Developing a Retail Buying Model Based on the Use of Assortment Decision Factors

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Keywords: Retail Buying, Clothing, Assortment Planning, Decision Factors, Firm Performance, Retail Environment, Buyer's Experience, Characteristics of Company

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Developing a Retail Buying Model Based on the Use of Assortment Decision Factors

by

Youngjin Bahng

Abstract

As end-consumers are surrounded by a tremendous number of multi-channel retailers and their products, clothing retailers are exposed to numerous clothing samples with a variety of styles in various price ranges, offered by onshore and offshore manufacturers. Although manufacturers or vendors offer well-salable products, a retail business may not be successful in maximizing profits without a strategic retail buying planning process.

The purpose of this study is to develop a retail buying model for clothing retailers. In order to test the variables that comprise the retail buying model, the objectives of the study are to: (a) investigate important assortment decision factors for clothing retail buying; (b) segment clothing retail buyers by their decision factor uses; (c) characterize the segments by buyer (i.e., age, gender, education, experience, employment) and company demographics (i.e., types of products, type of store, size of the firm); (d) examine the relationship between these demographic variables and the factor uses; (e) examine the influence of the factor uses on the success of assortment planning; (f) examine the influence of the success of assortment planning on firm performance; and, (g) examine the influence of extraneous variables (i.e., retail environment) on firm performance.
After two pilot tests, adjustments were made to wording in the questionnaire. Data collection, using a pen and paper questionnaire, was conducted using convenience and snowball sampling. Through this method, 425 clothing retail buyers, merchandisers, or store owners, who are involved assortment planning and buying in South Korea, participated in the survey.

A variety of statistical analyses was used to test the hypotheses. For testing Hypothesis 1, the mean and standard deviation of the assortment factor items were used to rank important decision factors for assortment planning. To test Hypothesis 2, retail buyers were segmented by their assortment decision factor use through exploratory factor analysis and K-means cluster analysis. For Hypothesis 3, Chi-square was utilized to characterize the segments of buyers and merchandisers from Hypothesis 2, using buyer and company demographics. For Hypothesis 4, Pearson and Spearman Correlations were used to test if correlations exist between buyer and company demographic variables and decision factor use. For Hypotheses 5 to 7, a Structural Equation Model (SEM) was developed to test if causal relationships exist among assortment decision factor use, the success of assortment planning, firm performance, and retail environment.

All Hypotheses were fully or partially supported. Based on the results of hypotheses testing, the finalized retail buying model was developed. The finalized retail buying model based on the use of assortment decision factors will benefit retailers by helping retail buyers to analyze available information and identify the need for additional decision factors.

Due to the use of convenience and snowball sampling as well as the limited geographic location of the survey, the finding of the current study cannot be generalized to the general population of clothing retail buyers. Future studies using probability sampling methods, utilizing qualitative methods, and/or examining in different countries, are suggested to verify the current findings and confirm the validity of the framework.
Dedication

I dedicate my dissertation work to my heavenly Father God. I will always appreciate that He has provided me with all blessings, gifts, and provisions. He has led me to come back to academia, meet the best mentors, teach university students, and finish writing my dissertation. He always blesses me and my family more than we need.

I also dedicate this work to all missionaries working for the glory of God in the world. I believe that I would not be able to concentrate on my work and take care of my family without missionary work under challenging conditions and/or in dangerous areas. I truly hope that God will keep blessing the missionaries and their family protecting them and giving them strength to do their work.
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H4. The buyer (i.e., age, gender, education, experience, employment) and company demographic variables (i.e., types of products, type of store, size of the firm) are correlated with assortment decision factor use.

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Chapter 1

Introduction

In the 21st century, a number of fashion designers around the world develop and introduce new products for consumers on a daily basis. As end-consumers are surrounded by a tremendous number of multi-channel retailers and their products, clothing retailers are exposed to numerous clothing samples with a variety of styles in various price ranges, offered by onshore and offshore manufacturers. Although manufacturers or vendors offer well-salable products, which their designers have created using their beautiful eye, a retail business may not be successful in maximizing profits without a strategic retail buying planning process.

Consumer Buying vs. Industrial Buying

In the academic literature about buyer behavior, consumer behavior has been emphasized by researchers; however, research findings and theoretical frameworks on consumer buying behavior often have little relationship with industrial buying behavior (see Figure 1; Webster & Wind, 1972). Several differences exist between the two buying processes. Consumer buying is primarily an individual decision that may or may not be made via a budget and extensive planning. In contrast, industrial buying is conducted in a formal organization, is determined by considering budget, cost, and profit, and generally involves many people in the decision process to reach organizational goals (Webster & Wind, 1972). Industrial buying falls under organizational buying (e.g., buying done by manufacturers). Sheth’s (1973) integrative model of industrial buyer behavior is best positioned for any type of industrial buying. The industrial buying behavior or process has been investigated extensively in general (e.g., Anderson & Chambers, 1985; Hunter, Kasouf, Celuch, & Curry, 2004; Johnston & Lewin, 1996;
Sheth, 1973; Webster & Wind, 1972), and other studies focused on parts of the buying process, specifically supplier selection of industry buyers (e.g., Cardozo & Cagley, 1971; Chan & Chan, 2004; Crow, Olshawsky, & Summers, 1980; Verma & Pullman, 1998).

_figure

Figure 1. Buying Behaviors in Academic Literature

Differences of Retail Buying from Industrial Buying

Retail buying behavior has a number of factors that differ from industrial buying; therefore, it is often separated from industrial buying (see Figure 1). Wagner, Etteson, and Parrish (1989) discussed the differences between industrial buying and retail buying. While industrial buyers are responsible for controlling costs when purchasing raw materials, retail buyers are responsible for both controlling costs for purchasing finished goods and generating sales by reselling the goods. Swindley (1992) noted that an industrial buying decision is often affected by engineers or production people while the retail buying decision is influenced by marketing, merchandising, and logistics. When compared to multiple industrial buying related research studies, a small number of research studies have examined retail buying. A few studies
were conducted about retail buyers’ vendor selection criteria (e.g., Arbuthnot, Slama, & Sisler, 1993; Da Silva, Davies, & Naude, 2002; Fairhurst & Fiorito, 1990; Wagner et al., 1989), and other studies focused on merchandise requirements (Fiorito, 1990; Francic & Brown, 1985; Hirschman, 1981; Nilsson & Host, 1987). Moreover, even less is known about the portion of retail buying behavior or the process focusing on assortment planning and its decision making criteria (e.g., Kang, 1999; Mantrala, Levy, Kahn, Fox, Gaidarev, Dankworth et al., 2009).

Although studies related to merchandise requirements for buying have suggested criteria for buying products, most of them were interested only in the qualitative criteria for new products presented to the retailer, and did not include the deletion or retention of products (e.g., an aspect of assortment planning; Hansen & Skytte, 1998).

**Retail Buying Planning Process and Assortment Planning**

When retail buying is a two step process, buying planning and actual buying, the retail buying planning process (i.e., step one) generally includes merchandise planning with forecasting sales, inventory management, and assortment planning (see Figure 2; Clodfelter, 2007; Frings, 2005; Goworek, 2007; Rabolt & Miler, 2009). Although assortment planning is part of the retail buying planning process, assortment decisions include decisions about product buying as well as decisions of product retention and the deletion of current products (Nilsson & Host, 1987). Assortment planning is primarily part of step one but impacts actual buying. A retailer’s assortment can be defined as an organized collection of related products carried in each store at each point in time (Kincade, Gibson, & Woodard, 2004; Kok, Fisher, & Vaidyanathan, 2006). Assortment planning includes many specific quantitative decisions for retail buying,
which are made to satisfy customers’ needs by providing the right merchandise in the right store at the right time.

![Diagram of General Retail Buying Process]

**Figure 2. General Retail Buying Process**

**Research Problem**

Successful assortment planning involves balancing the following inventory elements: (a) the variety or breadth of products or how many categories the retailer carries, (b) the depth of merchandise or how many stock-keeping units (SKUs) the retailer carries in each category, and (c) the amount of inventory allocated to each SKU (Mantrala et al., 2009). For example, a clothing retailer can plan to carry: (a) three categories (e.g., t-shirts, pants, and skirts); (b) 50 styles (or SKUs) for each category; and (c) an average of 1,000 pieces for each style for a summer season. Therefore, the retailer is carrying a total of 150,000 pieces of clothing for the season. In the relationship between variety and depth, usually the more categories a retailer carries, the lower the number of styles presented because buying is conducted within a limited budget. If a retailer plans to carry a larger number of styles, the inventory level for each style is decreased. Conversely, if retailers plan to carry more inventories per style, they need to reduce the number of styles. Making the decision of the initial level of inventory for each style is one of
the most difficult tasks for clothing retailers. Accurately forecasting customers’ demand for each style is becoming more complicated but still directly influences sell-through rate on the success of the product sale. Unless the retailer succeeds in providing customers with the expected assortment, losses occur in both current and future sales. The decision factors that retail buyers consider when they make assortment plans can vary depending on the types of products they carry, the type of store they manage, the characteristics of the company, and/or the background and experience of each buyer.

To validate retail buyers’ or merchandisers’ need for clear direction regarding assortment planning decision factors and process, interviews were conducted with five practitioners who work for apparel retailers in South Korea (see Table 1). All respondents agreed that assortment planning is very important and involves difficult decisions, and that a major part of sales and profits are determined by assortment plans. However, all respondents indicated that they were not very confident in their assortment decisions and found assortment planning to be one of the most difficult tasks in their jobs, although each had at least 12 and as many as 25 years of work experience in the fashion industry. The reason for this uncertainty was that they felt they should have considered more decision factors before buying and accurately forecasting the sales of individual items.
Table 1. Interviewees’ Information

<table>
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<td>Women’s casual wear</td>
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<td>Women’s young casual (2 brands)</td>
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*Purpose and Objectives of the Study*

The purpose of this study is to develop a retail buying model for clothing retailers. In order to test the variables that comprise the retail buying model, the objectives of the study are to: (a) investigate important assortment decision factors for clothing retail buying; (b) segment clothing retail buyers by their decision factor uses; (c) characterize the segments by buyer (i.e., age, gender, education, experience, employment) and company demographics (i.e., types of products, type of store, size of the firm); (d) examine the relationship between these demographic variables and the decision factor uses; (e) examine the influence of the factor uses on the success of assortment planning; (f) examine the influence of the success of assortment planning on firm performance; and (g) examine the influence of extraneous variables (i.e., retail environment) on firm performance.
The assortment of retail merchandise or products has been considered one of the most basic but difficult decisions for retailers to make because assortment plans are developed based on the forecasting of future sales of each individual item. Kok et al. (2006) delineated the research studies of assortment planning models into the following four streams in the fields of marketing and management: (a) product variety and product line design, (b) shelf space allocation, (c) multi-product inventory systems, and (d) consumers’ perception of variety. Many of the research studies about assortment planning models, except for the last stream, have used mathematical programming with no empirical support. Even the mathematical programs have not been able to develop a dominant solution for optimal balance of assortment planning among variety, depth, and inventory levels. In order to provide retailers with practical benefits, a product assortment planning model needs to be developed based on empirical evidence. A retail buying model based on assortment decision factors will benefit retailers by helping retail buyers to analyze available information and identify the need for additional decision factors. In addition, this work will extend the limited academic knowledge base about the field of retail buying.

Findings from this study benefits and encourage future research in this critical area of retail research. The model to be presented in this research is a clothing retail buying model, not a general buying model, so the model cannot be applied to all retail buying (e.g., groceries). As a result, the model reflects the characteristics and uniqueness of the clothing industry, and clothing retailers and academic researchers can practically utilize the results on their decision making processes for buying planning.

Research Questions

Research questions in this study are as follows:
(1) What are the most important decision factors for assortment planning?
(2) How can retailers be segmented by the assortment decision factor use?
(3) How can the segments be characterized by buyer (i.e., age, gender, education, experience, employment) and company demographics (i.e., type of products, type of stores, size of the firm)?
(4) Do the demographic variables correlate with the retail buyers’ assortment decision factor use?
(5) Do differences in the decision factor use influence the success of assortment planning?
(6) Does the success of assortment planning influence firm performance?
(7) Do extraneous variables (i.e., retail environment) influence firm performance?

Conceptual Framework: Retail Buying Model Based on the Use of Assortment Decision Factors

This study employs several theoretical and conceptual frameworks, suggested models and results from previous relevant research studies and textbooks (see Figure 3; Duncan, 1972; Kang & Kincade, 2004; Kincade & Gibson, 2010; Mantrala et al., 2009; Nilsson & Host, 1987; Da Silva et al., 2002; Silver, Pyke, & Peterson, 1998). The framework used for the research problem pertains to the clothing retail buying behavior and process, assortment decision factors, and the buying-selling cycle.

Overall, the retail buying model consists of all activities related to retailers’ merchandising process, which the retail buyer must complete to maximize sales and profitability by presenting the right merchandise at the right time and place. The cyclic model contains components from planning to firm performance. The six components of the retail buying model
Figure 3. Conceptual Framework of Retail Buying Model Based on Assortment Decision Factors (Adapted and modified from Da Silva et al., 2002; Duncan, 1972; Kang & Kincaide, 2004; Mantrala et al., 2009; Kincaide & Gibson, 2010; Silver et al., 1998)
are: (1) merchandise planning, (2) trade-offs among internal and external decision factors, (3) assortment decisions for variety, depth and inventory level for each SKU, (4) procuring merchandise, (5) sales of merchandise and evaluation of assortment planning, and (6) firm performance. The model starts with merchandise planning, which includes forecasting sales and target market demand (Kincade & Gibson, 2010). Merchandise planning is generally conducted by using information on the past seasons’ sales analysis and the results of product, customer, and market research.

After merchandise planning, retail buyers could consider and trade-off 13 internal and external decision factors (Duncan, 1972) to make assortment decisions regarding variety, depth, and inventory level for each SKU. The assortment decision involves product selection. During this process, other factors may influence the buyer’s decision making (e.g., the buyer’s background and experience, characteristics of the company; Da Silva et al., 2002; Kincade & Gibson, 2010). After the factor-based assortment decision making, retail buyers purchase and procure the merchandise (Kincade & Gibson, 2010). Depending on the size of the retail company and the number of employees within the division, the buyer may also be accountable for tasks after buying the merchandise (Kincade & Gibson, 2010). In a large retail company, the Sales Promotion Division and the Operation Division work with buyers to promote merchandise and manage stores, including hiring and training selling personnel (Kincade & Gibson, 2010). Because the purpose of this study is to develop a retail buying model based on the use of internal and external assortment decision factors, the importance of decision factors were examined. Clothing retail buyers were segmented by their use of assortment decision factors and the segments were characterized by buyer (i.e., age, gender, education, experience, employment) and company demographics (i.e., types of products, type of store, size of the firm). In addition,
### Table 2. Sources for Each Decision Factor

<table>
<thead>
<tr>
<th>Factors</th>
<th>Internal / External</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget</td>
<td>I</td>
<td>Kang &amp; Kincade, 2004; Mantrala et al., 2009</td>
</tr>
<tr>
<td>Store and floor space</td>
<td>I</td>
<td>Kang &amp; Kincade, 2004; Mantrala et al., 2009</td>
</tr>
<tr>
<td>Product brand image</td>
<td>I</td>
<td>Mantrala et al., 2009</td>
</tr>
<tr>
<td>Sales history</td>
<td>I</td>
<td>Kang &amp; Kincade, 2004</td>
</tr>
<tr>
<td>Evaluation of products</td>
<td>I</td>
<td>Kang &amp; Kincade, 2004</td>
</tr>
<tr>
<td>Product costs and markups</td>
<td>I</td>
<td>Nilsson &amp; Host, 1987</td>
</tr>
<tr>
<td>Remaining stock level (inventory)</td>
<td>I</td>
<td>Kang &amp; Kincade, 2004; Silver et al., 1998</td>
</tr>
<tr>
<td>Characteristics and demand of target market</td>
<td>E</td>
<td>Duncan, 1972; Mantrala et al., 2009; Kang &amp; Kincade, 2004; Kincade &amp; Gibson, 2010</td>
</tr>
<tr>
<td>Fashion trends and trend information</td>
<td>E</td>
<td>Kang &amp; Kincade, 2004</td>
</tr>
<tr>
<td>Competitors’ products and assortment planning</td>
<td>E</td>
<td>Duncan, 1972; Mantrala et al., 2009</td>
</tr>
<tr>
<td>Evaluation of suppliers</td>
<td>E</td>
<td>Duncan, 1972; Kang &amp; Kincade, 2004</td>
</tr>
<tr>
<td>Economic condition</td>
<td>E</td>
<td>Kang &amp; Kincade, 2004; Mantrala et al., 2009</td>
</tr>
<tr>
<td>Weather information</td>
<td>E</td>
<td>Kang &amp; Kincade, 2004</td>
</tr>
</tbody>
</table>

a: I= Internal decision factor, E= External decision factor
the relationship between demographic variables and the factor uses, the influence of the factor uses on the success of assortment planning, and the influence of the success of assortment planning on firm performance was measured. Last, but not least, the influence of extraneous factors (e.g., retail environment) on the retail firm performance was investigated.
Chapter 2

Literature Review

The main topics of the literature are clothing product development processes, retail buying planning processes (i.e., merchandise planning, assortment planning, and inventory management), and decision making criteria for assortment planning. Each decision making criterion for assortment planning falls under one of the following categories: (a) internal factors and (b) external factors. Internal factors that affect retail buyers’ decision making in assortments include the following seven variables: (a) budget; (b) store and floor space; (c) brand image; (d) sales history; (e) evaluation of products: salability and selling period, which includes delivery date; (f) product costs and markups; and (g) remaining stock level. External factors that retail buyers consider involve the following six variables: (a) characteristics and demand of target market, (b) fashion trend information, (c) competitors’ products and assortment planning, (d) economic conditions, and (e) weather information. This review contains not only the results from empirical academic research studies but also industry reports from apparel trade periodicals that are pertinent to the aforementioned topics.

Overview of the Fashion Industry

Fashion is a broad term that typically involves any product or market (e.g., beauty, automobile, restaurants) where there is a component of short-living style (Christopher, Lowson, & Peck, 2004). In academic research studies, the fashion industry encompasses production, trade, sales and purchase, which occur among manufacturers, wholesalers, retailers, and end consumers in the clothing and textile sectors. The clothing sector in the fashion industry (i.e., SIC 2310 to 2389) is composed of four major markets: women’s, men’s, children’s, and other apparel and
accessories (Jones, 1999). The clothing industry has evolved drastically since the beginning of the 20th Century with the rise of the sewing machine. With the constant application of newly developed technologies to manufacturing facilities, clothing came to be mass produced in the 1930s, but acute competition caused by a great number of similar products led to a gradual shift from manufacturer-centric to consumer-centric marketing. For a clothing retailer, the goal of consumer-centric marketing is to identify individual target customers by obtaining insight on the customers’ motivation to purchase, buying habits, shopping attitudes and opinion about the brands and lines the company is carrying (Wright, Stone, & Abbot, 2002). Therefore, consumer-centric marketing takes customer relationship management one step forward (Niininen et al., 2007). Gaining profound insight on customers assists clothing retailers in forecasting their customers’ demand and sales for the subsequent season. Although forecasting the sales of each season and each item is extremely difficult due to the high volatility of demand and fast changes in fashion trends, retailers’ ability to develop merchandise plans based on analysis of any possible information and prediction of their target market demand for each season is a key to success in business.

*Characteristics of the fashion industry.* Since the early 20th Century when retail buyers built department and specialty stores in big cities to sell ready-to-wear, the fashion market has added further complexity and difficulty to the management of fashion companies. A fashion business seems to be easy to start because many people think that they are knowledgeable about clothing and a small business requires relatively low venture capital. Therefore, the fashion industry has recognized that it has a low barrier to entry (Jones, 1999). However, making satisfactory profits from selling clothing products is getting more difficult due to the uniqueness of clothing merchandise compared to other consumer goods (e.g., food, cars) and fierce
competition in fashion markets. Collins (2003) itemized distinctive features of the clothing industry as follows: (a) buyer-driven commodity chain, which is different from producer-driven chains (e.g., automobiles) in its dynamics; (b) historically low levels of concentration; and (c) labor intensity and low capital requirements (see Table 3). Low levels of concentration means that the industry is composed of many small firms that were often owned and run by a family (Collins, 2003). Christopher et al. (2004) introduced the nature of fashion markets as follows: (a) short life-cycles of products, (b) high volatility, (c) low predictability, and (d) high impulse purchasing. The researchers defined the fashion market nature by focusing on the ephemerality of clothing products and volatile, unpredictable consumer buying behavior.

Hilton, Choi, and Chen (2004) raised the ethical issues involved in counterfeiting in the fashion industry and reported the following four characteristics of the industry for high-end fashion products: (a) carrying luxury or aspirational goods for which most of the value arises from the look rather than the functionality, (b) relatively easy production of goods and copying of designs (c) routine and acceptable copy of designs in fashion industry to some degree, and (d) credence and social network affects demand for the goods (see Table 3). In Sen’s (2008) supply chain review, the researcher suggested five characteristics of the fashion industry: (a) short product life-cycle, (b) volatile and unpredictable demand, (c) tremendous product variety, (d) long and inflexible supply processes, and (e) complex supply chain. These five characteristics of the fashion industry included the time-wise difficulty in supply processes and supply chain management in the fashion industry (see Table 3). The most common characteristics of the fashion industry, reported by researchers, are the dynamics of a buyer-driven commodity chain, which carries a variety of aspirational products, and highly volatile and unpredictable demand.
Table 3. Characteristics of the Fashion Industry

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<tr>
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<tbody>
<tr>
<td>Short product life-cycle</td>
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<td>Short product life-cycle</td>
<td>n/a</td>
<td>Short product life-cycle</td>
</tr>
<tr>
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<td>High volatility &amp; Low predictability</td>
<td>Credence and social network affects demand for goods</td>
<td>Volatile and unpredictable demand</td>
</tr>
<tr>
<td>Buyer-driven commodity chains with product variety</td>
<td>Buyer-driven commodity chain</td>
<td>High impulse purchasing</td>
<td>Carrying luxury or aspirational goods</td>
<td>Tremendous product variety</td>
</tr>
<tr>
<td>Complex supply chain with small businesses</td>
<td>Historically low levels of concentration</td>
<td>n/a</td>
<td>n/a</td>
<td>Complex supply chain</td>
</tr>
<tr>
<td>Labor intense and inflexible production processes</td>
<td>Labor intensity production</td>
<td>n/a</td>
<td>Relatively easy production and copying of designs</td>
<td>Long, inflexible supply processes</td>
</tr>
<tr>
<td>Low capital for startup and copying of designs</td>
<td>Low capital requirements</td>
<td>n/a</td>
<td>Copying of designs is routine and acceptable in the industry to some degree</td>
<td>n/a</td>
</tr>
</tbody>
</table>

n/a = No comparable component
Clothing products. Clothing can be defined as a body covering, particularly an actual garment made of fabric (Sproles, 1979). Sproles (1979) also addressed that clothing can not only protect wearers’ bodies but also express changes in their thought and mind. People have been exposed to a great number of clothing retail stores and brands full of products, so consumers have become smarter in selecting and buying the right clothing at the right price and quality. Because Internet access and online networks have also enabled consumers to compare the prices and qualities of the products they are interested in prior to they purchase, selling clothing products is getting more complicated from a clothing retailers’ point of view. In addition, clothing has become a means by which people can indicate their character or thought value by purchasing clothing in a specific store or brand, or selecting clothing constructed from a specific material (e.g., organic cotton fabric as a result of environmental concerns).

To sell clothing products, clothing retailers consider two types of changes regarding time: seasonal changes and fashion changes (Glock & Kunz, 1995). The sale of seasonal products is a major characteristic of many consumer goods and an important activity for the retailers who promote, sell, and service these goods. A seasonal good is defined as a product that experiences drastic change in sales based on the evolving seasons of the year (Kincade & Gibson, 2010). Inherent in the seasonal aspect of consumer goods is a reflection of the seasonal changes as measured by correspondence to the calendar seasons (i.e., Spring, Summer, Fall, Winter). This seasonality is compounded by the demand in the fashion industry for frequent and continuous change (Bhardwaj & Fairhurst, 2010). In contrast to seasonal goods, staple goods are products that are in continuous demand throughout the year regardless of time or season (Kunz, 2005).

Regarding fashion changes, clothing products that sell for a long time without influence from changes in fashion trends are called basic goods (e.g., men’s white dress shirt), while
clothing products that demand rapid style changes are called fashion goods (e.g., skinny jeans). Fashion-sensitive seasonal products are generally defined by their selling period, and the range of consumer demand for change in styling is less than 20 weeks in both the fashion/basic continuum and seasonal/staple continuum (Kang, 1999). As the selling periods of fashion-sensitive seasonal products are likely to be very short, careful timing of merchandise placement based on accurate forecasting consumer demand is of concern for clothing retailers.

*Clothing Product Development*

Product development is the process of creating physical products or services manufactured or sourced to meet the needs of customers (Ulrich & Eppinger, 2004). Manufacturers have mainly been involved in product development in the clothing industry; however, retail buyers for large stores (e.g., department stores) tend to be more actively engaged in product development by creating specialized product development divisions (Gaskill, 1992). Because these clothing retailers have been struggling with the reality that they carry the same nationally branded products at almost the same price (Clodfelter, 2008), retailers strive to differentiate their merchandise from other retailers’ products by creating and introducing their private label brands. These private label brands also allow retailers to offer products with competitive prices by removing intermediaries and participating in manufacturing activities. Moreover, an assortment of all private labels enables clothing specialty stores to better meet their target customers’ demand while differentiating themselves from their competitors (Gaskill, 1992). Thus, clothing retail product development can be defined as “the process of creating research-based private label merchandise, manufactured, or sourced by a retailer, for the exclusive sale to an identified target market” (Wickett, Gaskill, & Damhorst, 1999, p.27).
Clothing product development process. The clothing product development process includes the activities of designing, merchandising, producing, marketing, and selling to present new merchandise into the market at the right time in order to meet target customers’ demands (Daton Lee, 2002). While most researchers have investigated the product development process with manufacturers, Gaskill (1992) developed an apparel retail product development model by conducting an in-depth case study of a specialty clothing retailer. In this research study, eight steps were extracted that were critical to the clothing product development process: (a) trend analysis, (b) concept evolution, (c) fabric selection, (d) palette selection, (e) fabric design, (f) silhouette and style directions, (g) sample construction and analysis, and (h) line presentation (see Table 4). In Gaskill’s model, internal and external intervening factors were also identified. Internal factors include the activity of defining the target market and understanding the merchandising process. These internal factors indicate that identifying the target market and responding to the identified target customers are crucial for product development, and merchandising should be processed in regard to the target market. External factors consist of domestic and foreign market influences on fashion trend analysis. In other words, in the analysis of fashion markets, retailers consider both domestic and foreign market trends (e.g., European market, Asian market).

