Recommendations**

1. The consumer behavior towards clothing criteria of this case study does not ask customer about the details of their behavior. The result identifies what their most important criteria are (Style, Color / Design, and Price) but does not mention what kind of exact style customers prefer. A further study could enhance a more accurate implementation.
2. The effect from external factors may affect switching in customer decisions to buy products from the Rookie shop, which will cause higher inventory levels. In the highly competitive market, there are many risks affecting the Rookie shop by competitors' actions or strategies such as imitation, promotion, or price war. Competitor analysis should be the issue for further study.
3. For the implementation of developing an inventory management system, the case study's approach is still based on a simple Excel Worksheet, which is, required manually to key in data and information. Another tool or a specifically created

software / program may offer better results and be appropriate to the specific business than the Excel Worksheet.

Finally, the crucial benefit that the shop gains from this case study is that the Rookie shop will be able to understand more of their behavior in selecting their own criteria and know what promotions customer prefer the most, which Rookie never realized before. In the past one year that the shop has been open, every strategy and every decision was based on guess and human judgment. Therefore, the result and implementation of this case study will strongly support the business and move it forward through a balanced level of inventory.



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## APPENDIX

### Questionnaire

Rookie's Questionnaire Constraint:

This questionnaire is designed to study customer's perspectives towards the Rookie shop and is used as a decision-making tool, analyzing customer's perspectives, consumer behavior and customer preferences. Researching this material is a partial fulfillment of the Requirements for the Degree of Master of Science in Supply Chain Management Assumption University.

This survey will serve as a reference and for educational purpose only. The researcher seeks your co-operations by responding to the questionnaire. All your responses will be kept completely confidential.

#### Part A: Demographic

1. Which is your age range?

- ☐ Under 21
- ☐ 21-30
- ☐ 31-40
- ☐ Above 40

2. Gender

- ☐ Male
- ☐ Female

3. Average Income per month

- ☐ Less than 15,000 Baht
- ☐ 15,001 – 25,000 Baht
- ☐ 25,001 – 35,000 Baht
- ☐ Above 35,000

4. Objective of Buying

- ☐ Wholesale (Resell at my retail shop) **Please forward to Part B**
- ☐ Retail (Buy for my own usage) **Please forward to Part C**



## Part B: Customer's perspective, behavior and preference towards Shopping Activity for Wholesale Customer

1. How often do you shop at Rookie?

- ☐ More than twice a week
- ☐ Twice a week
- ☐ Once a week
- ☐ Twice a month
- ☐ Once a month
- ☐ Longer than once a month

2. Do you buy a product from Rookie every time you come?

- ☐ Yes (Answer question 3)
- ☐ No (Forward to question 4)

3. Do you always buy a product from Rookie without any criteria?

- ☐ Yes (**Finished the questionnaire**)
- ☐ No (Forward to question 4)

4. How many piece(s) do you often buy from Rookie at each time?

- ☐ 3
- ☐ 4-10
- ☐ More than 10

5. Do you like Rookie's overall composition? (Price, Style, Design, Brand, Quality, Fit / Sizing, Appearance, Shop image / Display, etc.)

- ☐ Like
- ☐ Don't Like

6. What are the significant criteria affecting your buying decision at Rookie shop?  
Please rank factors' importance (1= Most important, 5= Least important).

.....Price  
.....Brand  
.....Country of Origin  
.....Store / Store image (Display)  
.....Coordination with wardrobe  
.....Salesperson's evaluation  
.....Department in Store  
.....Approval of others  
.....Warranty  
.....Style  
.....Color / Design

.....Fabric  
.....Appearance  
.....Fibre content  
.....Care  
.....Fit / Sizing  
.....Durability  
.....Comfort  
.....Safety  
.....Colorfastness  
.....Construction Workmanship  
.....Physical

7. Do the sales promotions also affect your buying decision?

- ☐ Yes (Forward to question 8)
- ☐ No (**Finished the questionnaire**)