Regan, Kincade, and Sheldon (1998) compared the clothing product development process with generic product development processes. In the generic product development process, six activities were identified: (a) idea acquisition and initial screening to concept selection, (b) business analysis, (c) concept testing, (d) production, (e) market testing, and (f) introducing the products in the market. The clothing product development process involves the following five steps: (a) line plan, (b) line plan summary, (c) product development, (d) line preview, and (e) line
Table 4. Clothing Product Development Process

<table>
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<tbody>
<tr>
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<td>n/a</td>
<td>Ideas and trends search</td>
<td>Market research</td>
</tr>
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</tr>
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<td>Concept evolvement</td>
<td>Line plan</td>
<td>Overall theme for the product line</td>
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</tr>
<tr>
<td>Concept and design creation</td>
<td>Fabric, color, silhouette and style directions</td>
<td>Line plan summary</td>
<td>Concepts creation</td>
<td>Design</td>
</tr>
<tr>
<td>Cost estimation</td>
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<td>n/a</td>
<td>n/a</td>
<td>Cost estimation</td>
</tr>
<tr>
<td>Sample making</td>
<td>Sample construction</td>
<td>Product development</td>
<td>Sample construction</td>
<td>Presenting CAD print-out to customers and sample making</td>
</tr>
<tr>
<td>Sample evaluation</td>
<td>Sample analysis</td>
<td>Line preview</td>
<td>Product visualization and evaluation</td>
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</tr>
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<td>Line presentation</td>
<td>Line presentation</td>
<td>Line release</td>
<td>Line presentation</td>
<td>Line creation</td>
</tr>
<tr>
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<td>n/a</td>
<td>Pattern making, costs and garment specification</td>
<td>n/a</td>
</tr>
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n/a = No comparable component
release. In Regan et al.’s (1998) study, systematic line design was stressed for effectively controlling the product development process (see Table 4).

Wickett et al. (1999) validated and extended the original Gaskill model by conducting a qualitative study with 21 companies. In this study, the researchers integrated Kunz’s (1998) Taxonomy of Apparel Merchandising System (TAMS) terms (e.g., pre-adoption product development, line adoption) into the Gaskill model, offering details of each step and segmenting the steps similar to TAMS. As a result, the revised Gaskill model consists of eight steps: (a) ideas and trends search, (b) trend analysis (fabric, colors, styles, and silhouettes), (c) overall theme for the product line establishment (i.e., color and fabrication selection, fabric design, and silhouette and style design), (d) concept creation, (e) sample construction, (f) product visualization and evaluation, (g) line presentation, and (h) pattern making, estimation of production costs and determination of garment specification (see Table 4). Wickett et al.’s (1999) revised model also includes internal and external intervening factors as Gaskill’s (1992) original model. Internal factors include sales trends, target customer base, employee input, and market place research, while the external factors encompass global market trends, competition, media, government regulations, and producer capabilities.

Pitimaneeyakul, Labat, and DeLong (2004) developed a knitwear product development process model by examining written documents, conducting direct observations, and interviewing key personnel of a U.S. sweater manufacturer. The knitwear product development process consists of the following five steps: (a) marketing research, (b) design and cost estimation, (c) presenting CAD print-out to customers (retailers), (d) sample making, and (e) creation of product lines. Pitimaneeyakul et al. (2004) indicated that the knitwear product development process takes about nine months or less, which is longer than the non-knitwear
product development process (see Table 4).

Retail product development is one of the major tasks of many retail buyers, and fully understanding the product development process allows retail buyers to work smoothly with their suppliers because communication between a manufacturer and retailer is essential to successful supply chain management and increased profitability of the company.

**Retail Buying**

While industrial buyers are responsible for controlling the costs of purchasing raw materials, retail buyers are responsible for both controlling the costs of purchasing finished goods and generating sales by reselling the goods (Wagner et al., 1989). Retailers’ traditional role was to provide proper collections of products in small quantities to groups of consumers through local outlets; however, the role of the retailer has changed considerably from being a passive distributor to an active intermediary who manages a range of goods by systematically selecting and buying products from manufacturers (Varley, 2007). This change in the role of retailers has been affected by consumer-centric marketing and the nature of retailing, which is always geared to what consumers want and need. In 2010, consumers became even more fashion-savvy and are now requiring new products faster than before. In order to meet consumers’ demand, a number of fashion retailers have reduced their lead-times, striving to carry the right product at the right time in their stores (The Economics, 2005). This is known as fast-fashion. In fast-fashion, retail buying plays a critical role, from supplier selection to the buying decision, and this decision must be made rapidly in a fast-paced fashion market (Bruce & Daly, 2006). The role of retail buyers includes both an operational element (e.g., buying and distributing products) and a strategic component (e.g., speeding to market and lowering costs). In addition, buying is changing from a
completely operational process to a more strategic process (Bruce & Daly, 2006). Retail buyers who follow fast-fashion strategies can provide refreshed stocks and reduced markdowns and inventory costs, which can improve the financial output of a retail company. Examples of these stores are Zara, a Spanish company, and H & M, a Swedish company.

Retail buying planning process. In academic research studies, retail buying often involves both (a) vendor selection, and (b) product selection and buying. For example, Johansson (2002) studied the retail buying process for food products using case studies and found five steps: (a) problem recognition, (b) product specification, (c) supplier search, (d) supplier choice, and (e) evaluation. However, in the present research study, only product selection and buying is discussed in the retail buying process with a focus on clothing merchandise.

In a review of recent merchandising textbooks, the steps of the retail buying planning process are itemized. Frings (2005) claimed that careful planning for buying helps merchants buy clothing products efficiently and successfully. For successful retail buying, Frings (2005) suggested largely two stages of retail buying preparation: (a) the merchandise plan, which includes sales plans, markup and markdown plans, and inventory plans; and (b) the buying plan, which involves assortment plans and open-to-buy (see Table 5). Open-to-buy (OTB) is a means of controlling the budget before and during a selling period (Kunz, 2005). OTB is equal to actual stock minus planned stock (Frings, 2005). For flexible investment in merchandise, many clothing retailers “leave budget” in order to buy new products quickly and react to new trends, which usually come out unpredictably. Clodfelter (2008) illustrated three steps in retail buying planning: (a) merchandise planning, (b) inventory planning, and (c) assortment planning (see Table 5). The first step of merchandise planning includes analyzing the target market and forecasting seasonal demand. Goworek (2007) defined the buying cycle as the most important
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<tr>
<td><strong>Merchandise planning</strong></td>
<td>Merchandise planning - Sales planning - Markup and markdown planning</td>
<td>Merchandise planning - Analyzing target market - Forecasting demand</td>
<td>Review of current sales and budget planning</td>
<td>Merchandise planning and forecasting</td>
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<td>Comparative and directional shopping</td>
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<td><strong>Assortment planning</strong></td>
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<td>Assortment planning</td>
<td>Range planning</td>
<td>Assortment planning</td>
</tr>
<tr>
<td><strong>Price negotiation</strong></td>
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<td>n/a</td>
<td>Price negotiation with suppliers</td>
<td>n/a</td>
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n/a = No comparable component
process of retail buyers’ purchase of a garment range for a retail company. The author suggested five broad stages of buying planning: (a) review of current season’s sales, (b) budget planning, (c) comparative shopping and directional shopping, (d) range planning, and (e) price negotiation with suppliers (see Table 5; Goworek, 2007). Comparative shopping involves investigating and buying competitors’ products, and directional shopping is the term used for trips to cities such as Paris, London, and Milan to purchase merchandise in order to gain inspiration for design concepts for a new season (Goworek, 2007). Rabolt and Miler (2009) listed three overall stages of the merchandise buying planning process: (a) merchandise planning and forecasting, (b) inventory planning, and (c) assortment planning (see Table 5).

In the fashion industry, the processes of retail buying planning are generally composed of merchandise planning, assortment planning, and inventory management. For successful retail buying, which plays a key role in meeting customers’ expectations and reaching the retailer’s sales and profit goals, careful and realistic preparations are necessary before actual buying. Due to the importance of retail buying planning, activities of the three general processes for retail buying planning (i.e., merchandise planning, assortment planning, inventory management) will be discussed in depth in the following section.

*Merchandise Planning*

According to Kunz (2005, p. 517), the merchandise plan can be defined as “a combination of budgets and assortment plans based on historical sales, company goals and forecasts.” Merchandise planning is the process of developing merchandise plans, which includes buying activities for the right products, in the right quantities, at the right price, and at the right time and place (Mazur, 1927). Merchandise planning can determine the level of success
or failure of a business and have a major impact on the customer satisfaction and profitability of a clothing retailer. For this reason, merchandise planning has been the top priority of apparel firms and has long been considered to be more important than any other marketing management strategy (e.g., contracting to offshore suppliers, opening online channels, special promotion). Merchandise plans involve financial plans, which include establishing budgets and allocating specific amounts of that budget to each category for the purchase of an assortment of each style selected (Clodfelter, 2008; Frings, 2005). Besides financial plans and assortment plans, merchandise planning consists of forecasting consumers’ demands and sales, establishing inventory levels, markups, and markdowns, and engaging other retail buying preparations usually for the upcoming two-week to six-month season.

*Forecasting and Planning.* Herbig, Milewicz and Golden (1993) reported that among a sample of forecasting/marketing managers at 175 companies, 92% of the respondents reported that forecasting is important for their company’s successful business output. One of the most important forecasts in retail merchandising is the sales forecast. Developing a sales plan based on the sales forecast is often considered to be the first step for merchandise planning that also includes store policies and assortment plans. The sales forecast involves predicting future sales for a specified period under an introduced selling plan (Kang, 1999). In other words, sales forecast for a specific period and each category and style are necessary.

Gordon, Morris, and Dangerfield (1997) reviewed the top-down (TD) and bottom-up (BU) processes for sales forecasting. In the top-down approach, the total budget for buying is established and is then split into individual item categories based on historical sales data. The BU sales forecast is developed for each item budget and then the budget of each item is added into a total budget for the total forecasting results (Gordon et al., 1997). In the TD forecasting process,
four steps are followed: (a) planning sales goals by reviewing historical sales and considering present economic conditions and marketing strategies, (b) planning the level of inventory for each store belonging to a company, (c) planning the assortment plan by analyzing the sales potential for each item, and (d) making a sales forecast report (Gordon et al., 1997). In contrast to the TD forecasting process, adding up the sales potential for individual item determines the sales goal and level of inventory in the bottom-up forecasting process (Gordon et al., 1997).

Several researchers explored the issue of TD versus BU forecasting in the context of the merchandise planning framework, and found that the BU strategy outperformed TD forecasting by examining product lines and using mathematical programming (e.g., Dangerfield & Morris, 1992; Diebold, 1998; Gordon et al., 1997, Weatherford, Kimes, & Scott, 2001). Other researchers reported that the TD strategy provided better estimates than BU forecasting by employing a numerical method (e.g., Gross & Sohl, 1990). As mixed results have been reported, Widiarta, Viswanathan, and Piplani (2008) analytically investigated the relative performance of the TD and BU forecasting strategies and found that the difference in the mean and variance of forecast error between TD and BU forecasting is insignificant. Academic studies are inconclusive in regards to whether the TD or BU strategy is superior. In general, many large retailers apply both the TD and BU strategies to their sales forecasting and then determine the total sales goal, sales plan for individual items, amount of stock for initial buying, and level of inventory for each season (Clodfelter, 2008; Frings, 2005).

Assortment Planning

Assortment planning is one of the most important and difficult decisions that buyers and/or merchandisers must make in the retail industry as part of merchandise planning. A
The retailer’s assortment is defined as an organized collection of related products carried in each store at each point in time (Kincade et al., 2004; Kok et al., 2006). The assortment plan is established and revised based on the classification system used by each retailer (Kincade et al., 2004). Most retailers build or organize assortment plans by segmenting the stock keeping units (SKU) they carry into groups, called categories (or classes; Kok et al., 2006). Within categories, subcategories (or subclasses) are defined. For example, pants and skirts are subcategories within the bottoms category for clothing retailers. Some marketing researchers have assumed that the fundamental unit of analysis for choice marketing models is the brand (Fader & Hardie, 1996). However, Fader and Hardie (1996) reported that consumers, manufacturers, and retailers make decisions more at the level of the stock-keeping unit (SKU), which reflects style, color, size, and fabric, as compared with using the brand. In the field of fashion, the brand has also been studied in depth for developing marketing and consumer attitude models. The use of SKUs in decision making is also common within the fashion industry with the exception of luxury or designer brands where consumers can be motivated by their brand name value in purchasing merchandise instead of SKU features such as style or color.

**Balancing variety (or breadth), depth, and inventory for each SKU.** The assortment a retailer carries has a great impact on sales and profits; therefore, retailers, including marketing management consultants and software providers, consider assortment planning as a high priority for their business (Kok et al., 2006). In general, successful product assortment planning (PAP) involves balancing the following inventory elements: (a) the variety of products or how many different categories the retailer carries, (b) the depth of merchandise or how many SKUs they carry in each category, and (c) the amount of inventory to allocate to each stock-keeping unit (SKU; Mantrala et al., 2009). The balance between variety (or breadth) and depth or between
depth and inventory for each SKU of an assortment is an extremely important strategic decision made by most retailers and is a fundamental responsibility of retail managers. For example, department or discount stores generally carry a large number of categories with limited depth in each category. Clothing specialty stores (e.g., Gap, Levis) present a smaller number of categories, but their assortment has great depth in each category. If a retailer fails to satisfy customers’ needs by not providing the expected assortment, customers may not return to the store, causing losses in sales. For example, if a customer looks for a particular type of outfit in a retail store but cannot find the product category (variety) and the design (or color) in the category (depth), the retailer has failed to satisfy customers in assortment planning (Mantrala et al., 2009). In addition, stock-out situations caused by a low level of inventory may lead customers to leave the store without making a purchase. In the fashion industry, the level of inventory for each SKU significantly influences sales and profits because it generally takes a few weeks to even a month to source materials, manufacture, and finally deliver ordered products to retailers. In this situation, reordering is almost not possible to contribute to sales because the lead time is invariably longer than customers can wait for the products to be replenished.

Moreover, substitution based on stock-out or assortment does not commonly occur when consumers shop for clothing. Therefore, more available sales and profits from a specific SKU, which could have been a bestselling item, may not be made because of a stock-out situation. Due to the importance of the inventory levels of each SKU and the limited number of categories (e.g., specialty stores), some researchers refer to breadth (or variety) as the number of SKUs instead of categories, and depth is considered the quantity of inventory for each SKU (e.g., Van Ryzin and Mahajan, 1999). To meet consumer demand, clothing retailers need to build thorough assortment
plans for each SKU by creatively forecasting the upcoming season, utilizing all quantitative and qualitative data that they can acquire (e.g., historical sales data, fashion trend information).

**Substitution.** Although substitutions are not common in fashion, some types do occur in the fashion industry. Substitution, or consumer-driven substitution, can be defined as consumer settling for a similar product instead of their first-choice product in the current inventory (Netessine & Rudi, 2003). Whether customers are willing to substitute within a certain category can be an important parameter in assortment planning (Kok & Fisher, 2007). For example, if customers tend to substitute within the same category, great depth of merchandise and a large amount of inventory are not as crucial as when customers do not have a high tendency to substitute (Kok et al., 2006). The following three types of customer substitution are most often discussed in marketing and management field (Kok et al., 2006): (a) stock-out based substitution - customers buy another similar product because the product they wanted stocked out, (b) assortment based substitution - customers purchase another product because the store does not have the product in its assortment, and (c) no purchase alternative substitution - customers buy a product if it has higher utility than no purchase. In this case, the customer may not realize that he or she is substituting due to stock-out or limited assortment. Generally, the option of no purchase alternative substitution occurs in clothing more than the first two substitutions.

*Importance of assortment planning for retailers.* Retailers get involved in assortment planning on a daily, weekly, and/or monthly basis because they need to periodically change their assortment (Kincade et al., 2004). In the fashion industry, retailers have changed assortments more often in the last decade than before 2000 in order to meet the fast change in fashion demand. The periods in which retailers revise their assortment vary depending on the internal and external environments. The variables include the product types they carry, seasons, changes
in their customers’ preferences, and their suppliers’ capability. The ultimate goal of assortment planning for retailers is to make quantitative decisions for production orders based on quantitative and qualitative data that maximize sales and profits, with maintaining or even improving their brand/store image. As for retailers, the assortment is not a simple and/or easy decision to make because they can carry merchandise only within a limited budget for product purchase, limited shelf space or store space for merchandise display, and a limited number of suppliers with the capability to offer competitive products (Kok et al., 2006).

*Inventory Management*

Traditionally, retailers thought that inventory investment was of relatively low risk because it was expected to be converted to cash in a short period of time. The investment in purchasing merchandise and the inventory in the warehouse were considered to be promised sales and profits for the company. Retailers believed that the larger inventories they had in their warehouse, the greater the sales and profits they would make. However, as the recent recession caused a significant decline in economic activities (e.g., consumers’ clothing purchases), a number of clothing retailers have struggled with a sharp decline in sales. Poor sales have increased inventory costs with higher and more frequent markdowns, which brings less profit or even a greater loss. The inventory cost consists not only of the cost of the goods but also of the opportunity cost of the money invested, warehouse expenses, deterioration of stock, and other costs (e.g., damage, theft, obsolescence, insurance, and taxes; Silver et al., 1998). In order to reduce the inventory cost and forecast customers’ demand more accurately, clothing retailers have made an effort to cut the lead times by applying Quick Response (QR) and/or Just-In-Time (JIT) strategies to their management. Many retailers shorten the period that they keep inventory
in their warehouse by more often ordering in small quantities and setting up delivery timing as close to display timing as possible. However, some retailers (e.g., Wal-Mart) still face challenges with excess inventory and out-of-stock (OOS) situations at the same time (Ayad, 2008). Gruen and Corsten (2006) reported that the worldly OOS levels average 8% and consumers experience OOS once every 13 shopping trips. OOS is costly, as is excess inventory, because shoppers may not return to a store after multiple OOS experiences, which could be one of several negative shopping experiences (Rilley, 2004).

The level of inventory for each SKU is one element of assortment planning, and efficient inventory management not only helps increase a retailer’s profits but also provides it with proper cash flow, which is essential to keep a retailer running. For this reason, retailers need to control inventory strategically by determining the necessary stock to purchase, keep, and/or sell out while planning merchandise and assortments to reach their objectives ultimately.

**Decision Making**

*General decision making processes.* Over the years, researchers and specialists have examined decision making behaviors in many areas (e.g., psychology, marketing, management). For example, Martin (2009) suggested that, in management, leaders work through four steps in making decisions: (a) determining salience, (b) analyzing causality, (c) envisioning the decision architecture, and (d) achieving resolution. The author discussed how integrative thinkers’ decision making is different from conventional thinkers’ processes. Overall, integrative thinkers accept complexity considering nonlinear relationships among variables. In other words, they see problems within a large picture, and produce innovative outcomes (Martin, 2009). In contrast, conventional thinkers generally see problems by the pieces and produce traditional outcomes.
According to Miller (1993), decision making in the marketing includes search and evaluation activities as well as decision rules. In general, decision making processes include identifying problems, searching and analyzing information, and resolving problems (e.g., Miller; Webster, & Wind, 1972).

*Decision making in retail buying.* Some decision criteria for industrial buying correspond to retail buying because both retail and industrial buying fall under organizational buying (Wagner et al., 1989). In his classic industrial buyer behavior model, Sheth (1973) suggested that buyers make two major buying decisions: (a) supplier selection, and (b) product selection and buying. Before buying products from manufacturers or wholesalers, retail buyers select suppliers (i.e., vendors), which offer merchandise to help the retailer reach its sales and profit goals for the year. While retail buyers consider sales history, markup, and merchandise delivery as the most important criteria in the supplier selection procedure (Wagner et al., 1989), retailers take into account additional variables (e.g., target market demand, environmental force) in the product selection and buying process.

Retail buyers have been responsible for seeking solutions to various decision making problems, including supplier selection, product purchase, retail price establishment, and markup or markdown level adjustment. Among these major decision making problems for retail buyers, the product selection and buying decision is one of the most complex multi-criteria tasks, and requires both qualitative and quantitative evaluation of products and the ability to forecast future sales. Ettenson and Wagner (1986) defined retail buying as a decision making process where the retail buyer identifies, evaluates, and selects products for resale to customers. Fiorito and Fairhurst (1989), based on a survey of 153 buyers, suggested that the retail buyer’s responsibility in buying decisions includes planning, analyzing, purchasing, and controlling products in which
they invest. The collection of retail buying decisions has been considered the most difficult and important process because the decisions play a key role to determine the success or failure of the product lines carried each season. Fiorito and Fairhurst (1989) reported that a complicated mental process is most frequently used for the decision making process for clothing retail buyers.

Many researchers have studied the processes involved with retail buying behavior or retail buying decisions. However, few have examined specific assortment decision criteria for retailers. Nilsson and Host (1987) discussed the difference between a buying decision and an assortment decision: “Within retail buying are buying decisions and assortment decisions, with assortment decisions acting as a more comprehensive group than buying decisions—all buying decisions are assortment decisions, but not all assortment decisions are buying decisions” (p. 130). Based on this quote, assortment decisions include not only decisions of product selection and buying but also decisions of product retention and deletion related to the rearrangement of current products.

Moreover, when purchasing fast fashion, quick and accurate decision making is required in product selection and buying. As the fashion industry is becoming more unpredictable and volatile, careful consideration and prompt analysis of decision criteria are necessary to make the right decisions.

**Organizational Environments for Decision Making**

Organizational environment can be defined as the total physical and social factors that are considered when individuals make decisions in an organization (Duncan, 1972). Duncan discussed two organizational environments: internal and external environments.
The internal environment is composed of relevant physical and social factors within the boundaries of the organization while the external environment consists of relevant physical and social factors outside the boundaries of the organization (Duncan, 1972). By interviewing 19 individuals in various decision units and several functional areas at a large manufacturing organization, Duncan conceptualized the organizational environment and decision making factors that fall under either the internal or external environment. The internal environment components are: (a) the employee component; (b) organizational functional and staff units component; and (c) organizational level component, which includes the organizational objectives and nature of the product service the company offers. The external environment components are: (a) customer component, (b) supplier component, (c) competitor component, (d) socio-political component, and (e) technological component. Duncan (1972) found that personnel from the planning department, in contrast to those in other departments, considered more factors in both the internal and external environment when making decisions. Therefore, the decision factors for assortment planning of the current research are categorized into two groups, internal decision factors and external decision factors, grounded on Duncan’s (1972) internal and external environments.

**Decision Factors for Assortment Planning: Internal Factors**

Grounded on Duncan’s (1972) organizational environment theory and Mantrala et al.’s (2009) product assortment planning model, a total of 13 decision factors for assortment planning are extracted from several research studies and a textbook (Duncan, 1972; Kang & Kincade, 2004; Kincade & Gibson, 2010; Mantrala et al., 2009; Nilsson & Host, 1987; Silver et al., 1998). These 13 assortment decision making variables are discussed in the next section.
*Budget (open-to-buy)*. Budget planning is part of merchandise planning for buying products. In the top-down strategy, the total budget is established and is then split into each SKU. For most clothing retailers, the initial total budget is created by executives before a new season or a new year begins. The retail year generally starts on February 1 of one year and ends on January 31 of the next year (Kincade & Gibson, 2010). Mantrala et al., (2009) reported that product assortments are subject to budgetary and space constraints. One of the reasons why assortment planning is difficult is that it is often conducted within a limited budget. Some researchers claim that, in practice, assortment planning is essentially a strategic merchandise planning and capital budgeting process (e.g., Kok et al., 2006). By conducting assortment planning strictly within the budget, retailers can reach their profit goals by controlling costs, markups, and markdowns depending on the sales forecast.

In many cases, real sales occur differently from sales forecasting. Sometimes a style is sold more rapidly than the retailer expected, while at other times the style sells at a slower pace or there are less sales than forecast in the sales plan. For this reason, a budget also needs to be flexible to some degree depending on actual sales performance. This change is also on behalf of maximizing sales and profits for the company. Therefore, the budget can be one of the most important decision factors for assortment planning.

*Store and floor space*. The ideal store size may be the same as the sum of all ideal category assortments, but the space available for products depends more on the physical dimensions of individual products and their importance for the store (Mantrala et al., 2009). Corstjens and Doyle (1981) reported that product assortment planning is constrained by the physical dimensions of the products and the space available in the store. Generally, how much shelf space is allocated to a specific product category is an important element of assortment
planning for some product segments such as groceries (Kok et al., 2006). However, for fashion goods (e.g., clothing, shoes, accessories) in a large retail store, shelf space is not a crucial factor in the assortment decision making process because one or two units are generally carried for most SKUs in a store. In particular, apparel retailers consider floor space instead of shelf space, and this is another important factor influencing assortment decisions.

*Brand image.* The type of retailer (e.g., specialty store, department store) can be defined by the variety of categories and the depth of SKUs within those categories (Mantrala et al., 2009). For example, a specialty store carries only a few categories (e.g., men’s clothing, men’s shoes) but deep assortments, while a department store offers a variety of categories (e.g., men’s, women’s, or children’s clothing, shoes, bags, home fashions, electronics, furniture, kitchen tools) but shallow product assortments. Quality and price levels also determine a retailer’s brand image and market position (Mantrala et al., 2009). If a retailer carries an exclusive clothing line with high quality and high price, it can generate the brand image of high-end fashion. Retailers increasingly introduce their private label brands in order to differentiate their product lines from competitors, and ultimately gain customer loyalty (Corstjens & Lal, 2000). Therefore, brand image is an important factor retail buyers consider when they choose assortments for the retailer.

*Sales history.* Sales history is another factor clothing retail buyers consider for their assortments (Kang & Kincade, 2004). In general, the sales history at the SKU level is used to forecast future demand for staple goods (Mantrala et al., 2009). When retail buyers make decisions on the purchase of new items, they look at the sales history of the same or similar styles in previous seasons or years. Several research studies indicate that selling history has a great impact on apparel buyers’ buying decisions (e.g., Fiorito, 1990; Francis & Brown, 1985; Hirschman, 1981; Wagner et al., 1989). Although the internal and external retail conditions may
not be the same as those of past years, sales history can be a powerful standard and guide when retail buyers make assortment decisions.

**Evaluation of products: Product salability and selling period.** Merchandise requirements can be defined as the buying criteria or motives used by retailers when evaluating different products (Hansen & Skytte, 1998). In general, many studies about merchandise requirements have been conducted mostly by itemizing criteria for a retailer’s initial purchase of new products. However, relevant assortment research shows that a poor sales result can be the main reason for deletion of products from the assortment (Davies, 1994; Ettenson & Wagner, 1986; Wagner et al., 1989). Nilsson and Host (1987) indicated that sales potential is one factor considered for product evaluation by retailers. In addition, if the sales trend of the product is positive, the product has a better chance of being retained because current sales can be the best indicator of future sales (Nilsson & Host, 1987). Therefore, product salability, which is predicted and analyzed based on retail buyers’ evaluation, is an important assortment decision factor.

A seasonal good is defined as a product that experiences a drastic change in sales based on the evolving seasons of the year (Kincade & Gibson, 2010). Unlike staple goods, seasonal goods can be sold only within a specific period of the year. One of the characteristics of fashion markets is that the selling periods of the products are likely to be very short, estimated in months or weeks (Christopher et al., 2004). These short selling periods can be also generated by rapid changes in fashion trends. In order to avoid generating an excess of unsold end-of-season inventory, retailers need to predict individual products’ selling periods based on seasonality (Al-Zubaidi & Tyler, 2004). Systematic assortment planning of when and how many to present seasonal products in the stores could affect initial sales and final sell-through. Therefore, each product’s expected selling period is an important decision factor for assortment planning.


*Product costs and markups.* Product costs and markups play an important role for retailers, as gross margins are generated based on product costs and net sales. At the same time, in order to boost net sales, retailers need to offer an attractive retail price to consumers. Because customers are often attracted to products sold at a low price, retailers need to supplement the resulting lack of profit through higher margins on other products in the assortment (Noo teboom, 1985). Retail buyers need to integrate pricing strategies into their assortment planning to maximize sales and profitability. For example, if the product cost is lower than average with decent quality, retail buyers can set a price for the product with a high markup. Buyers will tend to increase the inventory of this item because it is easy to make a high gross margin on the products, even with a mediocre sell-through rate. Product costs and markups are also important criteria in decisions on the variety of products because product proliferation to meet diversified customer needs increases production costs. Several researchers examined the trade-off between inventory costs and variety benefits in retail assortments (e.g., Van Ryzin & Mahajan, 1999). The literature indicates that product costs and markups are also important factors for assortment decision making.

*Inventory: Remaining stock level.* Stock is one of the most important investments for the retailer, and the purchase of stock is risky as with other investments (Kincade et al., 2004). If cash is tied in stock for long periods, money is not available to pay for new stock or expenses (Kincade et al., 2004). For a smooth cash flow, stock must be sold within the right time as buyers planned. Therefore, when retail buyers make assortment decisions, particularly in terms of how much new stock is needed, knowing and considering the remaining stock level is crucial.
Decision Factors for Assortment Planning: External Factors

Characteristics and demand of the target market. Kang’s (1999) study of dress buyers indicated that both target market demand and seasonal consumer demand are factors that retail buyers must consider to make a realistic merchandise plan. Clodfelter (2008) also asserted that for long-term and short-term management, fashion retailers need to identify their target customers and then analyze and understand the reasons and trends of the target customers’ buying behavior. Because the target market profile and customer demand are always changeable, retail buyers need to modify assortments periodically according to shifting consumer profile and lifestyle trends (Wong, 2008). In addition, several textbooks and research studies suggest that retailers need to change assortments to fit the demographics and store locations (Fox & Sethuraman, 2006; Grewal, Levy, Melhotra, & Sharma, 1999).

Because the retail buyer is positioned between the supplier (e.g., manufacturer, wholesaler) and the consumer, the retail buyer needs information on customer demand (Kline & Wagner, 1994). Due to the significance of target market research, many retail firms regularly conduct consumer research and apply the outcome of the research to their merchandise and assortment planning. Therefore, the characteristics and demand of the target market are external decision factors for assortment planning.

Fashion trend information. A trend can be defined as the focus or way of movement of a particular design, color, concept, product, or service (Kincade & Gibson, 2010). Clothing retailers need to decide which merchandise to purchase for future seasons of sales (usually six months in advance), so obtaining and using fashion trend information is a critical task for a retail buyer. In general, future fashion trends are predicted by fashion forecasters through environmental or market research, which includes identifying the social, psychological, cultural,
political, environmental, and technological trends that influence the fashion industry (Kincade & Gibson, 2010). This forecasting is introduced to the fashion industry approximately one year in advance of the time when manufacturers plan their new product lines. In many cases, manufacturers and retailers purchase this fashion trend information as copies of professional periodicals or through access to online websites. Trend analysis is one factor clothing retail buyers have to consider to make a realistic merchandise plan (Kang, 1999). When manufacturers and retail buyers use the trend information to plan new merchandise, extracting and choosing only the information source that can be applied to their target market and products is necessary. For example, even if the fashion trends for next year include low-cut t-shirts, this trend information will not be used for a retail brand with a target market of 40 to 50-year-old business women. Conversely, if this retail buyer forecasts a trend of grey striped tailored jackets, he/she will be likely to increase the number of similar styles and inventory of the items. Therefore, fashion trend information is an important external decision factor for the assortment planning of clothing buyers.

*Competitors’ products and assortments.* Kang and Kincade (2004), in a study of dress buyers, indicated that a competitor’s merchandise is a color assortment decision factor that clothing retailers consider. Merchandisers or buyers may conduct a competitive product analysis that examines three or four competitors carrying the same or similar merchandise and reaching the same target market (Kincade & Gibson, 2010). The competitors may include both online and offline stores. Perfectly forecasting which styles will be hot items in future seasons is almost impossible for retailers. For this reason, retailers conduct research on their competitors’ products and assortments regularly, and also examine the hot items of their competitors.
With the results of the competitor or market research, retail buyers consider ordering new styles that are similar to the competitor’s hot items in order to boost sales by supplementing existing lines. On the other hand, information about competitors’ products and assortments is also used for retailers offering differentiated assortments and brand image from those of their competitors. The individual products introduced by competing retailers are often the same, but a retailer must offer differentiations in assortment composition and service level in addition to the store location (Nootenboom, 1985). Therefore, competitors’ products and assortments are important external assortment decision factors for clothing retail buyers.

*Evaluation of suppliers.* Kang and Kincade (2004) suggested that the decision factors considered by dress buyers for their color assortment planning include vendors’ opinion, showroom, catalog, and limited color selection they offer. Vendor selection criteria have been the subject of extensive conceptual and empirical studies (e.g., Da Silva et al., 2002; Francis & Brown, 1985; Hirschman & Mazursky, 1982; Wagner et al., 1989). In addition, several research studies investigated the relationships between retailers and suppliers (e.g., Dawson & Shaw, 1989; Lindqvist, 1983). According to some research studies, this relationship has an impact on the actual supplier or product choice (e.g., Davies, 1994). Moreover, several research studies using survey data found that buyer-supplier relationships influence firm performance (e.g., Kannan & Tan, 2006).

Sharing information about products and trends with suppliers in a trusting relationship is one of the clothing retail buyers’ important tasks in order to procure the right merchandise at the right time for the retailer. Supplier selection and managing the relationship has implications for implementing strategic management for clothing retailers. Therefore, the evaluation of suppliers is an important external assortment decision factor for clothing retailers.
Economic condition. Environmental forces are also known to influence organizational structures and decision making (Aldrich & Pfeffer, 1976; Lawrence & Lorsch, 1986). Macroeconomic conditions may influence both variety and depth of assortment planning decisions for retailers (Mantrala et al., 2009). For example, due to a prolonged recession, many large retailers’ sales dropped in 2008, and the retailers had to deal with an excess of inventory already in their warehouse and orders placed for products. Retailers usually cope with economic downturns by reducing orders because consumers’ disposable incomes for purchasing clothing also decrease. Mantrala et al. (2009) mentioned that economic trends are issues that retailers have constantly in their minds, particularly during serious economic downturns. This economic and financial uncertainty can influence the retail environment (e.g., bankruptcy of big retailers such as Circuit City; Grewal, Levy, & Kumar, 2009). In addition, Kang (1999) indicated that economic conditions should be considered for making realistic merchandise plans for clothing retail buyers. Therefore, economic conditions can be important factors to consider when retail buyers make assortment plans.

Weather information. Several research studies in the field of psychology investigated the relationships between weather variables (e.g., temperature, humidity) and mood (e.g., Goldstein, 1972; Howarth & Hoffman, 1984; Pawlik & Buse, 1994). The relationships between mood and purchase behavior were also examined in several research studies (e.g., Belk, 1975; Donovan & Rossiter, 1982; Swinyard, 1993), and some researchers have examined the impact of weather on retail sales. For example, Parsons (2001) found that higher temperatures and precipitation have a negative impact on the number of shoppers visiting a shopping center.

In preliminary interviews, four respondents out of five clothing retailers mentioned that weather variables, particularly temperature and snowfall, influence their sales. For these reasons,
they consider weather information (e.g., weather forecast) when making assortment plans. One interviewee actually checked the temperature everyday and predicted the temperature impact on sales, utilizing weather forecasts in their ordering and shipping decisions. Therefore, weather information can be an important external factor for assortment planning.
Chapter 3

Methodology

The purpose of this study is to develop a retail buying model for clothing retailers. As elaborated in Chapter 1, the conceptual retail buying model was developed by using several theoretical and conceptual frameworks, suggested models, and results from previous relevant research studies and textbooks (Da Silva et al., 2002; Duncan, 1972; Kang & Kincade, 2004; Kincade & Gibson, 2010; Mantrala et al., 2009; Nilsson & Host, 1987; Silver et al., 1998). By testing the variables and their relationships in the retail buying model, the objectives of the study are to: (a) investigate important assortment decision factors for clothing retail buying; (b) segment clothing retail buyers by their decision factor uses; (c) characterize the segments by buyer (i.e., age, gender, education, experience, employment) and company demographics (i.e., types of products, type of store, size of the firm); (d) examine the relationship between these demographic variables and decision factor uses; (e) examine the influence of the factor uses on the success of assortment planning; (f) examine the influence of the success of assortment planning on firm performance; and (g) examine the influence of extraneous variables (e.g., retail environment) on firm performance. This chapter presents the hypotheses, research design, sample and sample selection, data collection, survey instruments, data analysis, and validity and reliability, which are pertinent to the study.

Hypotheses

This study has seven hypotheses (see Figure 4).
Figure 4. Hypotheses in the Conceptual Retail Buying Model
H1. Assortment decision factors vary by level of importance.

Vendor and merchandise selections are important in retail buying decisions. Nilsson and Host (1987) identified a large number of criteria used by retail buyers to evaluate suppliers (e.g., level of potential sales, delivery, financial terms). Weber, Current, and Benton (1991) reviewed 74 articles since 1966 and found the existence of a large number of common factors used by buyers for selecting vendors. In addition, Kang (1999) explored important factors that clothing retail buyers consider for assortment planning by developing an assortment planning process model.

Assortment planning can include decision making in merchandise selection with precise quantitative buying plans. To validate retail buyers’ or merchandisers’ need for a clear direction in the assortment planning decision process, interviews with five practitioners who work for apparel retailers in South Korea were conducted. The five respondents itemized important decision criteria for assortment planning. The following 14 factors received a mean score higher than 4 out of 5: (a) company and/or store size, (b) sales potential of the products, (c) budget, (d) sales history, (e) seasonality of the item, (f) competitors’ products, (g) existing assortments, (h) target market characteristics, (i) product selection, (j) unpredicted weather change, (k) trend information search output, (l) color match with style and fabric, (m) buyer’s own experience, and (n) remaining stock level. Based on the 14 factors from the interviews and models in addition to the results of relevant research studies and textbooks, the 13 most important assortment decision factors of clothing retailers were grouped into a total of seven internal and six external decision factors for this study.
H2. Distinct segments exist within the retail buyer group based on their assortment decision factor use.

The use of decision factors for retail buying has been known to vary depending upon differences among retail buyers. Davies (1994) found that each buyer considers different factors when they make sourcing decisions. Neu, Graham, and Gilly (1988) indicated that various types of buyer retail buying behavior and negotiation performance exist, implying that clothing retail buyers can be segmented by their assortment decision factor use.

H3. The segments are characterized by buyer (i.e., age, gender, education, experience, employment) and company demographics (i.e., types of products, type of store, size of the firm).

Da Silva et al. (2002) found that there are linkages between retail buyer characteristics and the important criteria used in their decision making processes. Davies (1994) reported that younger but better qualified buyers with less experience tend to consider net profit margin rather than potential sales volume when they make sourcing decisions. Davies (1994) concluded that personal factors (e.g., age, experience) can define the retail buying of each buyer. Neu et al. (1988) indicated that a gender difference influences negotiation performance and retail buying behavior, although the influence is weak. Some researchers indicated that the important merchandise selection criteria, vendor selection criteria, and information sources differ depending on the company characteristics (e.g., store type, merchandise classification; Francis & Brown, 1985; Hirschman, 1981; Hirschman & Mazursky, 1982; Stone, 1987), which implies that the retail buyers segments identified in Hypothesis 2 can be characterized by the buyer (i.e., age, gender, education, experience, employment) and company demographics (i.e., types of products, type of store, size of the firm).
**H4.** The buyer (i.e., age, gender, education, experience, employment) and company demographic variables (i.e. types of products, type of store, size of the firm) are correlated with assortment decision factor use.

The preliminary interviews were also used to examine the impact of the buyer’s background and company characteristics on assortment decision making. The five respondents asserted that their experience and the characteristics of the company they worked for influenced their use of important factors in retail buying. This qualitative finding is also supported in the literature (e.g., Kang & Kincade, 1999; Kline & Wagner, 1994; Da Silva et al., 2002). Silver et al. (2002) reported that clear correlations exist between buyer characteristics and different use of criteria for buying decision making. In addition, Wagner et al. (1989) found that various uses of vendor selection criteria exist among different divisions, even in the same department store (e.g., ready-to-wear, home fashion, accessories). This implies that the buyer (i.e., age, gender, education, experience, employment) and company demographic variables (i.e. types of products, type of store, size of the firm) influence the use of assortment decision factors.

**H5.** Assortment decision factor use influences the success of assortment planning.

Product assortment planning consists of a series of trade-offs based on the decision factors, and then retailers invest in people in the firm according to the basic assortment decisions they make (Mantrala et al., 2009). The ultimate goal of successful assortment planning is to give benefits to customers so that they can find and buy what they want (Mantrala et al., 2009). Successful product assortment planning provides the expected assortment to customers and does not lead to losses in current or potential sales. To meet the heterogeneous nature of customers’ demands, which differ by location, many large retailers make an effort to differentiate their assortments to satisfy local demands rather than making a national-level product assortment
decision (Mantrala et al., 2009). The success of retail buyers can be determined by their capability to provide the right merchandise, in the right quantity, and at the right time and place (Arbuthnot, 1997). Therefore, the success of assortment planning can be measured using the level of customer satisfaction with the retailers’ product assortments and the buyer’s evaluation of the quantitative decisions they made. Previous research implies that the success of assortment planning is influenced by the use of important assortment factors.

**H6. The success of assortment planning influences firm performance.**

In business, a firm’s performance can be measured in a variety ways. One measurement important to the continuation of profit for a business is the financial performance of the firm. In general, a firm’s financial performance can be measured with variables such as new product sales, profit, capital used, and return on assets (ROA; Hsu, Lin, Lawler, & Wu, 2007). In other cases, firms use measurements such as return on investment (ROI), earnings per share (EPS), and net income after tax (NIAT) for financial performance (Grossman, 2000). In the operations management field, firm performance is measured by evaluating the firm’s market share, return on assets, overall quality, overall competitive position, and overall customer service levels (Kannan & Tan, 2006). In various business and operations management studies, these measures have been shown to be accurate indicators of a firm’s performance.

A few studies have been conducted to examine either a generalized or narrow view of firm performance and assortment planning. If a retailer fails to provide assortments that customers want, the retailer incurs losses in current and potential sales by not being able to induce the customers to return (Mantrala et al., 2009). Krishnan and Kothari (2009) indicated that, although saleable new products might be introduced by manufacturers, their success can depend on how well the products are carried by retailers finding space in their stores. The
decision retail buyers make about merchandise requirements and supplier selection ultimately contribute to the financial performance and success of the retail business (Fiorito, 1990). Generally the retail literature supports the proposition that buying decisions significantly impact the profitability of retailers (e.g., Kincade & Gibson, 2010). In the pilot interviews of the current study, all five respondents agreed that the success of assortment planning for retail buying impacts sales and profits, which are measures of the firm’s financial performance. Previous research implies that the success of assortment planning impacts firm performance.

**H7. The retail environment (i.e., store management, sales personnel, promotion of merchandise) influences firm performance.**

Besides the success of assortment planning based on the use of assortment decision factors, several extraneous variables that may affect firm performance exist at the operation level (i.e., store management, sales personnel, promotion of merchandise). Kincade and Gibson (2010) indicated that retail buyers or merchandisers are engaged in tasks for promoting merchandise, and these tasks influence sales of merchandise. According to Amirani and Gates (1993), store image is one of the most important determinants of successful retail business. Some research studies show that store convenience influences consumers’ repurchase likelihood (e.g., Berry, Seiders, & Grewal, 2002). In addition, satisfaction in managing sales managers and personnel are measured as a part of store management because sales personnel have the most immediate impact on customers (Williams & Attaway, 1996), and customer satisfaction and retention is a critical determinant of retail success (Pettijohn, Pettijohn, & Taylor, 2007). Existing research implies that the retail environment (i.e., store management, sales personnel, promotion of merchandise,) influences the performance of clothing retailers.
Summary

Previous literature and the pilot interviews indicate that a number of variables are related to the activities of assortment planning, as well as the final outcome of an executed plan. These relationships are shown in Figures 4 and 5. Figure 4 indicates how the retail buying model can be tested using the seven hypotheses, and Figure 5 shows the structural equation model among the variables in the model.

Figure 5. Conceptual Structural Equation Model
Operational Definitions

- Assortment Planning – A part of merchandise planning that involves making specific quantitative plans for the organized collection of products and each product carried in each store at each point in time (Kincade et al., 2004; Kok et al., 2006).

- Merchandise Planning – Overall planning for merchandise for a new season or year, which includes budgeting, planning sales, and predicting market demand (Clodfelter, 2008; Frings, 2005).

- Retail Buying Planning – Planning for retail buying, which generally includes merchandise planning, assortment planning, and inventory management (Clodfelter, 2008; Frings, 2005; Rabolt & Miler, 2009).

Assumptions

- Differences in the use of assortment decision factors exist among clothing retail buyers. Kang (1999) concluded that assortment planning was differentiated by company size but not store type. Da Silva et al. (2002) found that correlations exist between buyer characteristics and the importance that the buyers place on different factors for the decision making process.

Delimitations

- The study confines itself to clothing retailers in South Korea.

Limitations

- Common variance in methods may exist with data where respondents’ perceptions of
variables were used to form five out of nine variables.

- Data gathered pertain to respondents’ perceptions of variables (e.g., overall quality, level of success in assortment planning)
- Responses were obtained from one or more than one person from the company, but may not have been identifiable in the data.
- Interpretation of the data was based on respondents’ common understanding of the information being asked.

**Research Design**

This study examined important assortment decision factors and tested the retail buying model. The retail buying model includes important decision factors for assortment planning within the retail buying process, which ranges from merchandise planning to firm performance with extraneous variables that influence decisions regarding assortments and firm performance, respectively. The research design of this project is an exploratory research study using a single cross-sectional sample design employing a pen and paper survey method.

A number of previous research studies, examining product development or assortment planning processes, employed qualitative research methods (e.g., case study, interview, literature review). To advance the knowledge in this field, this research study used quantitative research methods in order to test the model by examining the relationships among variables with a large sample. The results of previous qualitative studies provided strong background for quantitative questionnaire development for this research. Creswell (2003) indicated that quantitative research methods are suitable when researchers investigate the relationships between two or more variables. Churchill (1999) addressed that quantitative research studies examining relationships
among variables are usually led by hypotheses. The previous research provided background for formation of hypotheses. Advantages of a single cross-sectional study include simplicity of the methods, requiring a single sampling of respondents, and being rapid in collecting data from a large sample (Creswell).

Sample and Sample Selection

The population of interest for the study is clothing retail buyers or merchandisers who work for large retailers (e.g., specialty store chains, department stores, discount stores) and small retailers (e.g., a boutique) in Seoul, South Korea. In general, some large retail stores (e.g., department stores, discount stores) carry a variety of products (e.g., clothing, furniture, home fashions, electronics), and the buyers’ tasks may be involved with more than one type of products. However, because the purpose of this study is to develop a retail buying model for clothing retailers, only buyers or merchandisers whose primary buying task is to purchase clothing for their retailer are included in the sample.

Depending on the company size or corporate culture, the buyers’ tasks also include assortment planning, while for other retailers, the merchandisers are the ones who make decisions related to assortments. Because this study focuses on developing a retail buying model based on assortment decision factors, only clothing retail buyers whose tasks include both assortment planning and buying can provide this information. Therefore, the sample included clothing retail buyers whose main tasks were both assortment planning and the purchase of assortments.

The participants in the study were not limited by age, gender, or years of experience. The buyer’s demographic characteristics were used for testing Hypotheses 3 and 4, and the sample
sizes of respondents in each bracket of buyers’ demographic items were not assigned when the survey was conducted. Instead, the standard deviation and sample size of each bracket of demographics were examined after data collection. In addition, non-proportional quota sampling was used for company size by specifying the minimum number of respondents for buyers from large retailers and small retailers. The minimum sample size for each category was 150.

This study used convenience and snowball sampling by surveying buyers and merchandisers of women’s, men’s, children’s wear and other clothing-related products. These buyers and merchandisers worked for various retailers including buyers of a mass merchandise store located in South Korea. These retailers contracted with companies for cut and sew operations but retained product developing and assortment planning activities. The researcher visited each company and store after making an appointment with participants on the phone. Although this convenience sampling seems to be narrow, the units in the sampling frame are actually quite large in number and are diverse in composition. According to Heckathorn (1997), the respondent-driven sampling (RDS), which is basically a form of snowball sampling, yields results comparable to probability sampling. Generally two to five buyers or merchandisers per brand work for one retail clothing company. For small companies (e.g., one or two stores), the owner conducts assortment planning and buying. Snowball sampling is particularly useful when you extract a sample from the populations that are hard to find (Trochim, 2005). The population of buyers and merchandisers for clothing products qualifies as “hard to find,” as there is not a distinct professional organization and these employees are generally proprietary in their work. Snowball sampling method is an effective and practical sampling often used in management.
Data Collection

A protocol including the purpose of the study and data collection methods was submitted to the Institutional Review Board (IRB) for Research Involving Human Subject for approval following the approval by the proposal defense committee. After IRB approval for this study of human subjects, two pilot tests, first with 27 American respondents and second with five Korean practitioners, who were not included in the final study, were conducted. For the large retailers and mid-sized retail companies, the researcher contacted former co-workers and mentors in South Korea by phone. Then, the researcher visited Seoul, South Korea and made appointments with practitioners currently working for fashion retail companies. By the researcher visiting each company and using face-to-face meetings, the finalized hard copies of the questionnaire were distributed to the practitioners. If the participants were able to complete the questionnaire immediately, the researcher waited and collected them. If the respondents were not able to complete the questionnaire immediately due to their job tasks, the questionnaires were sent to the researcher by using delivery companies (e.g., Fedex) within a few days. Most of the researcher’s initial respondents introduced other practitioners to the researcher. Questionnaires were then distributed to these practitioners.

In order to conduct the survey with many small retailers (i.e., independent stores), two personnel, who owned clothing retail stores in Dongdemon, were hired to assist the researcher. These two assistants were trained by the researcher about the research study and questionnaire. By the researcher and assistants, copies of the questionnaire were distributed to 150 small clothing retail stores. One copy of the questionnaire was distributed to one store because generally only the owner of a store is involved in both assortment planning and buying products. Clothing retail stores located in Dongdemon, Gayangdong, Guachun, and Mokdong in Seoul
participated in the study. The introduction section of the questionnaire started with several screening questions supplied by the researcher in order to ensure that the store owners were qualified to be respondents for this study. If individuals did not meet the sample requirements or do not answer these questions, they are not included in data analysis. Only those who met the sample requirements (i.e., clothing retail buyers who are involved in both assortment planning and buying assortments) were included in data analysis. The two personnel were paid $5 for each completed questionnaire. The qualified participants of small stores completed a survey in exchange for non-monetary rewards provided by the researcher. The participants gained the non-monetary compensation by receiving a lip balm with the distribution of the questionnaire. The human subjects consent form for the use of data was signed by participants before they started the answering screening questions. Data was collected until 425 participants completed the entire survey questionnaire, and 350 usable data sets were analyzed after adopting the listwise deletion method.

**Instrument**

The instrument consisted of a questionnaire divided into two sections: (a) activities in the retail buying process and influences on the process (i.e., importance of assortment decision factors, assortment planning outcomes, firm performance, and retail environment); and (b) buyer and company demographics. The four questions in regards to assortment planning success and firm performance were restricted to an evaluation of last year performance in order to help respondents understand what the questions intend to ask.