8. What type of sales promotion do you prefer the most? (Choose only one)

- ☐ Buy 1 piece of Sales SKU at Wholesale price.
- ☐ Buy Sales SKU and mix with new collection in total up to 3 pieces, get 5% off discount of Wholesale price.
- ☐ Buy up to 3 pieces of Sales SKU, get 10% off discount of Wholesale price.
- ☐ Buy up to 5 pieces of Sales SKU, get 25% off discount of Wholesale price.
- ☐ Buy up to 12 pieces of Sales SKU, get 50% off discount of Wholesale price.
- ☐ Buy 6 pieces of Sales SKU, get 2 pieces free of Sales SKU (Combo Offer).
- ☐ Buy 6 pieces of Sales SKU, get free Scarf and Accessories (Free gift).
- ☐ Buy 6 pieces of Sales SKU, get 1 piece free of any collection for next buying (Gift voucher).
- ☐ Buy Sales SKU up to 1,000 Baht, receive 25% off discount of Wholesale price for any collection coupon for next buying (Coupons)
- ☐ Buy Sales SKU up to 1,000 Baht, have a chance to draw the special rewards from shop (Lucky Draws)

9. Your expected sales promotion you want to see in Rookie

.....

.....

.....

## Part C: Customer's perspective, behavior and preference towards Shopping Activity for Retail Customer.

1. How often do you shop at Rookie?

- ☐ More than twice a week
- ☐ Twice a week
- ☐ Once a week
- ☐ Twice a month
- ☐ Once a month
- ☐ Longer than once a month

2. Do you buy a product from Rookie every time you come?

- ☐ Yes (Answer question 3)
- ☐ No (Forward to question 4)

3. Do you always buy a product from Rookie without any criteria?

- ☐ Yes (**Finished the questionnaire**)
- ☐ No (Forward to question 4)

4. How many piece(s) do you often buy from Rookie at each time?

- ☐ Less than 3
- ☐ 3
- ☐ 4-10
- ☐ More than 10

5. Do you like Rookie's overall composition? (Price, Style, Design, Brand, Quality, Fit / Sizing, Appearance, Shop image / Display, etc.)

- ☐ Like
- ☐ Don't Like

6. What are the significant criteria affecting your buying decision at Rookie shop?  
Please rank factors' importance (1= Most important, 5= Least important).

- |                                    |                               |
|------------------------------------|-------------------------------|
| Price                              | .....Fabric                   |
| Brand                              | .....Appearance               |
| .....Country of Origin             | .....Fibre content            |
| .....Store / Store image (Display) | .....Care                     |
| .....Coordination with wardrobe    | .....Fit / Sizing             |
| .....Salesperson's evaluation      | .....Durability               |
| .....Department in Store           | .....Comfort                  |
| .....Approval of others            | .....Safety                   |
| .....Warranty                      | .....Colorfastness            |
| .....Style                         | .....Construction Workmanship |
| .....Color / Design                | .....Physical                 |

7. Do the sales promotions also affect your buying decision?

- ☐ Yes (Forward to question 8)
- ☐ No (**Finished the questionnaire**)

8. What type of sales promotion do you prefer the most? (Choose only one)

- ☐ Buy 1 piece of Sales SKU at Wholesale price.
- ☐ Buy 1 piece of Sales SKU, get 30% off discount of Retail price.
- ☐ Buy 1 piece of Sales SKU, can mix with 1 piece of new collection in both Wholesale prices.
- ☐ Buy up to 3 pieces of Sales SKU, get 10% off discount of Wholesale price
- ☐ Buy 4 pieces of Sales SKU, get 1 piece of Sales SKU free (Combo Offer)
- ☐ Buy 4 pieces of Sales SKU, get 1 free Scarf or Accessories (Free gift)
- ☐ Buy 4 pieces of Sales SKU, get 1 piece of any collection free for next buying (Gift voucher)
- ☐ Buy Sales SKU up to 600 Baht, receive 15% off discount of Wholesale price for any collection Coupon for next buying (Coupons)
- ☐ Buy Sales SKU up to 600 Baht, have a chance to draw the special rewards from shop (Lucky Draws)

9. Your expected sales promotion you want to see in Rookie

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