The questions were adapted or modified from items used in previous research studies (i.e., Arbuthnot, 1997; Grewal & Slotegraaf, 2007; Kannan & Tan, 2006; Vorhies & Morgan,
2005; Zou & Cavusgil, 2002). Several types of Likert-scales were used for the questions in the two sections. The entire questionnaire, written in English, is presented in Appendix A, and the final copy of the questionnaire translated into Korean is presented in Appendix B.

*Measures of variables.* Table 6 shows the questions used to measure each variable, including assortment decision factors, assortment planning success, firm performance and the retail environment. Measurement of each variable is discussed in the following sections.
Table 6. Measures of Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measurement</th>
<th>Number of Questions</th>
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<tbody>
<tr>
<td>Assortment Decision Factors</td>
<td>7 Internal Decision Factors</td>
<td>14 Questions</td>
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<td></td>
<td>(2 Questions per Factor)</td>
<td>(2 Questions per Factor)</td>
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<td></td>
<td>6 External Decision Factors</td>
<td>12 Questions</td>
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<td><strong>Assortment Planning Success</strong></td>
<td><strong>Compared to Sales Plan</strong></td>
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<tr>
<td></td>
<td>Success in Assortments</td>
<td>3 Questions</td>
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<td></td>
<td>Success in Customer Satisfaction</td>
<td>3 Questions</td>
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<tr>
<td><strong>Assortment Planning Success</strong></td>
<td><strong>Compared to Competitors</strong></td>
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<td></td>
<td>Success in Assortments</td>
<td>3 Questions</td>
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<td></td>
<td>Success in Customer Satisfaction</td>
<td>3 Questions</td>
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<tr>
<td><strong>Firm Performance</strong></td>
<td><strong>Compared to Plan</strong></td>
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<td></td>
<td>Market Share</td>
<td>5 Questions</td>
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<td>Overall Profitability</td>
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<td></td>
<td>Overall Product Quality</td>
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<td></td>
<td>Overall Competitive Position</td>
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<tr>
<td></td>
<td>Overall Customer Service levels</td>
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<tr>
<td><strong>Firm Performance</strong></td>
<td><strong>Compared to Competitors</strong></td>
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<td>Market Share</td>
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<td>Overall Competitive Position</td>
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<td>Overall Customer Service levels</td>
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<td><strong>Retail Environment</strong></td>
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<td></td>
<td>Store Management</td>
<td>3 Questions</td>
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<td></td>
<td>Store Personnel</td>
<td>3 Questions</td>
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<td></td>
<td>Promotion</td>
<td>3 Questions</td>
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<tr>
<td><strong>Buyer Demographics</strong></td>
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<td></td>
<td>Age</td>
<td>5 Questions</td>
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<td>Gender</td>
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<td>Education</td>
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<td></td>
<td>Years of Experience</td>
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<td></td>
<td>Years of Employment</td>
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<tr>
<td><strong>Company Characteristics</strong></td>
<td>Types of Products</td>
<td>4 Questions</td>
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<td></td>
<td>Type of Store</td>
<td>(1 Question for each, except for 2 Questions for the type of store)</td>
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<td></td>
<td>Size of the Firm</td>
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**Assortment decision factors.** The items on assortment decision factors (n=13) were extracted from four previous research studies (i.e., Duncan, 1972; Mantrala et al., 2009; Kang & Kincade, 2004; Silver et al., 1998), two textbooks (i.e., Kincade & Gibson, 2010; Nilsson & Host, 1987), and preliminary interviews. Participants were asked the following question in regards to a number of decision factors: When you conduct assortment planning, how important are the following items? The following Likert scale was used with the items: 1. Least important, 2. Less importance, 3. More important, and 4. Most important. The specific source for each of the 13 items is listed below:

- Budget (Open-to-buy dollars; Kang & Kincade, 2004; Mantrala et al., 2009)
- Store and floor space (Kang & Kincade, 2004; Mantrala et al., 2009)
- Product brand image (Mantrala et al., 2009)
- Sales history (Kang & Kincade, 2004)
- Salability of products (Kang & Kincade, 2004)
- Product costs and markups (Nilsson & Host, 1987; Preliminary Interviews)
- Remaining stock level (inventory; Kang & Kincade, 2004; Silver et al., 1998)
- Characteristics and demand of target market (Duncan, 1972; Mantrala et al., 2009; Kang & Kincade; Kincade & Gibson, 2010)
- Fashion trend information (Kang & Kincade, 2004)
- Competitors’ products and assortment planning (Duncan, 1972; Mantrala et al., 2009)
- Evaluation of suppliers (Duncan, 1972; Kang & Kincade, 2004)
- Economic conditions (Kang & Kincade, 2004; Mantrala et al., 2009)
- Weather Information (Kang & Kincade, 2004; Preliminary Interviews).
Assortment planning success. Assortment planning success requires the respondents to answer the following two question: (a) Compared to your sales plan, what is the level of success of your assortment planning for last year in terms of [Assortments], [Customer Satisfaction]? and (b) Compared to your major competitors, what is the level of success of your assortment planning for last year in terms of [Assortments], [Customer Satisfaction]? The two success questions were evaluated on the concepts of these assortment items and their customer satisfaction items. The Likert scale responses included the following items: 1. Much lower, 2. Lower, 3. About the same, 4. Higher, and 5. Much higher. The specific measures and the sources of these items are as follows:

- **Assortments**
  - Getting the right merchandise at the right price (Grewal & Slotegraaf, 2007)
  - Getting the right merchandise at the right delivery time (Grewal & Slotegraaf, 2007)
  - Balancing assortment variety (number of categories), depth (number of styles, colors, sizes), and amount of inventory for each style (for question (a); Preliminary Interviews)
  - Tailoring merchandise assortments to individual markets (for question (b); Grewal & Slotegraaf, 2007)

- **Customer Satisfaction**
  - Offering the right merchandise at the right time and place for overall customer satisfaction (modified from Vorhies & Morgan, 2005)
  - Delivering what the customers want (Vorhies & Morgan, 2005)
  - Retaining valued customers (Vorhies & Morgan, 2005).
**Firm performance.** The measure for firm performance (i.e., market share, return on assets, overall quality, overall competitive position, and overall customer service levels) is drawn from the study by Kannan and Tan (2006). Through the first pilot test, the respondents reported that the item of return on assets did not match with the characteristics of clothing retailers. Therefore, the item of overall profitability was replaced in the final measure for firm performance for the study instead of return on assets. The wording of the two questions are as follows: (a) Compared to your plan, what is the level of your firm’s performance for last year in terms of [Performance]? and (b) Compared to your major competitors, what is the level of your firm’s performance for last year in terms of [Performance]? These items were rated using the following Likert scale: 1. Much lower, 2. Lower, 3. About the same, 4. Higher, and 5. Much higher. The performance items for this measure are presented in the following list:

- Market share
- Overall profitability
- Overall product quality
- Overall competitive position
- Overall customer service levels.

**Retail environment.** The retail environment provides a variety of information cues that affect consumers’ buying behavior, and these cues include the store atmosphere, the products and brands, promotional directives, and the price of the products in the store (Kincade & Gibson, 2010; Sirgy, Grewal, & Mangleburg, 2000). In addition, Sharma and Stafford (2000) found that nicer retail environments lead to higher expectations for the perceived level of credibility for retail sales persons. The question for this variable is posed as the following: To what extent do you agree or disagree with the following opinions? The Likert type scale for this section is set as
the following: 1. Strongly disagree, 2. Somewhat disagree, 3. Neutral, 4. Somewhat agree, and 5. Strongly agree. This variable is measured on three dimensions (i.e., store management, store personnel, and promotion). The buyer must work with all store functions to have a successful assortment plan. The exact statements are drawn from previous studies and are listed below:

- **Store Management**
  - My company is very dedicated to managing our stores’ atmospherics (environments; Grewal & Slotegraaf, 2007).
  - We have excellent processes in place for in-store space planning (Grewal & Slotegraaf, 2007).
  - We often review the design of our stores to determine whether changes are needed (Grewal & Slotegraaf, 2007).

- **Sales Personnel**
  - We have a very intensive program for recruiting and training store employees (Grewal & Slotegraaf, 2007).
  - We are satisfied with our efforts at managing our store employees (Grewal & Slotegraaf, 2007).
  - The knowledge and skills of store employees deliver superior quality work and service (Modified from Grewal & Slotegraaf, 2007).

- **Promotion**
  - Execution of our advertising differs and outperforms our competitors (Modified from Zou & Cavusgil, 2002).
  - We use very different techniques for sales promotion from our competitors (Modified from Zou & Cavusgil, 2002).
We are satisfied with our efforts for advertising and promoting merchandise (Modified from Grewal & Slotegraaf, 2007).

Demographics. The demographic questions were selected from Arbuthnot (1997) because that study included research questions regarding demographics about the buyer and the characteristics of the retail company. Arbuthnot’s (1997) demographic questions were developed only for small retailers; therefore, the question for this study in regards to size of the firm was modified to be inclusive of data for both large and small retailers. In addition, questions regarding types of clothing products and the type of store were added to this study. The background questions included multiple choice questions about the buyer’s characteristics as follows:

- Age
- Gender
- Education
- Years of experience
- Years of employment with the current retail firm

The characteristics of the company include the following variables:

- Types of products (women’s, men’s, children’s wear, fashion related products, other)
- Type of store (department store, specialty chain store, specialty store, mass merchandise store, other)
- Size of the firm.

Data Analysis

The copies of completed questionnaires were gathered, and data were recorded by using
Data analysis for this study used descriptive statistics, K-means cluster analysis, exploratory factor analysis, Chi-square, ANOVA, correlation, and Structural Equation Modeling (SEM). Descriptive statistics (i.e., distribution, means, standard deviations, and frequency) was employed to examine the buyer demographics and company characteristics. Further analysis was conducted using the SPSS 16.0, Analysis of Moment Structure (AMOS) and Linear Structural Relationships (LISREL) 8.80. Cronbach’s alpha with exploratory factor analysis was used for all items that were measured on four-point or five-point Likert scales. Exploratory factor analysis is commonly used for the purpose of data reduction and reliability improvement (Churchill, 1999). For testing the model, the results of this analysis were used for variable formation of Likert style variables.

For testing Hypothesis 1, the mean and standard deviation were used to rank important decision factors for assortment planning (see Table 7). To test Hypothesis 2, retail buyers were segmented by their assortment decision factor use through exploratory factor analysis and K-means cluster analysis (see Table 7). Factor analysis was used to examine the items for each variable, with Cronbach’s alpha calculated to examine the reliability of the construct. Items with rotated factor loadings greater than 0.5 were extracted, and constructs were identified with an Eigen value greater than 1.0. If items load on multiple factors, it is called cross-loading and causes multicollinearity (Churchill, 1999). Because multicollinearity increases the standard error of the factor loadings, keeping factors with factor loadings of 0.50 or greater for individual items on one factor and cross loadings less than 0.40 on any other factors are suggested by Hair, Tatham, Anderson, and Black (1998) to avoid the problems related to multicollinearity. Items that are cross loaded were evaluated for the standard suggested by Hair et al. (1998) and eliminated if not meeting the criteria. Although K-means cluster analysis is known to be
<table>
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<th>Hypothesis</th>
<th>Hypothesis Content</th>
<th>Data Analysis</th>
<th>Questions</th>
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<td>Hypothesis 1</td>
<td>Importance of Factors</td>
<td>Mean Standard Deviation</td>
<td>Part 1-1. #1-14 (Internal Factors) Part 1-2. #1-12 (External Factors)</td>
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<td>Hypothesis 2</td>
<td>Segmentation of Retail buyers Based on Assortment Decision Factor Use</td>
<td>Factor Analysis ANOVA K-Means Clustering</td>
<td>Part 1-1. #1-14 (Internal Factors) Part 1-2. #1-12 (External Factors)</td>
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<td>Hypothesis 5</td>
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<td>Structural Equation Model (SEM) Squared Multiple Regression ($R^2$)</td>
<td>Part 2-1. #1-6 Part 2-2. #1-6</td>
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<td>Hypothesis 6</td>
<td>Influence of the Success of Assortment Planning on Firm Performance</td>
<td>SEM Squared Multiple Regression ($R^2$)</td>
<td>Part 3-1. #1-5 Part 3-2. #1-5</td>
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<td>Hypothesis 7</td>
<td>Influence of Retail Environment on Firm Performance</td>
<td>SEM Squared Multiple Regression ($R^2$)</td>
<td>Part 4. #1-9.</td>
</tr>
</tbody>
</table>
somewhat subjective, this statistical method has been commonly used for market segmentation (Song, 2010). For Hypothesis 3, Chi-square was utilized to characterize the segments of buyers and merchandisers from Hypothesis 2, using buyer and company demographics and characteristics. For Hypothesis 4, Pearson and Spearman Correlations were used to test if correlations exist between buyer and company demographic variables and decision factor use. For continuous variables (i.e., age, years of experience, years of employment), Pearson Correlation was used while for nominal or ordinal scaled variables (i.e., gender, education, types of products, type of store, size of company), Spearman Correlation was used as suggested by Song (2010). A value of $\pm 2$ or greater was considered as an existing correlation with $p$-value of .05 or below (Song, 2010).

In order to test Hypotheses 5 to 7, a Structural Equation Model (SEM) was developed. Developing SEM supplies a statistical method for identifying multiple relationships among variables with high statistical efficiency (Hair et al., 1998). This general statistical model includes factor analysis correlation, regression, and path analysis (Kline, 2005). In order to get rid of any restrictions or add new paths among the variables, Chi-square value greater than 4.00 was used. Because the critical value in Chi-square distribution with one degree of freedom is 3.84, the drop in Chi-square less than 3.84 causes the change to not be significant. The reason for setting the criterion at 4.00 instead of the exact value of 3.84 is only for convenience (Structural Equation Modeling with AMOS, 2005). However, Chi-square value divided by degrees of freedom (CMIN/DF) was reviewed to examine the model fit instead of Chi-square test because Chi-square test is sensitive to sample size (Cho, 2008). If a CMIN/DF is 3 or below, the model is acceptable (Carmines & Mclver, 1981).

The goodness of fit index (GFI) and adjusted goodness of fit model (AGFI) are absolute
indexes of fit, and do not compare the hypothesized model with any other model (Hu & Bentler, 1995). If an index value is equal to or greater than 0.90, the model is acceptable (Byrne, 2001; Structural Equation Modeling with AMOS, 2005). For comparative indexes of fit which do compare the hypothesized model with standard models, the incremental-fit-index (IFI), comparative-fit-index (CFI) and Bentler-Bonnet normed-fit-index (NFI) were reported. These three comparative indexes of fit have been considered as good indexes. An index value close to 0.95 is an indicator of good fit (Hu & Bentler, 1995).

In addition to examining CMIN/DF, absolute indexes of fit, and comparative indexes of fit, Byrne (2001) referred to the root mean square error of approximation (RMSEA) as one of the most informative criteria in covariance structure modeling. An index value less than 0.08 was used as an acceptable level of model fit (Browne & Cudeck, 1993). The root mean square residual (RMR) was also used with an index value less than 0.05 as suggested by Song (2010).

Last, but not least, the standard regression weight (β) was reviewed to identify critical factors that contribute the most influence to dependent variables (Cho, 2008). The squared multiple regression ($R^2$) was reported to explain the percentage of variance accounted for by the predictors of the endogenous variables (Cho, 2008).

**Validity and Reliability**

*Validity.* In general, construct validity is the type mostly measured for research studies. The construct validity of an instrument refers to how well it measures the outcome the researcher wanted to measure (Trochim, 2005). Construct validity includes five types of validity: face validity, content validity, predictive validity, concurrent validity, and discriminant validity. To increase validity of the instrument, first of all, an operational definition of each variable in the
current study should be clearly described based on the conceptual frameworks and results from previous literature as suggested by Cho (2008). Before developing the questionnaire, preliminary interviews were conducted with five respondents working in the fashion industry in South Korea. Through the interviews, the need for the current research was confirmed, and important assortment decision factors and each step of the process for clothing retail buying were shared. To measure the variables in the study, questions were collected not only from previous relevant empirical studies but also developed based on the preliminary interviews.

Three academic personnel who have marketing and industry research experience, served on members of the expert panel. After the expert panel read the questionnaire, they were asked to give feedback about the content, wording, and flow of the questions. These experts answered open ended questions about the questionnaire. The feedback from the experts was utilized by removing ambiguous words or statements to modify the questionnaire in order to insure that the questions were distinct and clear. A pilot test with the revised questionnaire was conducted using a convenience sample of 27 undergraduate and graduate students who had or have retail experience. Based on the feedback from this pilot test, the word choices, overall readability of questions, and order of questions were revised. After the first pilot test, the revised questionnaire was translated into the Korean language, and another pilot test was conducted using a convenience sample of five Korean practitioners not in the final sample. Finally, in regards to the word choices, word meanings, and the font sizes, the Korean questionnaire was revised based on the feedback from the second pilot test.

Reliability. Reliability entails the concept of how consistently repeated measures provide similar results given the same initial condition (Trochim, 2005). Characteristics of reliability include consistency and repeatability. Reliability estimates include inter-observer reliability, test-
retest reliability, parallel forms reliability, and internal consistency reliability. In instrument development, internal consistency in the questionnaire is generally the focus for reliability (Cho, 2008). Internal consistency can be defined as a scale item’s level of correlation with other items in the same scale when measuring the same construct. Generally, the scale items that fall under the same construct should exhibit positive correlations with each other to measure variables with high reliability.

Cronbach’s alpha has been a common measure of internal consistency reliability in the social science research area (Cho, 2008). In general, if the Cronbach’s alpha score is greater than 0.7, the scale is considered reliable in measuring the construct, as suggested by Hair et al. (1998). In some textbooks, a Cronbach’s alpha of 0.6 or greater can be considered reliable (e.g., Song, 2010). For the current study, 0.6 is acceptable for the Cronbach’s alpha value because of the exploratory nature of the study.
Chapter 4

Results and Discussion

The purpose of this study was to develop a retail buying model for clothing retailers. In order to test the variables that comprise the retail buying model, the objectives of the study were to: (a) investigate important assortment decision factors for clothing retail buying; (b) segment clothing retail buyers by their decision factor uses; (c) characterize the segments by buyer (i.e., age, gender, education, experience, employment) and company demographics (i.e., type of products, type of stores, size of the firm); (d) examine the relationship between these demographic variables and the factor uses; (e) examine the influence of the factor uses on the success of assortment planning; (f) examine the influence of the success of assortment planning on firm performance; and (g) examine the influence of the retail environment (i.e., store management, sales personnel, promotion) on firm performance.

To validate retail buyers’ or merchandisers’ need for a clear direction regarding the assortment planning decision factors and process, preliminary interviews were conducted with five practitioners who work for clothing retailers in South Korea (see Table 1). Based on the preliminary interviews and literature review, 13 assortment decision factors were extracted. The questions for the survey were adapted or modified from items used in previous research studies (i.e., Arbuthnot, 1997; Grewal & Slotegraaf, 2007; Kannan & Tan, 2006; Vorhies & Morgan, 2005; Zou & Cavusgil, 2002).

After IRB approval for this study of human subjects, two pilot tests, first with 27 American respondents and second with 5 Korean retail practitioners, who were not included in the final study, were conducted. Adjustments were made to wording. Data collection was conducted using convenience and snowball sampling. By the researcher and assistants visiting
each company and using face-to-face meetings, the finalized hard copies of the questionnaire were distributed to the practitioners for full data collection. This chapter reports on the profiles of respondents including the response rate, demographic information, and company characteristics, concluding with the results of the hypothesis tests.

Profiles of Respondents

Response rate. Of the 500 surveys distributed to large, mid-sized, and small clothing retailers, 425 were returned (85%). Surveys with (a) employees not involved in buying and assortment planning or (b) any incomplete questions were not included in the final sample. The adjusted number of usable surveys was 378, or 78% of the original distribution. Although convenience and snowball sampling methods were used, the response rate was lower than the anticipated return rate (90%). The low response rate may be attributed to the limited time, as only one week was allocated to collecting the data. In addition, characteristics of the respondents’ occupation, which requires frequent business trips in or out of the country, may also have affected the response rate. For small retail store owners, the questions were difficult to finish due to interruptions by their customer traffic, so some respondents did not submit incomplete questionnaires. Table 8 shows the number of respondents and usable data by firm size.
Table 8. Number of Respondents and Usable Data

<table>
<thead>
<tr>
<th>Firm Size</th>
<th>Incomplete</th>
<th>Eliminated</th>
<th>Usable Data</th>
<th>Total Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Retailer (Independent Store)</td>
<td>18</td>
<td>18</td>
<td>113</td>
<td>100% (131)</td>
</tr>
<tr>
<td>Mid-Sized Retailer</td>
<td>18</td>
<td>18</td>
<td>153</td>
<td>100% (171)</td>
</tr>
<tr>
<td>Large Retailer</td>
<td>11</td>
<td>11</td>
<td>112</td>
<td>100% (123)</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>47</td>
<td>378</td>
<td>100% (425)</td>
</tr>
</tbody>
</table>

Demographic information. Table 9 shows the sample distribution by gender, age, years of experience, and years of employment with the current firm. Results showed that the percentage of female respondents (52.7%) in the study was slightly more than that of male respondents (47.3%; see Table 9). The age category is close to a normal distribution. The largest age bracket was from 30 – 34 years old (32.8%) and the second largest bracket was from 35 – 39 years old (28.3%).

In the study, most respondents had a bachelor’s degree (69.8%), and two-year college graduates (14.6%) were the second highest bracket. In the category of experience, the percentage for 2 years and less was similar to the percentage for 8-10 years. The experience groups of 8-10 years (22.5%) and 2 years and less (20.4%) were the highest percentages of respondents in the study.

Respondents in the study had a short time of employment with the current firm compared to their entire years of experience in the industry. Most respondents were employed by
Table 9. Demographic Information

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>178</td>
<td>47.1%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>200</td>
<td>52.9%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>378</td>
<td>100.0%</td>
</tr>
<tr>
<td>Age</td>
<td>24 years and younger</td>
<td>7</td>
<td>1.9%</td>
</tr>
<tr>
<td></td>
<td>25 – 29 years old</td>
<td>71</td>
<td>18.8%</td>
</tr>
<tr>
<td></td>
<td>30 – 34 years old</td>
<td>124</td>
<td>32.8%</td>
</tr>
<tr>
<td></td>
<td>35 – 39 years old</td>
<td>107</td>
<td>28.3%</td>
</tr>
<tr>
<td></td>
<td>40 – 44 years old</td>
<td>51</td>
<td>13.5%</td>
</tr>
<tr>
<td></td>
<td>45 – 49 years old</td>
<td>13</td>
<td>3.4%</td>
</tr>
<tr>
<td></td>
<td>50 years and older</td>
<td>5</td>
<td>1.3%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>378</td>
<td>100.0%</td>
</tr>
<tr>
<td>Education Level</td>
<td>Middle School</td>
<td>2</td>
<td>0.5%</td>
</tr>
<tr>
<td></td>
<td>High School</td>
<td>43</td>
<td>11.4%</td>
</tr>
<tr>
<td></td>
<td>Some College</td>
<td>55</td>
<td>14.6%</td>
</tr>
<tr>
<td></td>
<td>Bachelor’s Degree</td>
<td>264</td>
<td>69.8%</td>
</tr>
<tr>
<td></td>
<td>Baccalaureate</td>
<td>14</td>
<td>3.7%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>378</td>
<td>100.0%</td>
</tr>
<tr>
<td>Years of Experience</td>
<td>2 years and less</td>
<td>77</td>
<td>20.4%</td>
</tr>
<tr>
<td></td>
<td>3 – 5 years</td>
<td>60</td>
<td>15.9%</td>
</tr>
<tr>
<td></td>
<td>6 – 7 years</td>
<td>62</td>
<td>16.4%</td>
</tr>
<tr>
<td></td>
<td>8 – 10 years</td>
<td>85</td>
<td>22.5%</td>
</tr>
<tr>
<td></td>
<td>11 – 13 years</td>
<td>51</td>
<td>13.5%</td>
</tr>
<tr>
<td></td>
<td>14 – 17 years</td>
<td>31</td>
<td>8.2%</td>
</tr>
<tr>
<td></td>
<td>18 years and more</td>
<td>12</td>
<td>3.2%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>378</td>
<td>100.0%</td>
</tr>
<tr>
<td>Years of Employment with the Current Firm</td>
<td>2 years and less</td>
<td>180</td>
<td>47.6%</td>
</tr>
<tr>
<td></td>
<td>3 – 5 years</td>
<td>78</td>
<td>20.6%</td>
</tr>
<tr>
<td></td>
<td>6 – 7 years</td>
<td>54</td>
<td>14.3%</td>
</tr>
<tr>
<td></td>
<td>8 – 10 years</td>
<td>41</td>
<td>10.8%</td>
</tr>
<tr>
<td></td>
<td>11 – 13 years</td>
<td>16</td>
<td>4.2%</td>
</tr>
<tr>
<td></td>
<td>14 – 17 years</td>
<td>4</td>
<td>1.1%</td>
</tr>
<tr>
<td></td>
<td>18 years and more</td>
<td>5</td>
<td>1.3%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>378</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
the current firm for 2 years or less (47.6%) while only 20.4% had less than 2 years of experience in the fashion industry. A total of 24.9% of respondents had experience of 11 years or longer in the industry, but only 6.6% maintained their career in the firm where they started their career. This result supports the high turnover rate in the fashion industry.

*Company characteristics.* Table 10 shows the company characteristics. Regarding the types of products the company carries, Women’s products (42.6%) were the highest bracket, and Women’s and Men’s products (24.3%) were the second highest bracket. The most commonly reported types of stores were the store within the department store (lease department; 38.6%) and the mass merchandise store (23.0%). The store within the department store (lease department) is run by clothing retail companies collaborating with the department store managers. The clothing retail companies pay a fixed portion of total sales (e.g., 38% of sales) every month to the department store.

The company size category was divided into three brackets: (a) large retailer, (b) mid-sized retailer, and (c) small retailer. The large retailer is defined as a retail firm with annual sales of $1 billion or more that employs 100 or more buyers or merchandisers. The mid-sized retailers manage multiple stores with private label brands. The annual sales of the mid-sized retailers range from $10 to $800 million with 2 to 80 buyers or merchandisers. The small retailer can be defined as a company or store which owns one or several independent stores. Usually the small retailers were owner-managed with 1 to 5 employees, and the owner did the buying. The annual sales of the small retailers varied depending on the size of the store or the price zone of the merchandise they carry. Sales figures of the small retailers were not presented in the study because the small retailers were privately owned and were not willing to reveal their financial
Table 10. Company Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of Products</td>
<td>Women’s</td>
<td>161</td>
<td>42.6%</td>
</tr>
<tr>
<td></td>
<td>Men’s</td>
<td>25</td>
<td>6.6%</td>
</tr>
<tr>
<td></td>
<td>Children’s</td>
<td>13</td>
<td>3.4%</td>
</tr>
<tr>
<td></td>
<td>Women’s and Men’s</td>
<td>92</td>
<td>24.3%</td>
</tr>
<tr>
<td></td>
<td>Women’s, Men’s and Children’s</td>
<td>60</td>
<td>15.9%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>27</td>
<td>7.1%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>378</td>
<td>100.0%</td>
</tr>
<tr>
<td>Type of Store</td>
<td>Mass Merchandise Store</td>
<td>87</td>
<td>23.0%</td>
</tr>
<tr>
<td></td>
<td>Stores (lease) in Department Store</td>
<td>146</td>
<td>38.6%</td>
</tr>
<tr>
<td></td>
<td>Specialty Store (Chain)</td>
<td>50</td>
<td>13.2%</td>
</tr>
<tr>
<td></td>
<td>Specialty Store (Independent)</td>
<td>53</td>
<td>14.0%</td>
</tr>
<tr>
<td></td>
<td>Outlet Chain store</td>
<td>17</td>
<td>4.5%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>25</td>
<td>6.6%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>378</td>
<td>100.0%</td>
</tr>
<tr>
<td>Company Size</td>
<td>Small Retailer (Independent Store)</td>
<td>113</td>
<td>29.9%</td>
</tr>
<tr>
<td></td>
<td>Mid-sized Retailer</td>
<td>153</td>
<td>40.5%</td>
</tr>
<tr>
<td></td>
<td>Large Retailer</td>
<td>112</td>
<td>29.6%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>378</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
information. In the study, the majority of the respondents worked for mid-sized retailers (57.6%) as a buyer or merchandiser.

Results of Hypotheses Testing

H1. Assortment decision factors vary by level of importance.

Based on the top 14 factors from the preliminary interviews and the results of relevant research studies and textbooks, the 13 most important assortment decision factors of clothing retailers were grouped into a total of 7 internal and 6 external decision factors for this study. In order to strengthen internal reliability, two questions were asked for each factor (e.g., competitors’ products, competitors’ assortment planning). Therefore, the level of importance of a total of 26 items was examined. The following Likert scale was used: 1. Least important, 2. Less importance, 3. More important, and 4. Most important. Because the decision factors in the study were already supported as important factors for assortment planning in previous research studies, negative scales such as “Not important” were not included. Table 11 presents the ranks of the assortment decision items with the mean and standard deviation scores.

The results showed that the mean scores of importance ranged from 2.48 to 3.50 with a variance of 1.02. The average score was 2.98 and the median was 3.00. The highest ranked factors were product salability-related, including salability of products (mean=3.50) and selling season of products (mean= 3.39). This result is consistent with the responsibility of retail buyers identified by Wegner et al. (1989), that retail buyers are responsible for both controlling the cost of purchasing finished goods and generating sales by reselling the goods. In order to resell the goods, the sales potential of products is the most important and fundamental factor to consider. This expectation about a buyer’s work could be the reason that these two items (i.e., salability of
products, selling season of products) were cross loaded. Although these items were cross loaded and had to be removed from factor analysis for clustering, salability and selling season of products are considered as the most important factors by most retail buyers and received the highest rating by the respondents.

The results also support findings from several research studies that selling history has a great impact on apparel buyers’ buying decisions (e.g., Fiorito, 1990; Francis & Brown, 1985; Hirschman, 1981; Wagner et al., 1989). As Swindley (1992) indicated, profit related factors were very important criteria in the decision-making process (i.e., overall inventory, costs and markups of products, budget). With the exception of target market-related and fashion trend related items, the highly ranked items were included in the list of internal factors (see Table 11). Highly ranked items can be defined as items with mean scores of 3 or above because the Likert scale of 3 was chosen as “More important” than other items. The other highly ranked internal factors were finance-related (i.e., inventory, markup and costs, budget) and sales history.

The lowest ranked items were customers’ disposable income (2.48) and competitors’ assortment planning (2.51). While physical space (e.g., shelf space) was one of the most important factors for assortment planning for other sectors of retailers (e.g., grocery stores; Kok & Fisher, 2006), floor space was one of the least important factors for clothing retailers. Among the lower ranking items, those items with higher means were product-related, which is similar to the finding of Arbuthnot et al. (1993). Based on the findings from the descriptive statistics, Hypothesis 1 was supported.
Table 11. Assortment Decision Items Ranked by Degree of Importance (N = 378, Scale 1 – 4)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Decision Item</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Salability of Products</td>
<td>3.50</td>
<td>0.70</td>
</tr>
<tr>
<td>2</td>
<td>Selling Season of Products</td>
<td>3.39</td>
<td>0.73</td>
</tr>
<tr>
<td>3</td>
<td>Overall Inventory</td>
<td>3.33</td>
<td>0.77</td>
</tr>
<tr>
<td>4</td>
<td>Sales History</td>
<td>3.28</td>
<td>0.71</td>
</tr>
<tr>
<td>5</td>
<td>Markups of Products</td>
<td>3.26</td>
<td>0.75</td>
</tr>
<tr>
<td>6</td>
<td>Characteristics of Target Customer</td>
<td>3.20</td>
<td>0.72</td>
</tr>
<tr>
<td>7</td>
<td>Current Fashion Trends</td>
<td>3.20</td>
<td>0.73</td>
</tr>
<tr>
<td>8</td>
<td>Budget</td>
<td>3.19</td>
<td>0.76</td>
</tr>
<tr>
<td>9</td>
<td>Product Costs</td>
<td>3.18</td>
<td>0.78</td>
</tr>
<tr>
<td>10</td>
<td>Product Brand Image</td>
<td>3.16</td>
<td>0.79</td>
</tr>
<tr>
<td>11</td>
<td>Demand of Target Customer</td>
<td>3.10</td>
<td>0.76</td>
</tr>
<tr>
<td>12</td>
<td>Fashion Trend Information</td>
<td>3.04</td>
<td>0.76</td>
</tr>
<tr>
<td>13</td>
<td>Previous Year's Sales of Same/Similar Styles</td>
<td>3.04</td>
<td>0.71</td>
</tr>
<tr>
<td>14</td>
<td>Brand Position in the Market</td>
<td>2.96</td>
<td>0.78</td>
</tr>
<tr>
<td>15</td>
<td>Forecasting Information for Weather</td>
<td>2.94</td>
<td>0.82</td>
</tr>
<tr>
<td>16</td>
<td>Remaining Stock Level</td>
<td>2.92</td>
<td>0.84</td>
</tr>
<tr>
<td>17</td>
<td>Evaluation of Suppliers</td>
<td>2.83</td>
<td>0.84</td>
</tr>
<tr>
<td>18</td>
<td>Competitor’s Products</td>
<td>2.81</td>
<td>0.75</td>
</tr>
<tr>
<td>19</td>
<td>Open-to-Buy (OTB)</td>
<td>2.80</td>
<td>0.83</td>
</tr>
<tr>
<td>20</td>
<td>Relationship with Suppliers</td>
<td>2.70</td>
<td>0.83</td>
</tr>
<tr>
<td>21</td>
<td>Number of Stores</td>
<td>2.69</td>
<td>0.86</td>
</tr>
<tr>
<td>22</td>
<td>Unpredicted Weather Change</td>
<td>2.67</td>
<td>0.82</td>
</tr>
<tr>
<td>23</td>
<td>Economic Condition of the Store’s Region</td>
<td>2.64</td>
<td>0.76</td>
</tr>
<tr>
<td>24</td>
<td>Floor Space</td>
<td>2.61</td>
<td>0.78</td>
</tr>
<tr>
<td>25</td>
<td>Competitor’s Assortment Planning</td>
<td>2.51</td>
<td>0.74</td>
</tr>
<tr>
<td>26</td>
<td>Customers’ Disposable Income</td>
<td>2.48</td>
<td>0.80</td>
</tr>
</tbody>
</table>
H2. Distinct segments exist within the retail buyer group based on their assortment decision factor use.

Factor analysis. The items tested in Hypothesis 1 were factored to extract the reduced number of unobserved variables (latent variables) from the observed variables by grouping them based on similar variability. Principal components analysis was used to investigate total variance within the variables. If the factors had an eigen-value of 1.0 or above, significant factors were recognized statistically (Song, 2010). In order to ensure that factor analysis was an appropriate test for the variables, Bartlett’s test of sphericity and Kaiser-Meyer-Olkin’s (KMO) measure of sampling adequacy test statistics were examined as Malhotra (1993) suggested.

The results of the analysis on assortment decision variables showed high test statistics for Bartlett’s test of sphericity (2893.183, p ≤ .001) and KMO (.864), which supports the use of factor analysis for the variables. The results of the factor analysis recognized seven factor groups with an eigen-value of 1.0 or higher and accounted for 58.02% of the total variance. Malhotra (1993) suggested that the cumulative percentage of variance (the total variance) of factorial items should account for at least 60% of the variance. The total variance of this study was 58.02%, which is close to 60%. This variance was accepted because this is an exploratory study.
A graphical examination of the scree plot, shown in Figure 6, supported the emergence of seven factor groups.

Varimax rotation was employed to minimize the number of variables with high loadings on each of the seven factor groups (Malhotra, 1993). Items with factor loadings of 0.5 or greater on one factor and less than 4.0 on the remaining six factor groups were retained, as suggested by Hair, Tatham, Anderson, and Black (1998), to avoid the problems related to multicollinearity.
The results shown in Table 12 reveal that 19 of 26 items significantly load on one of the seven factor groups. Although two factor groups (i.e., target customer demand, floor space) consist of only one item each, they were retained to be used for cluster analysis. In the test construction and psychometric field, single-item measures have been considered as less reliable measures than multiple-item measures (Loo, 2001). However, the two constructs (target customer demand and floor space) were not complex constructs, which may have required multiple-item measures, because the questions were asked in a straightforward manner (i.e., “When you conduct assortment planning, how important is demand of target customers?”, “when you conduct assortment planning, how important is floor space?”). Loo (2001) also provided qualified support for single-item measures, especially when the constructs are homogeneous by using reliability evaluation of the survey data. In addition, Bergkvist and Rossiter (2007), through their marketing research study, found that no significant difference existed in the predictive validity between the multiple and single-item measures.

Seven items were excluded, including three items with factor loadings below 0.5 (i.e., remaining stock level, selling season of products, salability of products), two items with cross loading of 0.4 or greater (i.e., current fashion trends, characteristics of target customer) and two items with Cronbach’s alpha values below 0.6 (i.e., customers’ disposable income, number of stores). The internal reliability among the items correlated with a factor group was evaluated and a Cronbach’s alpha value of 0.6 was used as the retention value (Song, 2010). The results of Cronbach’s alpha values ranged from 0.63 to 0.74 (see Table 12). The seven factors retained from the factor analysis are called factor groups. These factor groups were assigned labels: (1) Brand & Competitor Factor Group (BCFG), (2) Supplier & Trend Environment Factor Group
Table 12. Factor Analysis of Assortment Decision Items

<table>
<thead>
<tr>
<th>Factor Group</th>
<th>Item</th>
<th>Factor Loading</th>
<th>Cronbach’s Alpha</th>
<th>Eigen-Value</th>
<th>% of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Brand &amp; Competitor (BCFG)</td>
<td>Competitors’ Products</td>
<td>.72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Competitor’s Assortment Planning</td>
<td>.71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brand Image</td>
<td>.71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brand Position in the Market</td>
<td>.56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Supplier &amp; Trend Environment (STEFG)</td>
<td>Evaluation of Suppliers</td>
<td>.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relationship with Suppliers</td>
<td>.72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fashion Trend Information</td>
<td>.62</td>
<td>.72</td>
<td>2.66</td>
<td>10.22</td>
</tr>
<tr>
<td></td>
<td>Economic Condition of the Store’s Region</td>
<td>.51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Profit, Budget, &amp; Inventory (PBIFG)</td>
<td>Markups of Products</td>
<td>.72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overall Inventory</td>
<td>.64</td>
<td>.69</td>
<td>2.61</td>
<td>10.04</td>
</tr>
<tr>
<td></td>
<td>Budget</td>
<td>.63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product Costs</td>
<td>.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open-to-Buy (OTB)</td>
<td>.52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Weather (WFG)</td>
<td>Forecasting Information for Weather</td>
<td>.77</td>
<td>.78</td>
<td>1.94</td>
<td>7.48</td>
</tr>
<tr>
<td></td>
<td>Unpredicted Weather Change</td>
<td>.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Sales History (SHFG)</td>
<td>Sale History</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Previous Year's Sales of Same/Similar Styles</td>
<td>.74</td>
<td>.63</td>
<td>1.92</td>
<td>7.39</td>
</tr>
<tr>
<td>6. Target Customer Demand (TCD)</td>
<td>Demand of Target Customers</td>
<td>.82</td>
<td>n/a</td>
<td>1.67</td>
<td>6.41</td>
</tr>
<tr>
<td>7. Floor Space (FS)</td>
<td>Floor Space</td>
<td>.72</td>
<td>n/a</td>
<td>1.50</td>
<td>5.78</td>
</tr>
</tbody>
</table>
(STEFG), (3) Profit, Budget & Inventory (PBIFG), (4) Weather Factor Group (WFG), (5) Sales History Factor Group (SHFG), (6) Target Customer Demand (TCD), and (7) Floor Space (FS). Further description of factor groups is presented in the Factors within the clusters section.

Cluster analysis. With the identification of seven assortment decision factor groups, the K-means cluster analysis in SPSS v18.0 was used by entering preset cluster sizes, starting at two and increasing the cluster size one integer at a time. After each cluster size was processed, the ANOVA report for the clusters was reviewed. Although segmenting respondents to two or three groups had significant differences (p= .000) among the assortment decision factor uses, a cluster group of four was chosen as the best cluster result (see Table 13). These four clustering groups support the interpretation of different assortment decision factor uses, and each cluster group consists of a similar number of respondents (i.e.,n= 81 for Cluster A, n=121 for Cluster B, n= 104 for Cluster C, n=72 for Cluster D), which Song (2010) referred to as good clustering. Although K-means cluster analysis is known to be subjective, this statistical method has been commonly used for market segmentation (Song, 2010).

Of the four clusters, Cluster A had the highest mean scores for BPIFG (μ =2.83) and SH (μ =2.75), and the lowest mean score for FS (μ =1.88; see Table 13). In addition, the mean score of each factor group is the lowest among the clusters, which means that the respondents of Cluster A considered all factors less than respondents in any other cluster. Therefore, Cluster A was named Least Factor Use Buyers.

Cluster B had the highest mean scores for FS (μ =3.17), BPIFG (μ =3.09), and SH (μ =3.07), and the lowest mean score for WFG (μ =2.52; see Table 13). Because this group of respondents followed traditional quantitative methods in assortment decisions, Cluster B was named Traditional Factor Use Buyers.
Table 13. Means for Assortment Decision Factor Groups for Clusters One to Four

<table>
<thead>
<tr>
<th>Factor Groups and Means</th>
<th>A (n=81)</th>
<th>B (n=121)</th>
<th>C (n=104)</th>
<th>D (n=72)</th>
<th>Uni-variate F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brand &amp; Competitor (BCFG)</strong></td>
<td>2.51</td>
<td>2.67</td>
<td>2.96</td>
<td>3.43</td>
<td>57.82***</td>
</tr>
<tr>
<td><strong>Supplier &amp; Trend Environment (STEFG)</strong></td>
<td>2.40</td>
<td>2.61</td>
<td>2.93</td>
<td>3.19</td>
<td>63.13***</td>
</tr>
<tr>
<td><strong>Budget, Profit, &amp; Inventory (BPIFG)</strong></td>
<td>2.83ª</td>
<td>3.09ª</td>
<td>3.19</td>
<td>3.58ª</td>
<td>34.25***</td>
</tr>
<tr>
<td><strong>Weather (WFG)</strong></td>
<td>2.21</td>
<td>2.52</td>
<td>3.13</td>
<td>3.49ª</td>
<td>83.93***</td>
</tr>
<tr>
<td><strong>Sales History (SHFG)</strong></td>
<td>2.75ª</td>
<td>3.07</td>
<td>3.38ª</td>
<td>3.44</td>
<td>27.65***</td>
</tr>
<tr>
<td><strong>Target Customer Demand (TCD)</strong></td>
<td>2.69</td>
<td>2.80</td>
<td>3.51ª</td>
<td>3.44</td>
<td>37.69***</td>
</tr>
<tr>
<td><strong>Floor Space (FSFG)</strong></td>
<td>1.88</td>
<td>3.17ª</td>
<td>1.98</td>
<td>3.39</td>
<td>320.18***</td>
</tr>
</tbody>
</table>

ª: The highest mean scores within the cluster group

*** p ≤ .001

Scale: 1. Least important, 2. Less importance, 3. More important, 4. Most important.
Cluster C had the highest mean scores for TCD ($\mu = 3.51$) and SHFG ($\mu = 3.38$), and the lowest mean score for FS ($\mu = 1.98$; see Table 13). Therefore, Cluster C was named Consumer-Oriented Buyers.

Lastly, Cluster D had the highest mean scores for BPIFG ($\mu = 3.58$) and WFG ($\mu = 3.49$), and the lowest mean score for STEFG ($\mu = 3.19$; see Table 13). The mean scores of Cluster D ranged from 3.19 to 3.58, which means that the respondents of Cluster D considered all factors more than respondents in other clusters. Therefore, Cluster D was named Most Factor Use Buyers. Based on findings from the ANOVA and K-means cluster analysis, Hypothesis 2 was supported.

This result supports and strengthens several previous research findings that (a) each buyer considers different factors when he/she makes sourcing decisions (e.g., Davies, 1994) and (b) various types of buyer retail buying behavior and negotiation performance exist (e.g., Neu, Graham, & Gilly, 1988). Means plots for seven factor groups within clusters are presented from Figures 7 to 13 within the following section.

**Factors within clusters.** The Brand and Competitor Factor Group (BCFG) was found to be a major contributor to the variances in the clusters. BCFG comprises the items of brand image, brand position in the market, competitors’ products, and assortment planning. According to Corstjens and Lal (2000), retailers increasingly introduce their private label brands in order to differentiate their product lines from competitors (Corstjens & Lal, 2000). Mantrala et al. (2009) introduced brand image as a retailer constraint and competition related assortment trends as an environmental factor that retailers consider in assortment planning. This factor group provides additional information about the importance of brand and competitor related decision factors. As reported in Table 13 and Figure 7, the means of the brand and competitor factor ranged from...
2.51 (Cluster A) to 3.43 (Cluster D). Significant differences among the means for brand and competitor existed, indicating that respondents in some clusters considered brand and competitor factors to be more important than did others. Cluster D reported the highest degree of consideration of brand and competitors ($\mu = 3.43$) while Cluster A ($\mu = 2.51$) and Cluster B ($\mu = 2.67$) presented the least consideration. Cluster C ($\mu = 2.96$) reported a moderately high degree of importance.

The Supplier and Trend Environment Factor Group (STEGF) included evaluation of and relationship with suppliers, fashion trend information, and economic condition. This finding extends the findings of previous research examining several of these factors in pairs or in small groups. The evaluation of and relationship with suppliers has an impact on the actual supplier or product choice (Davies, 1994; Dawson & Shaw, 1989; Lindqvist, 1983). Mantrala et al. (2009) mentioned that retailers constantly have economic trends in their minds, particularly during serious economic downturns, and that economic conditions may influence both variety and depth of assortment planning decisions for retailers. Clusters A ($\mu = 2.40$) and D ($\mu = 3.19$) reported the highest and lowest levels of supplier and trend consideration (see Table 13), while Clusters B ($\mu = 2.61$) and C ($\mu = 2.93$) were similar in their levels of supplier and trend importance (see Figure 8).
Figure 7. Means Plot of Assortment Decision Factors (Brand & Competitor) Using Original Measurement Scale.

Figure 8. Means Plot of Assortment Decision Factors (Supplier & Trend Environment) Using Original Measurement Scale.
The Budget, Profit, and Inventory Factor Group (BPIFG) emerged as a combination of budget and Open-to-Buy (OTB), product markups and costs, and overall inventory items. The means of Clusters B’s (μ=3.09) and C’s (μ=3.19) level of importance were similar, but Clusters A (μ=2.83) and D (μ=3.58) represented the highest and lowest levels (see Figure 9). Overall, the means of the four clusters were higher than other factor groups, supporting the importance of monetary issues (i.e., budget, profit, inventory), which may directly affect financial performance. This finding is in agreement with previous research. As Swindley (1992) indicated, profit related factors are very important criteria in the decision-making process.

The Weather Factor Group (WFG) included items about forecasting information for weather and unpredicted weather change. The means of this factor group for the clusters ranged from 2.21 to 3.49 (see Figure 10). Although retailers are aware of the importance of weather and its impact on sales of clothing, utilizing weather forecasting information is still difficult and retailers lack experience in responding to unpredicted weather change (Bahng & Kincade, 2010). Cluster D’s consideration level (μ=3.49) was higher than that in Clusters A (μ=2.21) and B (μ=2.52).
Figure 9. Means Plot of Assortment Decision Factors (Budget, Profit, & Inventory) Using Original Measurement Scale.

Figure 10. Means Plot of Assortment Decision Factors (Weather) Using Original Measurement Scale.
The Sales History Factor Group (SHFG) consists of the items of sales history and previous year’s sales of same/similar styles. As similar to the means for BPIFG, the overall means of SHFG for the four clusters were higher than those of other factor groups. This result supports findings that selling history has a great impact on apparel buyers’ buying decisions (e.g., Fiorito, 1990; Francis & Brown, 1985; Hirschman, 1981; Wagner et al., 1989). Clusters D’s ($\mu = 3.44$) and C’s ($\mu = 3.38$) consideration levels of sales history were higher than that of Cluster A ($\mu = 2.75$; see Figure 11).

Target Customer Demand (TCD), in supporting the current fast-fashion trend, is a major contributor to the variance in clusters. In fast-fashion, consumers become more volatile and their preferences require buyers to purchase new products faster than purchasing done in traditional planning periods (Bahng & Kincade, in press). In Mantrala et al.’s (2009) assortment planning model, consumer preference instability was one of the important decision factors for assortment planning. Wong (2008) also suggested that retail buyers need to modify assortments periodically according to shifting consumer demand and profile. The means of Clusters A ($\mu = 2.69$) and B ($\mu = 2.80$) were similar but were lower than the means for Clusters C ($\mu = 3.51$) or D ($\mu = 3.44$; see Figure 12).
Figure 11. Means Plot of Assortment Decision Factors (Sales History) Using Original Measurement Scale.

Figure 12. Means Plot of Assortment Decision Factors (Target Customer Demand) Using Original Measurement Scale.
The final factor, Floor Space (FS), also contributed to distinct variances among the clusters. Clusters A (μ =1.88) and C (μ =1.98) were lower than the means for Clusters B (μ =3.17) and D (μ =3.39; see Figure 13). Clusters A’s and C’s mean scores of FS were the lowest level of importance within the clusters as well as among all of the mean scores. As Corstjens and Doyle (1981) reported, product assortment planning is constrained by the physical dimensions of the products and the store space, and the two cluster groups considered FS as a more important decision factor than the other factors.

Figure 13. Means Plot of Assortment Decision Factors (Floor Space) Using Original Measurement Scale.
H3. The segments are characterized by buyer (i.e., age, gender, education, experience, employment) and company demographics (i.e. types of products, type of store, size of the firm).

In order to test for differences among clusters in regards to respondents’ demographics and company characteristics, chi-square was used. The analysis addressed the differences in the responses for buyer demographic (i.e., age, gender, education, experience, employment) and company characteristics (i.e., types of products, type of store, size of the firm) by cluster. As Song (2010) suggested, if the percentage of cells with an expectation value 5 or below is greater than 20%, the values of the item were re-coded until the portion of small cells is less than 20%. Therefore, the items of age, education, and employment were re-coded to collapse the small cells.

The results revealed that statistically significant differences existed between the clusters in respondents’ age ($\chi^2 = 48.81$, $p = .000$), gender ($\chi^2 = 14.78$, $p = .002$), experience ($\chi^2 = 31.80$, $p = .023$), type of store ($\chi^2 = 45.80$, $p = .000$), types of products ($\chi^2 = 32.30$, $p = .006$) and size of company ($\chi^2 = 20.57$, $p = .002$; see Table 13). No statistically significant differences existed between the clusters in respondents’ education ($\chi^2 = 10.25$, $p = .114$) or employment ($\chi^2 = 17.77$, $p = .123$). The results also support the findings of Silver (2002) that correlations exist between buyer characteristics and different decision factor uses for retail buying. Based on findings from the chi-square test, Hypothesis 3 was partially supported. The differences of each cluster based on the respondents’ demographics (i.e., age, gender, experience) and company characteristics (i.e., types of products, type of store, size of the firm) are discussed in the following section (see Table 14).

This result supports Da Silva et al.’s (2002) finding that there are linkages between retail buyer characteristics and the important criteria used in their decision making processes. In addition, the result of the current study strengthens findings from several previous research
studies that the important merchandise selection criteria, vendor selection criteria, and
information sources differ depending on the company characteristics (e.g., type of store; Francis
& Brown, 1985; Hirschman, 1981; Hirschman & Mazursky, 1982; Stone, 1987). This study is
unique in that it combines both sets of demographics into one analysis.

Of the respondents of Cluster A (Least Factor Use Buyers), 37% were between 30 and
34 years old, 61% were male, and experience of 2 years or below, 3 -5 years, and 8 – 10 years
accounted for 21% respectively (see Table 14). In this cluster, 37% reported that they worked for
a company which owns stores within the department store, and 22% were mass merchandise
stores. Of the respondents, 42% said that their stores carried women’s products and 25% reported
that they carried women’s and men’s products. Lastly, 41% of the respondents in Cluster A
worked for mid-sized retail companies.

Of the respondents of Cluster B (Traditional Factor Use Buyers), 36% were between 35
and 39 years old, 53% were male, and 21% had 8 – 10 years of experience (see Table 14). Of
this group of respondents, 35% worked for a company with mass merchandise stores and 35%
worked for stores within the department store. Of this cluster, 31% of respondents’ firms carried
women’s products, 26% carried women’s and men’s products, and 24% carried women’s, men’s
and children’s products. Additionally, 44% of all respondents handling men’s products were
included in this cluster. Sale of men’s wear tends to be more traditional (Kincade & Gibson,
2010). Lastly, of the respondents in Cluster B, 40% worked for large retailers.

Of Cluster C (Consumer-Oriented Buyers), 37% of respondents were younger than 30
years old, 64% were female, and 28% had experience of 2years or below (see Table 14). Of this
cluster, 49% reported that they worked for a firm with stores within the department store and
Table 14. Characteristics of Each Cluster and Chi-Square Value of Each Demographic

<table>
<thead>
<tr>
<th>Cluster Groups and Characteristics</th>
<th>A (n=81)</th>
<th>B (n=121)</th>
<th>C (n=104)</th>
<th>D (n=72)</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least Factor Use Buyers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional Factor Use Buyers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer-Oriented Buyers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most Factor Use Buyers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>30-34 years old (37%)</td>
<td>35-59 years old (36%)</td>
<td>29 years old or younger (37%)</td>
<td>30 -34 years old (38%)</td>
<td>48.81***</td>
</tr>
<tr>
<td>Gender</td>
<td>Male (61%)</td>
<td>Male (53%)</td>
<td>Female (64%)</td>
<td>Female (63%)</td>
<td>14.78**</td>
</tr>
<tr>
<td>Experience</td>
<td>0 – 2 years</td>
<td>8-10 years (21%)</td>
<td>2 years or below (28%)</td>
<td>8-10 years (30%)</td>
<td>31.80*</td>
</tr>
<tr>
<td>Type of Store</td>
<td>Stores within Department Stores (37%)</td>
<td>Mass Merchandise (35%)</td>
<td>Stores Within Department Stores (49%)</td>
<td>Stores Within Department Stores (32%)</td>
<td>45.80***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stores Within Department Stores (35%)</td>
<td>Specialty Stores (17%)</td>
<td>Mass Merchandise (27%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Specialty Stores (27%)</td>
<td></td>
</tr>
<tr>
<td>Types of Products</td>
<td>Women’s (42%)</td>
<td>Women’s (31%)</td>
<td>Women’s (57%)</td>
<td>Women’s (43%)</td>
<td>32.30**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women’s &amp; Men’s (26%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of the Firm</td>
<td>Mid-sized Retailer (41%)</td>
<td>Large Retailer (40%)</td>
<td>Mid-sized Retailer (51%)</td>
<td>Small Retailer (Independent Store; 46%)</td>
<td>20.57**</td>
</tr>
</tbody>
</table>

*** p ≤ .001, ** p ≤ .01, * p ≤ .05
17% were specialty stores (chain). The majority of respondents, 57% of this cluster, reported that they carried women’s products. Women’s wear accounts for a majority of the products sold in the apparel market (Kincade & Gibson, 2010). This percentage accurately reflects the profile of the apparel industry. Lastly, 51% of the respondents in Cluster C worked for mid-sized retailers.

Of the respondents of Cluster D (Most Factor Use Buyers), 38% were 30 to 34 years old and only 4% were 29 years old or younger (see Table 14). In addition, 33% of the sample respondents who were 40-44 years old and 50% of the respondents older than 44 years were included in this cluster. Of the respondents of this group, 63% were female, and 30% had 8-10 years of experience. In this cluster, 32% said that they worked for a firm with stores within the department store, 27% worked for mass merchandise stores, and 27% worked for specialty stores (chain). Of this cluster, 43% carried women’s products. Lastly, 46% of the respondents in Cluster D worked for small retailers (independent stores).

H4. The buyer (i.e., age, gender, education, experience, employment) and company demographic variables (i.e. types of products, type of store, size of the firm) are correlated with assortment decision factor use.

In order to test if buyer and company demographic variables are correlated with assortment decision factor use, Pearson correlation was used. According to Song (2010), a correlation value between ±2 and ±4 is considered low correlation, and a value below ±2 is considered as no correlation. For nominal or ordinal scaled variables (i.e., gender, types of products, type of store), Spearman correlation was used, as suggested by Song (2010).

As Table 15 shows, few buyer and company demographic variables were correlated with assortment decision factor use. A low correlation existed between age and Floor Space (FS; R=.26, p≤.01; see Table 15). This finding is in contrast to the findings in Hypothesis 3. In
Hypothesis 3, the results revealed that significant differences existed between the clusters in respondents’ age, gender, experience, type of store, types of products, and size of company, while no significant differences existed between the clusters in respondents’ education and employment. Based on findings from Pearson and Spearman Correlation as well as the results of Hypothesis 3, Hypothesis 4 was partially supported.

As an important demographic variable, age is often found to be a significant influence on buying behavior (e.g., Davies, 1994, Da Silva & Davies, 2002). The result of the study partially supports a correlation between buyer characteristics and different use of criteria for buying decision making, similar to previous findings (Silver et al., 2002). As this current study examined an array of demographic variables, it extends previous research findings.
Table 15. Correlations between Demographic Variables and Assortment Decision Factor Groups

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Brand &amp; Competitor (BCFG)</th>
<th>Supplier &amp; Trend Environment (STEGF)</th>
<th>Profit, Budget, &amp; Inventory (PBIFG)</th>
<th>Weather (WFG)</th>
<th>Sales History (SHFG)</th>
<th>Target Customer Demand (TCD)</th>
<th>Floor Space (FS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.10</td>
<td>.18**</td>
<td>.13*</td>
<td>.05</td>
<td>-.11*</td>
<td>-.04</td>
<td>.26**</td>
</tr>
<tr>
<td>Gender*</td>
<td>.11*</td>
<td>.10</td>
<td>.09</td>
<td>.15**</td>
<td>.15**</td>
<td>.10</td>
<td>-.03</td>
</tr>
<tr>
<td>Education*</td>
<td>-.14**</td>
<td>-.17**</td>
<td>.06</td>
<td>.04</td>
<td>.02</td>
<td>.08</td>
<td>.01</td>
</tr>
<tr>
<td>Experience</td>
<td>.07</td>
<td>.04</td>
<td>.08</td>
<td>.06</td>
<td>-.15**</td>
<td>.06</td>
<td>.16**</td>
</tr>
<tr>
<td>Employment</td>
<td>.00</td>
<td>.06</td>
<td>-.01</td>
<td>-.04</td>
<td>-.19**</td>
<td>-.09</td>
<td>.10</td>
</tr>
<tr>
<td>Types of Products*</td>
<td>-.07</td>
<td>.01</td>
<td>-.01</td>
<td>-.06</td>
<td>-.01</td>
<td>-.11*</td>
<td>.15**</td>
</tr>
<tr>
<td>Type of Store*</td>
<td>.11*</td>
<td>.17**</td>
<td>-.01</td>
<td>.10</td>
<td>-.10*</td>
<td>.17**</td>
<td>-.13*</td>
</tr>
<tr>
<td>Size of the firm</td>
<td>.02</td>
<td>-.02</td>
<td>.05</td>
<td>-.05</td>
<td>.01</td>
<td>.07</td>
<td>-.01</td>
</tr>
</tbody>
</table>

a: Spearman Correlation used
Pearson or Spearman Value **p ≤ .01
Pearson or Spearman Value * p ≤ .05
Bold = Correlation
**Structural Equation Model Development (Hypotheses 5 to 7)**

A structural equation model (SEM) was developed to examine the proposed Hypotheses 5 to 7 for all respondents (N=378). Several benchmarks were used to evaluate the model. A chi-square value divided by degrees of freedom (CMIN/DF) that was 3 or below and index values 0.90 or above for goodness-of-fit index (GFI), adjusted-goodness-of-fit index (AGFI), incremental-fit-index (IFI), comparative-fit-index (CFI), and Bentler-Bonnet normed-fit-index (NFI) were acceptable (Song, 2010). Generally, the value close to 0.95 is an indicator of good fit (Hu & Bentler, 1995). The root mean square residual (RMR) with an index value less than 0.05 and the root mean square error of approximation (RMSEA) less than 0.08 were also used as indicators of acceptable fit, as suggested by Browne and Cudeck (1993) and Song (2010).

Based on findings from Hypothesis 4, the conceptual model (see Figure 5) was adjusted. Figure 14 shows the revised conceptual model for examining Hypotheses 5 to 7. The retail buyer clusters, based on decision factor use, and the three types of retail environments (i.e., store management, sales personnel, promotion) were the exogenous variables. The endogenous variables were success of assortment planning and firm performance. Each endogenous variable included a structural residual term. The formation of each variable in the model is discussed in the following sections.
Assortment decision factor use. In the survey, 26 assortment decision items were asked, and 7 factor groups (i.e., BCFG, STEFG, BPIFG, WFG, SHFG, TCD, FS) were extracted by using exploratory factor analysis to test Hypothesis 2 (see Table 12). When using these 7 factor groups for Assortment Decision Factor Use as 7 exogenous variables, the correlation values among the 7 factor groups were very low (i.e., correlations = -0.01 ~0.26, p = .000). Low levels of correlation between exogenous variables could cause poor fit of SEM. Therefore, a
replacement variable was sought. In Hypothesis 2, four clusters were identified based on assortment factor group use. The clusters ranged in use from least factor use to most factor use. From this finding, each respondent was labeled according to his/her cluster membership, and the new variable labeled retail buyer cluster. The one-item variable was used instead of the 7 factor groups. The retail buyer cluster variable was extracted based on the use of the 7 decision factor groups, and the values ranged from 1 (least factor use) to 4 (most factor use).

Success of assortment planning. Among the 12 items measuring success of assortment planning in the survey, items were removed from the model one by one, based on the squared multiple correlation (SMC) value to improve the level of the measurement model fit. Five items remained as final indicators of Success of Assortment Planning (see Table 16). Two of the success items had low SMC values below 4 (see Table 16); however, these two items were retained because without them the overall measurement model fit of Assortment Planning Success lowered. As shown in Table 17, the measurement model fit of Assortment Planning Success was acceptable for six of the eight indexes.
Table 16. Measures of Assortment Planning Success (p = .000)

<table>
<thead>
<tr>
<th>Question for Assortment Planning Success</th>
<th>Estimate</th>
<th>S.E</th>
<th>C.R.</th>
<th>S.M.C</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the level of success of your assortment planning for last year in terms of __________________________?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Offering right merchandise at the right time and place for overall customer satisfaction</td>
<td>1.00*</td>
<td></td>
<td>−</td>
<td>−</td>
<td>.67</td>
</tr>
<tr>
<td>1. Delivering what our customer want</td>
<td>.63</td>
<td>.06</td>
<td>10.91</td>
<td>.33</td>
<td></td>
</tr>
<tr>
<td>1. Balancing among number of categories, number of styles, colors, sizes, and amount of inventory for each style</td>
<td>.55</td>
<td>.06</td>
<td>9.76</td>
<td>.27</td>
<td>α = .82</td>
</tr>
<tr>
<td>2. Getting the right merchandise at the right delivery time</td>
<td>.84</td>
<td>.06</td>
<td>14.12</td>
<td>.52</td>
<td></td>
</tr>
<tr>
<td>2. Offering right merchandise at the right time and place for overall customer satisfaction</td>
<td>.96</td>
<td>.06</td>
<td>15.81</td>
<td>.67</td>
<td></td>
</tr>
</tbody>
</table>

1 = When compared to sales plan
2 = When compared to competitors
*The first indicator is fixed as 1 in the measurement model
R = Reliability

Table 17. Measurement Model Fit of Assortment Planning Success

<table>
<thead>
<tr>
<th>Index</th>
<th>CMIN/DF</th>
<th>GFI</th>
<th>AGFI</th>
<th>IFI</th>
<th>CFI</th>
<th>NFI</th>
<th>RMR</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>4.51</td>
<td>.98</td>
<td>.93</td>
<td>.97</td>
<td>.97</td>
<td>.97</td>
<td>.03</td>
<td>.10</td>
</tr>
<tr>
<td>Fit</td>
<td>N</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>N</td>
</tr>
</tbody>
</table>

Chi-Square = 22.549 (p=.000)
df = 5
A = Acceptable
N = Not Acceptable
Firm Performance. Among the 10 items measuring Firm Performance in the survey, items were removed from the model one-by-one, based on the Squared Multiple Correlation (SMC) value to improve the level of the measurement model fit. Four items remained as final indicators of Firm Performance (see Table 18). As shown in Table 19, CMIN/DF (16.00), AGFI (.79), and RMSEA (.20) were not acceptable, but the remaining five measures fit for Firm Performance were acceptable (e.g., CFI = .95).

Table 18. Measures of Firm Performance (p = .000)

<table>
<thead>
<tr>
<th>Question for Firm Performance</th>
<th>Estimate</th>
<th>S.E</th>
<th>C.R.</th>
<th>S.M.C</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Overall competitive position</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is the level of your firm’s performance for last year in terms of ___________________________?</td>
<td>1.000*</td>
<td>–</td>
<td>–</td>
<td>.71</td>
<td></td>
</tr>
<tr>
<td><strong>1. Market share</strong></td>
<td>.88</td>
<td>.06</td>
<td>14.76</td>
<td>.46</td>
<td></td>
</tr>
<tr>
<td><strong>2. Overall competitive position</strong></td>
<td>.92</td>
<td>.06</td>
<td>16.07</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td><strong>2. Market share</strong></td>
<td>.79</td>
<td>.06</td>
<td>13.55</td>
<td>.54</td>
<td></td>
</tr>
</tbody>
</table>

1 = When compared to plan
2 = When compared to competitors
*The first indicator is fixed as 1 in the measurement model
R = Reliability
Table 19. Measurement Model Fit of Firm Performance

<table>
<thead>
<tr>
<th>Index</th>
<th>CMIN/DF</th>
<th>GFI</th>
<th>AGFI</th>
<th>IFI</th>
<th>CFI</th>
<th>NFI</th>
<th>RMR</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>16.00</td>
<td>.96</td>
<td>.79</td>
<td>.95</td>
<td>.95</td>
<td>.95</td>
<td>.03</td>
<td>.20</td>
</tr>
<tr>
<td>Fit</td>
<td>N</td>
<td>A</td>
<td>N</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>N</td>
</tr>
</tbody>
</table>

Chi-Square = 32.007 (p=.000)
df = 2
A = Acceptable
N = Not Acceptable

Retail environment. Three items measuring Store Management, three items for Sales Personnel, and three items for Promotion were asked in the survey. Using exploratory factor analysis on these nine items, one factor was extracted with item loadings ranging from 0.634 to 0.803 in the exploratory factor analysis. The Cronbach’s alpha value was .909. The findings of the factor analysis support treating the nine items as one variable instead of three variables. Further analysis was done to evaluate redundancy, and Pearson correlation was used (see Table 20). As Table 20 shows, very high associations existed within items for Promotion and within items for Sales Personnel. With high correlations, items can be removed from the variable without loss of constructs. Song (2010) suggested that item reduction based on the values of Standardized Estimate and SMC can improve model fit. After five items were removed from the model one by one, four of the nine items were retained as indicators of Retail Environment (see Table 21). As shown in Table 22, CMIN/DF (7.83) and RMSEA (.14) were not acceptable, but the remaining six measures of fit for Retail Environment were acceptable (e.g., CFI = .98).
Table 20. Correlation Matrix between Original Retail Environment Items

<table>
<thead>
<tr>
<th>Item</th>
<th>SM1</th>
<th>SM2</th>
<th>SM3</th>
<th>SP1</th>
<th>SP2</th>
<th>SP3</th>
<th>PM1</th>
<th>PM2</th>
<th>PM3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM1</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SM2</td>
<td>.69**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SM3</td>
<td>.57**</td>
<td>.69</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP1</td>
<td>.46**</td>
<td>.53**</td>
<td>.51**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP2</td>
<td>.49**</td>
<td>.59**</td>
<td>.58**</td>
<td>.72**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP3</td>
<td>.29**</td>
<td>.38**</td>
<td>.41**</td>
<td>.60**</td>
<td>.49**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM1</td>
<td>.40**</td>
<td>.47**</td>
<td>.49**</td>
<td>.49**</td>
<td>.53**</td>
<td>.45**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM2</td>
<td>.48**</td>
<td>.49**</td>
<td>.50**</td>
<td>.53**</td>
<td>.52**</td>
<td>.43**</td>
<td>.71**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>PM3</td>
<td>.46**</td>
<td>.51**</td>
<td>.51**</td>
<td>.53**</td>
<td>.55**</td>
<td>.40**</td>
<td>.71**</td>
<td>.77**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

SM = Store Management
SP = Sales Personnel
PM = Promotion

**p ≤ .01
Table 21. Measures of Retail Environment (p = .000)

<table>
<thead>
<tr>
<th>Question for Retail Environment</th>
<th>Estimate</th>
<th>S.E</th>
<th>C.R.</th>
<th>S.M.C.</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent do you agree or disagree with the following statements?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have excellent processes in place for in-store space planning.</td>
<td>1.000*</td>
<td>-</td>
<td>-</td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td>We often review the design of our stores to determine whether changes are needed.</td>
<td>1.05</td>
<td>.07</td>
<td>15.13</td>
<td>.66</td>
<td>R = .85</td>
</tr>
<tr>
<td>We are satisfied with our efforts at managing our store employees.</td>
<td>.82</td>
<td>.07</td>
<td>12.68</td>
<td>.44</td>
<td></td>
</tr>
<tr>
<td>We are satisfied with our efforts for advertising and promoting merchandise.</td>
<td>.84</td>
<td>.07</td>
<td>12.46</td>
<td>.43</td>
<td></td>
</tr>
</tbody>
</table>

*The first indicator is fixed as 1 in the measurement model

R = Reliability

Table 22. Measurement Model Fit of Retail Environment

<table>
<thead>
<tr>
<th>Index</th>
<th>CMIN/DF</th>
<th>GFI</th>
<th>AGFI</th>
<th>IFI</th>
<th>CFI</th>
<th>NFI</th>
<th>RMR</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>7.83</td>
<td>.98</td>
<td>.90</td>
<td>.98</td>
<td>.98</td>
<td>.97</td>
<td>.04</td>
<td>.14</td>
</tr>
<tr>
<td>Fit</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>N</td>
</tr>
</tbody>
</table>

Chi-Square = 15.669 (p=.000)

df = 2

A = Acceptable

N = Not Acceptable

Correlations among variables. Correlations between variables (i.e., retail buyer cluster, assortment planning success, firm performance, retail environment) were examined to assess multicollinearity, investigating if an extremely high level of association between variables
existed. The correlation matrix shows that the correlations among these latent variables were all positive and ranged from 0.23 to 0.55 (see Table 22). Tsui, Ashford, St. Clair, and Xin (1995) suggested that the correlation between latent variables should not exceed .75. The results of multiple correlation showed that the correlations between these variables were smaller than .75, indicating that no high multicollinearity existed. Therefore, the four latent variables were retained to develop to an SEM.

Table 23. Correlation Matrix of Hypothesized Model for H5 to H7

<table>
<thead>
<tr>
<th>Variables Included in the Original Hypothesized Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail Buyer Cluster</td>
</tr>
<tr>
<td>-----------------------</td>
</tr>
<tr>
<td>Retail Buyer Cluster</td>
</tr>
<tr>
<td>Success of Assortment Planning</td>
</tr>
<tr>
<td>Firm Performance</td>
</tr>
<tr>
<td>Retail Environment</td>
</tr>
</tbody>
</table>

**p ≤ .01

Revised model. As Byrne (2001) suggested, additional structural paths can be added to improve model fit. Two paths were added to improve the model fit. The first added path with an associated correlation was between Retail Buyer Cluster and Retail Environment. The direction of this correlation was positive, indicating that Retail Buyer Clusters segmented by their Assortment Decision Factor Use and Retail Environment are co-variances, or the values of these
two variables changed together. No previous research study about a relationship between Assortment Decision Factor Use and Retail Environment was found. The second added path was from Retail Environment to Success of Assortment Planning. In general, the retail environment (e.g., store history, management, training of sales staff, promotional strategies) is suggested as a strong factor affecting the store image and the perceptions of the customers about the store. For this reason, the findings support the retail practice (Kincade et al., 2004). In addition, in the preliminary interview, 3 of the 5 interviewees asserted that communication with sales personnel, overall store management, and promotion influenced their assortment planning. Although this relationship is often discussed in retail management courses and textbooks, limited previous academic research has been available to support this industry assumption.

The \( p \)-values of the parameters were calculated to examine if all parameters in the model were significantly different from 0 at a level of significance of 0.05. The results showed that the \( p \)-values of all parameters were statistically different at a level of significance of 0.01. After adding the correlation and additional paths, a post hoc analysis was conducted. The results for the revised SEM covering H5 to H7 are presented in Figure 15. All fit indexes for the revised model were above the designated levels, which shows the fit of the SEM is acceptable (\( \text{CMIN/DF} = 2.39, \text{GFI} = .94, \text{AGFI} = .91, \text{IFI} = .95, \text{CFI} = .95, \text{NFI} = .92, \text{RMR} = .04, \text{RMSEA} = .06; \text{see Table 2} \)). The results of squared multiple regression (\( R^2 \)) for each endogenous variable indicated that the exogenous variables, Retail Buyer Cluster Segmented by Assortment Decision Factors and Retail Environment, explained 21% of the variance in Success of Assortment Planning. The two exogenous variables Success of Assortment Planning and Retail Environment explained 43% of the variance in Firm Performance.
Retail Buyer Cluster
(Segmented by Assortment Decision Factor Use)

Success of Assortment Planning

Retail Environment
(Store Management, Sales Personnel, Promotion)

Firm Performance
(Market Share, Overall Competitive Position)

H5 \[ \beta = .17, p \leq .01 \]

H6 \[ R^2 = .21^{**} \]

H7 \[ R^2 = .43^{**} \]

\[ * p \leq .01, \quad ** p \leq .001 \]

Figure 15. Revised SEM for H5 to H7

Table 24. Structural Equation Model Fit (p = .000)

<table>
<thead>
<tr>
<th>Index</th>
<th>CMIN/DF</th>
<th>GFI</th>
<th>AGFI</th>
<th>IFI</th>
<th>CFI</th>
<th>NFI</th>
<th>RMR</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>2.39</td>
<td>.94</td>
<td>.91</td>
<td>.95</td>
<td>.95</td>
<td>.92</td>
<td>.04</td>
<td>.06</td>
</tr>
<tr>
<td>Fit</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

Chi-Square = 174.631 (p=.000)
df = 73
A = Acceptable
N = Not Acceptable
**H5. Assortment decision factor use influences the success of assortment planning.**

The results of the revised SEM (Figure 15) show that Retail Buyer Cluster Segmented by Assortment Decision Factor Use positively influenced Success of Assortment Planning ($\beta = .21, p \leq .001$). Respondents in Cluster D considered assortment decision factors as more important than other respondents. These respondents also perceived that their stores achieved more successful assortment planning when compared to their company sales plans as well as major competitors. Based on these results, Hypothesis 5 was supported.

Assortment planning, as an activity within the buying process, provides new products for the retail store and its customers (Kunz, 2005). The finding on Hypothesis 5 from the current study not only supports the practical application of assortment planning but also supports the result of Pellegrini and Zanderighi’s (1999) empirical study that retailers’ assortment decision criteria play a key role in determining the success or failure of new products. These new products are placed into the store via the buying process and specifically through selection in assortment planning.

**H6. The success of assortment planning influences firm performance.**

The results of the revised SEM (Figure 15) show that Success of Assortment Planning positively influenced Firm Performance (i.e., market share, overall competitive position; $\beta = .57, p \leq .001$). Respondents who conducted more successful assortment planning experienced more successful firm performance when compared to their company plans as well as major competitors. In order to improve the measurement model and SEM fit, items measuring Firm Performance regarding profitability, product quality, and consumer satisfaction were removed from the model, and items about market share and overall competitive position were retained. Based on the findings, Hypothesis 6 was partially supported.
In previous research, Kok et al. (2006) indicated that the assortment a retailer carries has a great impact on sales and profits, which could affect the company’s market share or overall competitive position in the market. Fiorito (1990) found that the decision retail buyers make about merchandise requirements and supplier selection ultimately contribute to the financial performance and success of the retail business. Academic research and general trade practice indicates that buying decisions significantly impact the profitability of retailers (Kincade & Gibson, 2010). In practice, sales plans and competition are often used as benchmarks in measuring the success of the assortment planning process (Kincade et al., 2004). Limited academic research has examined the relationship between profitability and assortment planning processes; therefore, this current study provides support for the narrowly focused previous research and provides a more comprehensive examination of the multiple variables tested in Hypothesis 6.

H7. The retail environment (i.e., store management, sales personnel, promotion of merchandise) influences firm performance.

The results of the revised SEM (Figure 15) show that Retail Environment (i.e., store management, sales personnel, promotion) positively influenced Firm Performance (i.e., market share, overall competitive position; $\beta = .17, p \leq .01$). Respondents working for companies with a better retail environment (i.e., store management, sales personnel, promotion) reported more successful firm performance when compared to company plans as well as major competitors. Based on these findings, Hypothesis 7 was partially supported.

Limited research and some textbooks have examined what is important in store image as a result of store environment. Jacoby (1985) identified the three most important components of store image: (a) merchandise-related components (i.e., quality, price, assortment); (b) service-
related components (general quality and sales personnel service); and (c) the pleasant shopping experience in the store. Strategies for store operations such as promotion planning, pricing strategies, and training of sales personnel are thought to be important to the successful sale of merchandise (Kincade et al., 2004). In many stores, the standard practice is for the buyer to train store personnel about the characteristics of the new merchandise so they are able to provide customers with answers when promoting the merchandise on the floor. In addition, the buyer is taught to work closely with the promotions department when buying merchandise so that the right merchandise is available for sales, ads, and in-store promotions (Kincade & Gibson, 2010).

The result of this study supports this practical operation that store image is one of the most important determinants of successful retail business and supports previous research such as Amirani and Gates (1993). This study also broadens the empirical findings from Wu, Yeh, and Hsiao’s study (2010) focused on brand image that the store service quality has a direct and positive influence on the private label brand image, and the store image has a direct and positive influence on the purchase intention of the private label brand, which may positively influence financial firm performance.
Chapter 5

Summary, Conclusions and Implications, and Limitations and Future Research

Summary of the Study

The purpose of this study was to develop a retail buying model for clothing retailers. In order to test the variables that comprise the retail buying model, the objectives of the study were to: (a) investigate important assortment decision factors for clothing retail buying; (b) segment clothing retail buyers by their decision factor uses; (c) characterize the segments by buyer (i.e., age, gender, education, experience) and company demographics (i.e., type of products, type of stores, size of the firm); (d) examine the relationship between these demographic variables and the factor uses; (e) examine the influence of the factor uses on the success of assortment planning; (f) examine the influence of the success of assortment planning on firm performance; and (g) examine the influence of retail environment (i.e., store management, sales personnel, promotion) as extraneous variables on firm performance.

To validate retail buyers’ or merchandisers’ need for a clear direction regarding assortment planning decision factors and process, preliminary interviews were conducted with five practitioners working for clothing retailers in South Korea (see Table 1). Based on the preliminary interviews and literature review (e.g., Fiorito, 1990; Kang, 1999; Mantrala et al., 2009), 13 assortment decision factors were extracted. Additional questions for the survey were adapted or modified from items used in previous research studies (i.e., Arbuthnot, 1997; Grewal & Slotegraaf, 2007; Kannan & Tan, 2006; Vorhies & Morgan, 2005; Zou & Cavusgil, 2002).

After IRB approval for this study of human subjects, two pilot tests, first with 27 American respondents and second with 5 Korean retail practitioners, who were not included in the final study, were conducted. Based on results of the pilot tests, adjustments were made to
Data collection, using a pen and pencil questionnaire, was conducted using convenience and snowball sampling. The researcher or her assistants visited each of the identified companies. They used face-to-face meetings and distributed the finalized hard copies of the questionnaire to the practitioners. Through this method, 425 clothing retail buyers, merchandisers, or store owners who are involved assortment planning and buying in South Korea, participated in the survey.

A variety of statistical analyses was used to test the hypotheses. To test Hypothesis 1, the mean and standard deviation of the assortment factor items were used to rank important decision factors for assortment planning (see Table 11). To test Hypothesis 2, retail buyers were segmented by their assortment decision factor use through exploratory factor analysis and K-means cluster analysis (see Tables 12 and 13). For Hypothesis 3, chi-square was utilized to characterize the segments of buyers and merchandisers from Hypothesis 2 using buyer and company demographics and characteristics (see Table 14). For Hypothesis 4, Pearson and Spearman correlations were used to test if correlations exist between buyer and company demographic variables and decision factor use (see Table 15). In order to test Hypotheses 5 to 7, a Structural Equation Model (SEM) was developed (see Figure 15). Table 25 presents the results of the hypothesis tests, and Figure 16 presents the finalized retail buying model.

Conclusions and Implications of the Findings

The current study indicated that clothing retail buyers, merchandisers, and store owners perceived that the most important assortment decision factors were product salability-related, including salability of products, selling season of products, and sales history. The second most important assortment decision factors of clothing retailers were profit-related factors including
Table 25. Hypothesized Relationships and Summary of Results

<table>
<thead>
<tr>
<th>Hypothesized Relationships</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Assortment decision factors vary by level of importance.</td>
<td>Supported</td>
</tr>
<tr>
<td>The mean importance level for the 26 assortment decision items vary, which means that respondents consider each factor with a different importance level when they conduct assortment planning.</td>
<td></td>
</tr>
<tr>
<td>H2: Distinct segments exist within the retail buyer group based on their assortment decision factor use.</td>
<td>Supported</td>
</tr>
<tr>
<td>Clothing retail buyers or merchandisers can be segmented into four clusters or retail buyer groups by their assortment decision factor use.</td>
<td></td>
</tr>
<tr>
<td>H3: The segments are characterized by buyer (i.e., age, gender, education, experience, employment) and company demographics (i.e., types of products, type of store, size of the firm).</td>
<td>Partially Supported</td>
</tr>
<tr>
<td>Each retail buyer group segmented by decision factor use is different from each other buyer group in their buyer demographics (i.e., age, gender, education, experience, employment) and company characteristics (i.e., types of products, type of store, size of the firm).</td>
<td>(The segments are characterized by age, gender, experience, types of products, type of store, size of the firm)</td>
</tr>
<tr>
<td>H4: The buyer (i.e., age, gender, education, experience, employment) and company demographic variables (i.e., types of products, type of store, size of the firm) are correlated with assortment decision factor use.</td>
<td>Partially Supported</td>
</tr>
<tr>
<td>Correlations exist between the assortment decision factors and the buyer (i.e., age, gender, education, experience, employment) and company demographic variables (i.e., types of products, type of store, size of the firm)</td>
<td>(Floor space is positively correlated with Age)</td>
</tr>
<tr>
<td>H5: Assortment decision factor use influences the success of assortment planning.</td>
<td>Supported</td>
</tr>
<tr>
<td>Respondents in Cluster D considered assortment decision factors as more important than other respondents. These respondents also perceived that their stores achieved more successful assortment planning when compared to their company sales plans as well as major competitors.</td>
<td></td>
</tr>
</tbody>
</table>
Table 25. Hypothesized Relationships and Summary of Results Continued.

<table>
<thead>
<tr>
<th>Hypothesized Relationships</th>
<th>Result</th>
</tr>
</thead>
</table>
| **H6:** The success of assortment planning influences firm performance (i.e., market share, overall profitability, overall product quality, overall competitive position, overall customer service levels). Respondents who conducted more successful assortment planning experienced more successful firm performance when their assortment plans were compared to their company plans as well as the activities of major competitors. | Partially Supported  
(The success of assortment planning influences firm performance—market share and overall competitive position) |
| **H7:** The retail environment (i.e., store management, sales personnel, promotion of merchandise) influences firm performance (i.e., market share, overall profitability, overall product quality, overall competitive position, overall customer service levels). Respondents working for companies with a better retail environment (i.e., store management, sales personnel, promotion) experienced more successful firm performance when compared to company plans as well as major competitors. | Partially Supported  
(The retail environment influences firm performance—market share and overall competitive position) |
inventory, costs and markups of products, and budget. This result shows that clothing retail buying regarding assortment planning includes similar important factors to those considered in other retail sectors (e.g., grocery). At the same time, fashion trend-related items (i.e., current fashion trend, fashion trend information) are highly ranked, providing a different dimension of planning from the important assortment decision factors considered in other retail sectors. This result also shows the uniqueness of the fashion industry (i.e., fast-paced industry, volatile and unpredictable market). The highly ranked consumer related items (i.e., characteristics of target customer, demand of target customer) also show the importance of identification of the target customers and their buying behavior for clothing retailers. The results also reveal that modifying assortments periodically according to the change in target customers is critical in the consumer-oriented era. These factors were ranked high by the younger buyers. In contrast, floor space and number of stores, which were traditionally considered by retail buyers, were lowly ranked in the current study, which shows the change in retail buying behavior.

The present study indicated that clothing retail buyers were segmented into four clusters based on their assortment decision factor use. The Least Factor Use Buyer group gave less overall consideration to decision factors than did other groups of buyers. This group of buyers considered monetary factors (i.e., budget, profit, inventory) as the most important factors; however, the mean scores of the factors for this group were similar to or lower than other clusters’ lowest mean scores. The Traditional Factor Use Buyer group considered floor space as the most important factor with monetary factors (i.e., budget, profit, inventory) and sales history. The Consumer-Oriented Buyer group perceived target customer demand as the most significant factor along with sales history. Because this group of buyers focused on customer demand, floor space was the least important factor, which could be a constraint in carrying all of the products
that customers want. The Most Factor Use Buyer group considered all the factors as most important factor. This group of buyers considered monetary factors (i.e., budget, profit, inventory) and weather information as slightly more important than other factors. This clustering shows that, although respondents carry the same category of products (i.e., clothing and clothing related accessories), the clothing retail buyers work differently in completing the decision process, which includes assortment planning and buying.

The current study also indicated that the four cluster groups are characterized by buyer demographic variables (i.e., age, gender, experience) and company characteristics (i.e., type of store, types of products, size of the firm). Generally, male buyers reported the least overall consideration of decision factors or used factors associated with traditional methods of assortment planning by calculating floor space and profitability as guides for planning. Many buyers of these groups were older and carried men’s products, which are generally less volatile and more conservative than women’s wear. A majority of this group of buyers worked for large retailers including mass merchandise stores. This finding also shows that large retailers are often less flexible and less volatile than mid-sized or small retailers. Generally, female buyers or store owners most often considered all of the decision factors or used consumer-related factors most often in assortment planning. In particular, younger buyers with less experience were more likely to consider target customer demand over other factors. This result suggests that younger buyers are more accepting of new ideas than older buyers. Younger buyers were more flexible and changed with target customer demand, which may be unpredictable or difficult to predict. Finally, a majority of respondents in the Most Factor Use Buyer group worked for small retailers, which meant that many of these respondents were owners of their stores. This “wary” group’s high factor use could be attributed to the following two reasons: (a) the result of assortment planning
directly affects the store owner’s finance, which is different from retail buyers working in large or mid-sized retailers, who get paid regularly regardless of how they make assortment plans; and (b) the owners of store consider all the factors that seemed to influence sales because they always meet a variety of customers in person, communicating about products, trends, weather, and other retail and product characteristics.

The current study indicated only one correlation between buyer and company demographic variables and assortment decision factor use (i.e., age and floor space). This finding gave partial support to the hypothesis that clothing retail buyers used assortment decision factor differently, and the differences could be related to their background and experience or the company’s characteristics. This result may help researchers and practitioners understand the relationship between clothing retail buyers’ assortment planning method and their background information, as well as the current trends and changes in assortment planning within the industry.

The present study indicated that assortment decision factor use influenced the success of assortment planning. Respondents in the Most Factor Use Buyer group perceived that their stores achieved more successful assortment planning when compared to their company sales plans as well as major competitors. This result shows that the consideration of each assortment decision factor is important for some clothing retailers. This finding may be based on the fact that the fashion industry and clothing market are more volatile and unpredictable than any other industry, and are also affected by environmental factors (e.g., economic downturns).

The current study also indicated that the success of assortment planning influenced firm performance (i.e., market share, overall competitive position). Respondents who conducted more successful assortment planning experienced more successful firm performance when compared to their company plans as well as major competitors. This result could be attributed to the
common retail practice that the assortment a retailer carries can determine the success or failure in satisfying customers, which would have a great impact on sales and profits. Generally assumed in practice and now supported through research, the customer satisfaction, sales and profit directly determine and ultimately influence firm performance, such as market share and competitive position in the market.

In the current study, the retail environment (i.e., store management, sales personnel, promotion of merchandise) influenced firm performance (i.e., market share, overall competitive position). Respondents working for companies with a better retail environment (i.e., store management, sales personnel, promotion) reported more successful firm performance when compared to company plans as well as major competitors. This result shows the linkage among the retail environment, assortment planning, and firm performance. Store image and promotion can be influenced by which products are carried in the store. Assortment planning can also be conducted considering store image and future promotion of merchandise. Sales personnel provide buyers with consumer information and feedback about new merchandise, so buyers can consider the information when they conduct assortment planning for the subsequent season. As retail buyers collaborate with the Promotion Division and Store Operation Division, assortment planning and retail environment are integrated for better firm performance.

Based on the results of the hypotheses, the finalized retail buying model was developed (Figure 16).

**Implications for practitioners.** The implications explored from the study may help practitioners use advice about how to use and trade-off decision factors when planning their assortments. All 26 items examined can be differently used for the product types the buyer handles and/or the store type for which the buyer works, as four retail buyer groups were
segmented and characterized by their and their company’s characteristics. This advice may be useful especially for younger buyers or merchandisers. Because these younger buyers or merchandisers usually have less experience than older buyers, they are more likely to need guidance about a number of factors that seem to affect successful assortment planning as well as ultimately sales and profits. The result of this study may offer them a clue for doing their decision-making by organizing from the most important to the least important assortment decision factors and different uses by the four retail buyer groups. In addition, the result can be also useful for older buyers or merchandisers to be able to keep up with the change in trends in assortment planning for clothing buying.

The positive influences, among the variables of assortment decision factor use, success of assortment planning, retail environment, and firm performance (i.e., market share, overall competitive position), may suggest practitioners consider more factors for their assortment planning and improve partnerships with other departments (i.e., Promotion Division) in the firm. Among the decision factors, consumer related factors (i.e., demand of target customer, characteristics of customer) were highly ranked and particularly younger buyers considered these factors more than older buyers did. This information shows the shift in the use of assortment decision factors from traditional decision factors (e.g., floor space) to consumer related factors. In addition, the demand of target customer factor was negatively correlated with the floor space factor, which means that the more buyers considered the demand of target customer the less they considered floor space. This is because floor space can be a constraint in carrying all the products customers want. However, consideration of the floor space factor positively influenced firm performance (i.e., market share, overall profitability, overall quality, overall competitive position, overall customer service levels), which showed that traditional factors are still
important to consider. This result suggests that clothing buyers conduct assortment planning by balancing their planning between currently emerging and traditional assortment decision factors.

**Limitations and Future Study**

This study used convenience and snowball sampling by surveying buyers, merchandisers, and store owners of women’s, men’s, children’s wear and other clothing-related products. These buyers and merchandisers worked for various retailers including a mass merchandise store and small specialty store. The population of buyers and merchandisers for clothing products qualifies as “hard to find,” as there is not a distinct professional organization and these employees are generally proprietary in their work. Although the snowball sampling method is an effective and practical sampling method often used in management research, the finding of the current study cannot be generalized to the general population of clothing retail buyers, merchandisers, and store owners who are involved in assortment planning and buying. Therefore, future studies using a random sampling method or other probability sampling methods are needed to verify the current findings and confirm the validity of the framework.

The responses of the current study were obtained from one or more than one person from the company, but these coworker relationships were not identified in the data. Future studies are suggested to conduct a survey with a fixed number of responses from a company or selected companies that are identified. In addition, the current study confines itself to clothing retailers in South Korea. Future studies need to be conducted in additional countries (e.g., China, Italy, United States) to compare, validate, and extend the findings. In addition to clothing and clothing related products, other consumer goods (e.g., jewelry) can be examined and compared with the findings of the current study.
Figure 16: The Finalized Retail Buying Model
In testing the influence of the success of assortment planning on firm performance, two concepts (i.e., market share, competitive position) were used and three concepts (i.e., profitability, quality, customer satisfaction) were removed in order to generate a better model fit. The five concepts were shown in previous operational management research to be important for assortment planning. For this reason, future research studies should use multiple stepwise regression method or other statistical technique so that the five concepts of firm performance can be tested.

In the current study, the data gathered pertained to respondents’ perceptions of variables (e.g., overall quality, level of success in assortment planning), and interpretation of the data was based on respondents’ common understanding of the question asked. In addition, the final questionnaire in Korean was translated from a questionnaire in English. Although a pilot test was conducted with five Korean practitioners, some wording and phrases were still awkward and somewhat difficult to understand immediately, especially for respondents from small retailers. Therefore, future studies are needed to use qualitative methods (e.g., interviews) to strengthen and establish the basic terms, measures, instruments, and wording regarding the assortment planning of retail buyers for each country.
References


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http://www.census.gov/csd/susb

http://www.census.gov/svsd/www/artsbl.html

APPENDICES

Appendix A

Survey Questionnaire
Appendix A

Survey Questionnaire

Assortment Decision Survey

Please take a few minutes of your time to fill out this survey. The information you provide is very important to us. All of your responses remain anonymous and you may discontinue participation at any time.

Introduction: Qualifying Questions

Please select one answer for each question by clicking on the appropriate circle.

1. Where do you work?

In the U.S.               Outside of the U.S.

2. What type of a company do you work for?

Banks  Manufacturer  Retailer  Internet Related  Schools  Hospitals  Others

Please select one or more answers for each question by clicking on the appropriate circle.

3. What type of products does your company or store sell?

Grocery  Electronics  Clothing  Hardware  Gifts  Interior  Shoes  Toys  Others

4. What do you do at your company (or store)?

Sales  Marketing  Accounting  Buying  Merchandising  Store Managing

5. Which decision making is mostly related to your job?

Budgeting  Promotion  Selecting Vendors  Assortment Planning  Pricing  Buying

Please select one answer for each question by clicking on the appropriate circle.

6. What is the product for which you are responsible?

Grocery  Electronics  Clothing  Hardware  Gifts  Interior  Shoes  Toys  Others
Part One: Importance of Assortment Decision Factors

Click on the corresponding number to indicate to what extent you think is important.

1. When you conduct assortment planning, how important is BUDGET as a decision factor to consider?
   
   Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

2. When you conduct assortment planning, how important is Open-to-Buy as a decision factor to consider?
   
   Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

3. When you conduct assortment planning, how important is the NUMBER OF STORES as a decision factor to consider?
   
   Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

4. When you conduct assortment planning, how important is FLOOR SPACE as a decision factor to consider?
   
   Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

5. When you conduct assortment planning, how important is BRAND IMAGE as a decision factor to consider?
   
   Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

6. When you conduct assortment planning, how important is BRAND POSITION IN THE MARKET as a decision factor to consider?
   
   Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

7. When you conduct assortment planning, how important is SALES HISTORY as a decision factor to consider?
   
   Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)
8. When you conduct assortment planning, how important is SALES OF SAME OR SIMILAR STYLES OF PREVIOUS YEAR as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

9. When you conduct assortment planning, how important is SALABILITY OF PRODUCTS as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

10. When you conduct assortment planning, how important is SELLING PERIOD OF PRODUCTS as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

11. When you conduct assortment planning, how important is PRODUCT COSTS as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

12. When you conduct assortment planning, how important is MARKUPS OF PRODUCTS as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

13. When you conduct assortment planning, how important is REMAINING STOCK LEVEL as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

14. When you conduct assortment planning, how important is OVERALL INVENTORY as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)
15. When you conduct assortment planning, how important is CHARACTERISTICS OF TARGET CUSTOMER as a decision factor to consider?

*Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)*

16. When you conduct assortment planning, how important is DEMAND OF TARGET CUSTOMER as a decision factor to consider?

*Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)*

17. When you conduct assortment planning, how important is FASHION TREND INFORMATION as a decision factor to consider?

*Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)*

18. When you conduct assortment planning, how important is CURRENT FASHION TREND as a decision factor to consider?

*Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)*

19. When you conduct assortment planning, how important are COMPETITOR’S PRODUCTS as a decision factor to consider?

*Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)*

20. When you conduct assortment planning, how important is COMPETITOR’S ASSORTMENT PLANNING as a decision factor to consider?

*Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)*

21. When you conduct assortment planning, how important is EVALUATION OF SUPPLIERS as a decision factor to consider?

*Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)*

22. When you conduct assortment planning, how important is RELATIONSHIP WITH SUPPLIERS as a decision factor to consider?

*Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)*
Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

23. When you conduct assortment planning, how important is ECONOMIC CONDITION OF THE STORE’S REGION as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

24. When you conduct assortment planning, how important is THE VALUE OF CUSTOMERS’ DISPOSABLE INCOME as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

25. When you conduct assortment planning, how important is WEATHER FORECAST INFORMATION as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

26. When you conduct assortment planning, how important is UNPREDICTED WEATHER CHANGE as a decision factor to consider?

Not at all important (1) Low importance (2) Neutral (3) Moderately important (4) Very important (5)

Part Two: Success of Assortment Planning

1. What is the level of success of your assortment planning compared to that of major competitors in terms of GETTING THE BEST MERCHANDISE AT THE BEST PRICE?

Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)

2. What is the level of success of your assortment planning compared to that of major competitors in terms of GETTING THE BEST MERCHANDISE AT THE BEST DELIVERY?

Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)

3. What is the level of success of your assortment planning compared to that of major competitors in terms of TAILORING MERCHANDISE ASSORTMENTS TO INDIVIDUAL
MARKETS?

Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)

4. What is the level of success of your assortment planning compared to that of major competitors in terms of BALANCING ASSORTMENT VARIETY (NUMBER OF CATEGORIES), DEPTH(NUMBER OF STYLES, COLORS, SIZES) AND AMOUNT OF INVENTORY FOR EACH STYLE?

Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)

5. What is the level of success of your assortment planning compared to that of major competitors in terms of OVERALL CUSTOMER SATISFACTION BY OFFERING THE RIGHT MERCHANDISE AT THE RIGHT TIME AND PLACE?

Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)

6. What is the level of success of your assortment planning compared to that of major competitors in terms of DELIVERING WHAT OUR CUSTOMERS WANT?

Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)

7. What is the level of success of your assortment planning compared to that of major competitors in terms of RETAINING VALUED CUSTOMERS?

Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)
**Part Three: Firm Performance**

1. What is the level of your firm's performance compared to that of major competitors in terms of MARKET SHARE?

   *Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)*

2. What is the level of your firm's performance compared to that of major competitors in terms of RETURN ON ASSETS?

   *Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)*

3. What is the level of your firm's performance compared to that of major competitors in terms of OVERALL QUALITY?

   *Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)*

4. What is the level of your firm's performance compared to that of major competitors in terms of OVERALL COMPETITIVE POSITION?

   *Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)*

5. What is the level of your firm's performance compared to that of major competitors in terms of OVERALL CUSTOMER SERVICE LEVELS?

   *Much lower (1) Lower (2) About the same (3) Higher (4) Much higher (5)*

**Part Four: Retail Environment**

1. How do you agree to the following opinions: My company or store is very dedicated to managing our stores' atmospherics?

   *Strongly disagree (1) Somewhat disagree (2) Neutral (3) Somewhat agree (4) Strongly agree (5)*

2. How do you agree to the following opinions: We have excellent processes in place for in-store space planning?

   *Strongly disagree (1) Somewhat disagree (2) Neutral (3) Somewhat agree (4) Strongly agree (5)*
3. How do you agree to the following opinions: We often review the design of our stores to determine whether changes are needed?

4. How do you agree to the following opinions: We have a very intensive program for recruiting and training store employees?

5. How do you agree to the following opinions: We are satisfied with our efforts at managing our store employees?

6. How do you agree to the following opinions: The job knowledge and skills of store employees deliver superior quality work and service?

7. How do you agree to the following opinions: Execution of our advertising differ and outperform our competitors?

8. How do you agree to the following opinions: We use very different techniques for sales promotion from our competitors?

9. How do you agree to the following opinions: We are satisfied with our efforts for advertising and promoting merchandise?
Part Five: Demographics

1. What is your age? __________ years old

2. What is your gender?  Male (1) Female (2)

3. What is your education?

   Middle school graduate (1) High school graduate (2) 2-year college graduate (3) 4-year college graduate (4) MBA graduate (5) Master’s degree (6) Ph.D. degree (7)

4. What are your years of experience in the retail industry? _______ years ________ months

5. What are your years of employment of your firm? ________years_________ months

7. Which type of products does your retail firm or store carry?

   Women’s (can be combined with other products) (1) Men’s (2) Children’s (3) Other _______(4)

8. Which type of store do you work for?

   Department store (1) Specialty chain store (2) Specialty Store (3) Discount store (4) mass merchandise store (5) Other __________ (6)

9. Which type of organization do you work for?

   Proprietorship single store (1) Proprietorship retail firm (2) Partnership single store (3) Partnership retail firm (4) Corporation (5) Other __________ (6)

10. How many full-time employees work for your retail firm? ________________

11. How many part-time employees work for your retail firm? ________________

12. What is the annual sales of your firm? $______________

13. In which states are your retail stores located? ________________________________
Appendix B

Finalized Survey Questionnaire
**Introduction: Qualifying Questions**

*Please select one answer for each question.*

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Where do you work?</td>
<td>(A) In the U.S.</td>
</tr>
<tr>
<td></td>
<td>(B) Outside of the U.S.</td>
</tr>
<tr>
<td>2. What type of a company do you work for?</td>
<td>(A) Banks</td>
</tr>
<tr>
<td></td>
<td>(B) Manufacturer</td>
</tr>
<tr>
<td></td>
<td>(C) Retailer</td>
</tr>
<tr>
<td></td>
<td>(D) Internet Related</td>
</tr>
<tr>
<td></td>
<td>(E) Schools</td>
</tr>
<tr>
<td></td>
<td>(F) Hospitals</td>
</tr>
<tr>
<td></td>
<td>(G) Other</td>
</tr>
</tbody>
</table>

*Please select one or more answers for each question.*

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. What type of products does your retail firm sell?</td>
<td>(A) Grocery</td>
</tr>
<tr>
<td></td>
<td>(B) Electronics</td>
</tr>
<tr>
<td></td>
<td>(C) Clothing</td>
</tr>
<tr>
<td></td>
<td>(D) Accessories (Bags, Belts, Hats, Shoes, Socks, Sunglasses, etc)</td>
</tr>
<tr>
<td></td>
<td>(E) Hardware</td>
</tr>
<tr>
<td></td>
<td>(F) Gifts</td>
</tr>
<tr>
<td></td>
<td>(G) Interior</td>
</tr>
<tr>
<td></td>
<td>(H) Jewelry</td>
</tr>
<tr>
<td></td>
<td>(I) Toys</td>
</tr>
<tr>
<td></td>
<td>(J) Other</td>
</tr>
<tr>
<td>4. What product is your major responsibility?</td>
<td>(A) Grocery</td>
</tr>
<tr>
<td></td>
<td>(B) Electronics</td>
</tr>
<tr>
<td></td>
<td>(C) Clothing</td>
</tr>
<tr>
<td></td>
<td>(D) Accessories (Bags, Belts, Hats, Shoes, Socks, Sunglasses, etc)</td>
</tr>
<tr>
<td></td>
<td>(E) Hardware</td>
</tr>
<tr>
<td></td>
<td>(F) Gifts</td>
</tr>
<tr>
<td></td>
<td>(G) Interior</td>
</tr>
<tr>
<td></td>
<td>(H) Jewelry</td>
</tr>
<tr>
<td></td>
<td>(I) Toys</td>
</tr>
<tr>
<td></td>
<td>(J) Other</td>
</tr>
<tr>
<td>5. What do you do at your retail firm?</td>
<td>(A) Sales</td>
</tr>
<tr>
<td></td>
<td>(B) Marketing</td>
</tr>
<tr>
<td></td>
<td>(C) Accounting</td>
</tr>
<tr>
<td></td>
<td>(D) Buying</td>
</tr>
<tr>
<td></td>
<td>(E) Merchandising</td>
</tr>
<tr>
<td></td>
<td>(F) Private Label Design</td>
</tr>
<tr>
<td></td>
<td>(G) Other</td>
</tr>
</tbody>
</table>
Please select one answer for each question.

6. Which major tasks are you involved in?  
   (Select all that apply)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(A) Budgeting</td>
</tr>
<tr>
<td></td>
<td>(B) Promotion</td>
</tr>
<tr>
<td></td>
<td>(C) Selecting and Managing Vendors</td>
</tr>
<tr>
<td></td>
<td>(D) Assortment Planning</td>
</tr>
<tr>
<td></td>
<td>(E) Pricing</td>
</tr>
<tr>
<td></td>
<td>(F) Buying</td>
</tr>
<tr>
<td></td>
<td>(G) Displaying</td>
</tr>
<tr>
<td></td>
<td>(H) Other</td>
</tr>
</tbody>
</table>
Part One: Importance of Assortment Decision Factors – Rate 1

*Please select one answer for each question and circle the number of your response.*

※ When you conduct assortment planning, how important are the following items?

<table>
<thead>
<tr>
<th>Item</th>
<th>Least Important</th>
<th>Less Important</th>
<th>More Important</th>
<th>Most Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BRAND (PRODUCT) POSITION IN THE MARKET</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. BUDGET</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. FLOOR SPACE</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. MARKUPS OF PRODUCTS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. NUMBER OF STORES</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. OPEN-TO-BUY (OTB)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. OVERALL INVENTORY</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. PRODUCT BRAND IMAGE</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. PRODUCT COSTS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. REMAINING STOCK LEVEL</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. SALABILITY OF PRODUCTS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. SALES HISTORY</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. PREVIOUS YEAR’S SALES OF SAME OR SIMILAR STYLES</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. SELLING SEASON OF PRODUCTS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Part One: Importance of Assortment Decision Factors – Rate 2

Please select one answer for each question and circle the number of your response.

※ When you conduct assortment planning, how important are the following items?

<table>
<thead>
<tr>
<th></th>
<th>Least Important</th>
<th>Less Important</th>
<th>More Important</th>
<th>Most Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CHARACTERISTICS OF TARGET CUSTOMER</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. COMPETITOR’S ASSORTMENT PLANNING</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. COMPETITOR’S PRODUCTS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. CURRENT FASHION TRENDS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. CUSTOMERS’ DISPOSABLE INCOME</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. DEMAND OF TARGET CUSTOMER</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. ECONOMIC CONDITION OF THE STORE’S REGION</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. EVALUATION OF SUPPLIERS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. FASHION TREND INFORMATION</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. FORECASTING INFORMATION FOR WEATHER</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. RELATIONSHIP WITH SUPPLIANS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. UNPREDICTED WEATHER CHANGE</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Part Two: Success of Assortment Planning 1

Please select one answer for each question and circle the number of your response.

※ Compared to your sales plan, what is the level of success of your assortment planning for last year in terms of ________________?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. GETTING THE RIGHT MERCHANDISE AT THE RIGHT PRICE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. GETTING THE RIGHT MERCHANDISE AT THE RIGHT DELIVERYTIME</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. BALANCING AMONG NUMBER OF CATEGORIES, NUMBER OF STYLES, COLORS, SIZES, AND AMOUNT OF INVENTORY FOR EACH STYLE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. OFFERING RIGHT MERCHANDISE AT THE RIGHT TIME AND PLACE FOR OVERALL CUSTOMER SATISFACTION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. DELIVERING WHAT OUR CUSTOMERS WANT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. RETAINING VALUED CUSTOMERS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part Two: Success of Assortment Planning 2

Please select one answer for each question and circle the number of your response.

※ Compared to your major competitors, what is the level of success of your assortment planning for last year in terms of _______________?

<table>
<thead>
<tr>
<th></th>
<th>Much lower</th>
<th>Lower</th>
<th>About the Same</th>
<th>Higher</th>
<th>Much Higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. GETTING THE RIGHT MERCHANDISE AT THE RIGHT PRICE</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. GETTING THE RIGHT MERCHANDISE AT THE RIGHT DELIVERY TIME</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. TAILORING MERCHANDISE ASSORTMENTS TO INDIVIDUAL MARKETS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. OFFERING RIGHT MERCHANDISE AT THE RIGHT TIME AND PLACE FOR OVERALL CUSTOMER SATISFACTION</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. DELIVERING WHAT OUR CUSTOMERS WANT</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. RETAINING VALUED CUSTOMERS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Part Three: Firm Performance 1

*Please select one answer for each question and circle the number of your response.*

※ Compared to your plan, what is the level of your firm's performance for last year in terms of ______________?

<table>
<thead>
<tr>
<th></th>
<th>Much lower</th>
<th>Lower</th>
<th>About the Same</th>
<th>Higher</th>
<th>Much Higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MARKET SHARE</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. OVERALL PROFITABILITY</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. OVERALL PRODUCT QUALITY</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. OVERALL COMPETITIVE POSITION</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. OVERALL CUSTOMER SERVICE LEVELS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Part Three: Firm Performance 2

*Please select one answer for each question and circle the number of your response.*

※ Compared to your major competitors, what is the level of your firm’s performance for last year in terms of ______________?

<table>
<thead>
<tr>
<th></th>
<th>Much lower</th>
<th>Lower</th>
<th>About the Same</th>
<th>Higher</th>
<th>Much Higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MARKET SHARE</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. OVERALL PROFITABILITY</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. OVERALL PRODUCT QUALITY</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. OVERALL COMPETITIVE POSITION</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. OVERALL CUSTOMER SERVICE LEVELS</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
### Part Four: Retail Environment

*Please select one answer for each question and circle the number of your response.*

※ To what extent do you agree or disagree with the following statements?

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Neutral</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My company is very dedicated to managing our stores’ atmospherics (environments).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. We have excellent processes in place for in-store space planning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. We often review the design of our stores to determine whether changes are needed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. We have a very intensive program for recruiting and training store employees.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. We are satisfied with our efforts at managing our store employees.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. The knowledge and skills of store employees deliver superior quality work and service.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Execution of our advertising differs and outperforms our competitors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. We use very different techniques for sales promotion from our competitors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. We are satisfied with our efforts for advertising and promoting merchandise.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
## Part Five: Demographics

*Please select one answer for each question and circle the letter of your response.*

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
</table>
| 1. What is your age?                                                     | (A) Below 25 years old  
(B) 25 - 29 years old  
(C) 30 - 34 years old  
(D) 35 - 39 years old  
(E) 40 - 44 years old  
(F) 45 - 49 years old  
(G) 50 - 54 years old  
(H) 55 - 59 years old  
(I) 60 years old or above                                                 |
| 2. What is your gender?                                                 | (A) Male  
(B) Female                                                          |
| 3. What is the highest level of education you have completed?            | (A) Some high school  
(B) High School  
(C) Some college  
(D) Bachelor's Degree  
(E) Master's Degree  
(F) Doctorate Degree  
(G) Other professional degree, please specify:                           |
| 4. What are your years of experience in the retail industry?             | (A) Below 3 years  
(B) 3-5 years  
(C) 6 - 7 years  
(D) 8 - 10 years  
(E) 11 - 13 years  
(F) 14 - 17 years  
(G) 18 - 21 years  
(H) Above 22 years                                                        |
| 5. How long have you been with your current firm?                       | (A) Below 3 years  
(B) 3-5 years  
(C) 6 - 7 years  
(D) 8 - 10 years  
(E) 11 - 13 years  
(F) 14 - 17 years  
(G) 18 - 21 years  
(H) Above 22 years                                                         |
### Part Five: Demographics (cont.)

*Please select one answer for each question and circle the letter of your response.*

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. What type of products does your retail firm carry?</td>
<td>(A) Women's</td>
</tr>
<tr>
<td></td>
<td>(B) Men's</td>
</tr>
<tr>
<td></td>
<td>(C) Children's</td>
</tr>
<tr>
<td></td>
<td>(D) Women's &amp; Men's</td>
</tr>
<tr>
<td></td>
<td>(E) Women's &amp; Children's</td>
</tr>
<tr>
<td></td>
<td>(F) Men's &amp; Children's</td>
</tr>
<tr>
<td></td>
<td>(G) Women's, Men's, &amp; Children's</td>
</tr>
<tr>
<td></td>
<td>(H) Other, please specify:</td>
</tr>
<tr>
<td>7. What type of products are you responsible for?</td>
<td>(A) Women's</td>
</tr>
<tr>
<td></td>
<td>(B) Men's</td>
</tr>
<tr>
<td></td>
<td>(C) Children's</td>
</tr>
<tr>
<td></td>
<td>(D) Women's &amp; Men's</td>
</tr>
<tr>
<td></td>
<td>(E) Women's &amp; Children's</td>
</tr>
<tr>
<td></td>
<td>(F) Men's &amp; Children's</td>
</tr>
<tr>
<td></td>
<td>(G) Women's, Men's, &amp; Children's</td>
</tr>
<tr>
<td></td>
<td>(H) Other, please specify:</td>
</tr>
<tr>
<td>8. What type of retail firm do you work for?</td>
<td>(A) Department store</td>
</tr>
<tr>
<td></td>
<td>(B) Specialty store</td>
</tr>
<tr>
<td></td>
<td>(D) Discount store</td>
</tr>
<tr>
<td></td>
<td>(E) Mass merchandise store</td>
</tr>
<tr>
<td></td>
<td>(F) Other, please specify:</td>
</tr>
<tr>
<td>9. What type of retail firm do you work for?</td>
<td>(A) Independent single store</td>
</tr>
<tr>
<td></td>
<td>(B) Independent multiple stores</td>
</tr>
<tr>
<td></td>
<td>(C) A chain store</td>
</tr>
<tr>
<td></td>
<td>(D) Chain store group</td>
</tr>
<tr>
<td></td>
<td>(E) Other, please specify:</td>
</tr>
<tr>
<td>10. What is the annual sales of your firm?</td>
<td>(A) less than $500,000</td>
</tr>
<tr>
<td></td>
<td>(B) $500,000 - 1 million</td>
</tr>
<tr>
<td></td>
<td>(C) $1 million - 10 million</td>
</tr>
<tr>
<td></td>
<td>(D) $11 million - 50 million</td>
</tr>
<tr>
<td></td>
<td>(E) $51 million - 100 million</td>
</tr>
<tr>
<td></td>
<td>(F) $101 million - 500 million</td>
</tr>
<tr>
<td></td>
<td>(G) $501 million – 1 billion</td>
</tr>
<tr>
<td></td>
<td>(H) Above 1.1 billion</td>
</tr>
</tbody>
</table>
Appendix C

Finalized Survey Questionnaire – Korean
※ 다음 문항에 해당하는 답을 선택하여 동그라미(O)를 해주세요.
(Please select one answer for each question and circle the letter of your response)

<table>
<thead>
<tr>
<th>1. 지금 일하시는 회사에서는 어떤 종류의 상품들을 판매하십니까? (해당되는 모든것을 선택해주세요) (What type of products does your retail firm sell? – Select all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) 식품</td>
</tr>
<tr>
<td>(B) 가전제품, 컴퓨터 관련제품</td>
</tr>
<tr>
<td>(C) 의류</td>
</tr>
<tr>
<td>(D) 의류 악세서리 (가방,구두,등)</td>
</tr>
<tr>
<td>(E) 홈패션</td>
</tr>
<tr>
<td>(F) 인테리어, 가구</td>
</tr>
<tr>
<td>(G) 보석</td>
</tr>
<tr>
<td>(H) 장난감</td>
</tr>
<tr>
<td>(I) 그외, 구체적으로 써주세요:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. 귀하께서는 주로 어떤 상품과 관련된 일을 하십니까? (해당되는 모든것을 선택해주세요) (What product is your major responsibility? – Select all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) 식품</td>
</tr>
<tr>
<td>(B) 가전제품, 컴퓨터 관련제품</td>
</tr>
<tr>
<td>(C) 의류</td>
</tr>
<tr>
<td>(D) 의류 악세서리 (가방,구두,등)</td>
</tr>
<tr>
<td>(E) 홈패션</td>
</tr>
<tr>
<td>(F) 인테리어, 가구</td>
</tr>
<tr>
<td>(G) 보석</td>
</tr>
<tr>
<td>(H) 장난감</td>
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<tr>
<td>(I) 그외, 구체적으로 써주세요:</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>3. 지금 일하시는 회사에서는 어떤 일을 하십니까? (해당되는 모든것을 선택해주세요) (What do you do at your retail firm? – Select all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) 영업, 세일즈, 또는 판매</td>
</tr>
<tr>
<td>(B) 마케팅, 광고</td>
</tr>
<tr>
<td>(C) 재정, 관리</td>
</tr>
<tr>
<td>(D) 사입 (바잉)</td>
</tr>
<tr>
<td>(E) 상품기획 (머천다이징)</td>
</tr>
<tr>
<td>(F) 디자인</td>
</tr>
<tr>
<td>(G) 그외, 구체적으로 써주세요:</td>
</tr>
</tbody>
</table>

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※ 다음 문항에 해당하는 답을 선택하여 동그라미(○)를 해주세요.
(Please select one answer for each question and circle the letter of your response)

<table>
<thead>
<tr>
<th>4. 귀하는 어떤 업무 의사결정에 관련하여 일하십니까? (해당되는 모든것을 선택해주세요) (Which major tasks are you involved in? - Select all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) 전체 또는 부분 예산 결정</td>
</tr>
<tr>
<td>(B) 상품 기획 - 디자인</td>
</tr>
<tr>
<td>(C) 상품 기획 - 전체적 물량</td>
</tr>
<tr>
<td>(D) 물량기획 - 스타일수, 스타일별, 칼라, 사이즈별 물량</td>
</tr>
<tr>
<td>(E) 가격 내고, 업체 선택, 관리</td>
</tr>
<tr>
<td>(F) 가격과 배수율 결정 (Markup)</td>
</tr>
<tr>
<td>(G) 사입 (바잉)</td>
</tr>
<tr>
<td>(H) 광고, 디스플레이</td>
</tr>
<tr>
<td>(I) 그외, 구체적으로 써주세요:</td>
</tr>
</tbody>
</table>

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Part 1.

1. 각 문제당 해당되는 답을 하나씩 골라서 숫자위에 동그라미(O)를 해주세요.
   (Please select one answer for each question and circle the number of your response)

※ 귀하께서 작년의 (2010년) 물량을 기획, 결정하셨을때 (스타일수, 스타일별 물량, 사이즈, 칼라, 리오더, 등 모두 포함), 다음 요소들을 얼마나 중요하게 고려하셨습니까?
   (When you conducted assortment planning for 2010, how important were the following items?)

<table>
<thead>
<tr>
<th></th>
<th>가장 덜 중요하게</th>
<th>덜 중요하게</th>
<th>더 중요하게</th>
<th>가장 중요하게</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 마켓에서의 상품 브랜드 포지션</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. 예산</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. 매장 공간 (매장크기, 등)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. 상품의 배수율 (이익률, Markup)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. 매장수</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. 사입후 남은 예산 (앞으로 사입 가능한 예산)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. 전체적인 기획 물량</td>
<td>1</td>
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<td>4</td>
</tr>
<tr>
<td>8. 상품 브랜드 이미지</td>
<td>1</td>
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<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. 상품의 원가</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. 남아있는 재고물량</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. 상품의 판매 가능성</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. 상품의 과거 판매 내역 -판매량, 판매율-(Sales History)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. 전년의 비슷한 또는 같은 상품의 판매량</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. 상품이 팔릴 시즌</td>
<td>1</td>
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<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Part 1.
2. 각 문제당 해당되는 답을 하나씩 골라서 숫자위에 동그라미(O)를 해주세요.

(Please select one answer for each question and circle the number of your response)

※ 귀하게서 작년의 (2010년) 물량을 기획, 결정하였을 때 (스타일수, 스타일별 물량, 사이즈, 칼라, 리오더, 등 모두 포함), 다음 요소들을 얼마나 중요하게 고려하셨습니까?

(When you conducted assortment planning for 2010, how important were the following items?)

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<th>가장 덜 중요하게</th>
<th>덜 중요하게</th>
<th>더 중요하게</th>
<th>가장 중요하게</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 타겟고객 (주고객)의 특징들</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. 경쟁브랜드 또는 경쟁사의 물량기획</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. 경쟁브랜드 또는 경쟁사의 상품</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. 최근의 패션트렌드들 (유행)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. 고객들의 수입 수준 (세금을 제외한 순수입)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. 타겟고객들(주고객들)의 필요, 요구 (상품에 관한)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. 경제상황 (거시경제)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. 상품 공급업체 (완사입, 생산업체)의 전체적인 상품 공급 능력</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. 패션 트렌드 정보</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. 날씨 예보에 관한 정보 (기온, 비, 눈, 등)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. 상품 공급 업체 (완사입, 생산업체)와의 관계</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. 예상하지 못한 날씨 변화 (기온, 비, 눈, 등)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Part 2.
1. 작년의 (2010년) 물량기획과 실적을 생각하시어 각 문제당 해당되는 답을 하나씩 골라서 숫자위에 동그라미 (O) 를 해주세요.
(Please select one answer for each question and circle the number of your response)

※ 2010년 연초 판매계획과 비교해서, 귀하의 2010년 실제 물량기획 (스타일수, 스타일별 물량, 사이즈, 칼라, 리오더 등 모두 포함) 이 다음 요소들과 관련하여 어느정도 성공적이었다고 생각하십니까?
(Compared to your sales plan, what is the level of success of your assortment planning for last year in terms of ____________ ?)

<table>
<thead>
<tr>
<th>(판매계획보다)</th>
<th>훨씬못함</th>
<th>못함</th>
<th>비슷함</th>
<th>잘함</th>
<th>훨씬잘함</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 브랜드 또는 매장에 가장 필요한 상품들을 가장 적절한 원가로 구매함</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. 브랜드 또는 매장에 가장 필요한 상품들을 가장 적절한 시기에 입고함</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. 상품의 종류, 스타일수 (또는 칼라, 사이즈)와 각 스타일별 물량사이의 전체적인 균형을 맞춤</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. 고객만족을 위해 가장 필요한 상품들을 가장 적절한 시기에 매장에 출고함</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. 고객들이 원하는 상품들을 제공함</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. 충성도있는 단골고객들(가치있는 고객들)을 계속 보유함</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Part 2.

2. 각 문제당 해당되는 답을 하나씩 골라서 숫자위에 동그라미(O)를 해주세요.
(Please select one answer for each question and circle the number of your response)

※ 경쟁브랜드 또는 경쟁사와 비교했을때, 귀하의 2010년 실제 물량기획 (스타일수, 스타일별 물량, 사이즈, 칼라, 리오더 등 모두 포함) 이 다음 요소들과 관련하여 어느정도 성공적이었다고 생각하십니까?
(Compared to your major competititors, what is the level of success of your assortment planning for last year in terms of ____________ ?)

<table>
<thead>
<tr>
<th>(경쟁사보다)</th>
<th>젤센못함</th>
<th>못함</th>
<th>비슷함</th>
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<td>2. 브랜드 또는 매장에 가장 필요한 상품들을 가장 적절한 시기에 입고시킴</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. 각 지역 혹은 매장별로 그곳에 맞는 상품구색을 기획함</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</table>
Part 3.

1. 각 문제당 해당되는 답을 하나씩 골라서 숫자위에 동그라미 (O)를 해주세요.
   (Please select one answer for each question and circle the number of your response)

※ 작년 (2010년)의 연초 계획과 비교했을때, 귀하의 2010년 실제 회사의 실적이 다음 요소들과 관련하여 어느정도 성공적이었다고 생각하십니까?
   (Compared to your plan, what is the level of your firm’s performance for last year in terms of ____________ ?)

<table>
<thead>
<tr>
<th>(계획보다)</th>
<th>(계획보다)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. 마켓 점유율</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. 전제적인 이익율</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>3. 전제적인 상품 품질</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>4. 전제적인 경제적인 위치 (경쟁사들 안에서의 순위)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. 전제적인 고객서비스 수준</td>
<td>1</td>
<td>2</td>
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(Please select one answer for each question and circle the number of your response)

※ 경쟁브랜드 또는 경쟁사와 비교했을때, 귀하의 2010년 실제 회사의 실적이 다음 요소들과 관련하여 어느정도 성공적이었다고 생각하십니까?
(Compared to your major competitors, what is the level of your firm’s performance for last year in terms of______________ ?)

<table>
<thead>
<tr>
<th>(경쟁사보다)</th>
<th>콜럼ittal</th>
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<td>2</td>
<td>3</td>
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<td>2. 전체적인 이익율</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. 전체적인 상품 편리성</td>
<td>1</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. 전체적인 경쟁적인 위치 (경쟁사들 안에서의 순위)</td>
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<tr>
<td>5. 전체적인 고객서비스 수준</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Part 4.
각 문제당 해당되는 답을 하나씩 골라서 숫자위에 동그라미 (O)를 해주세요.
(Please select one answer for each question and circle the number of your response)
※ 다음 항목들에 대하여 어느정도 동의하거나 혹은 어느정도로 동의하지 않으십니까?
(To what extent do you agree or disagree with the following statements?)

<table>
<thead>
<tr>
<th>문제</th>
<th>매우 동의하지않음</th>
<th>어느정도 동의하지않음</th>
<th>중간</th>
<th>어느정도 동의함</th>
<th>매우 동의함</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 우리회사는 매우 헌신적으로 매장환경(인테리어, 등)을 관리하는데 힘쓴다.</td>
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<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>2. 우리회사는 매장공간 기획을 실행에 옮기기 위한 뛰어난 전형능력을 가지고 있다.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>3. 우리회사는 변화가 필요한가를 결정하기위해 우리 매장 디자인에 대해 자주 검토 한다.</td>
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<td>4. 우리회사는 매장직원들을 빼고 트레이닝시키기위한, 매우 철저한 프로그램을 가지고 있다.</td>
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<td>5</td>
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<td>5. 우리는 회사가 매장직원들을 관리하는 노력에 대해 만족한다.</td>
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</tr>
<tr>
<td>6. 우리 매장직원들의 지식과 기술들은 뛰어난 판매업무와 서비스를 창출한다.</td>
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<td>5</td>
</tr>
<tr>
<td>7. 우리회사의 광고는 다른경쟁사의 광고와 다를뿐이거나 그들의 것보다 뛰어나다.</td>
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<td>8. 우리회사는 판매촉진을 위해, 경쟁사와 매우 다른 전략을 가지고 있다.</td>
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<tr>
<td>9. 우리는 우리회사의 광고와 판매촉진전략을 위한 노력에 대해 만족한다.</td>
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</tbody>
</table>
# Part 5.

각 문제당 해당되는 답을 하나씩 골라서 동그라미(O) 를 해주세요.

(Please select one answer for each question and circle the letter of your response)

| 1. 귀하의 나이가 어디에 해당되십니까? (What is your age?) | (A) 25 세 이하 
(B) 25 - 29 세 
(C) 30 - 34 세 
(D) 35 - 39 세 
(E) 40 - 44 세 
(F) 45 - 49 세 
(G) 50 - 54 세 
(H) 55 - 59 세 
(I) 60 세 이상 |
|---|---|
| 2. 귀하의 성별은? (What is your gender?) | (A) 남성 
(B) 여성 |
| 3. 귀하의 교육수준은 어디에 해당되십니까? (What is the highest level of education you completed?) | (A) 중학교 졸업 
(B) 고등학교 졸업 
(C) 전문대학교 졸업 
(D) 4 년제 대학교 졸업 
(E) 석사학위 
(F) 박사학위 
(G) 그외 구체적으로 써주세요: |
| 4. 귀하가 의류업에 계신지는 경력 몇년이 되셨습니까? (What are your years of experience in the retail industry?) | (A) 3 년 이하 
(B) 3-5 년 
(C) 6 - 7 년 
(D) 8 - 10 년 
(E) 11 - 13 년 
(F) 14 - 17 년 
(G) 18 - 21 년 
(H) 22 년 이상 |
| 5. 지금 다니고 계신 회사에는 몇년동안 일하셨습니까? (How long have you been with the current firm?) | (A) 3 년 이하 
(B) 3-5 년 
(C) 6 - 7 년 
(D) 8 - 10 년 
(E) 11 - 13 년 
(F) 14 - 17 년 
(G) 18 - 21 년 
(H) 22 년 이상 |
Part 5 (계속). 각 문제당 해당되는 답을 하나씩 골라서 동그라미 (O) 를 해주세요.
(Please select one answer for each question and circle the letter of your response)

| 6. 귀하의 회사에서는 어떤 상품을 판매하십니까? | (A) 여성 의류 (악세서리) |
| (What type of products does your firm carry?) | (B) 남성 의류 (악세서리) |
| | (C) 아동 의류 (악세서리) |
| | (D) 여성 + 남성 의류 (악세서리) |
| | (E) 여성 + 아동 의류 (악세서리) |
| | (F) 남성 + 아동 의류 (악세서리) |
| | (G) 여성+남성+아동 의류 (악세서리) |
| | (H) 그 외, 구체적으로 써주세요: | |

| 7. 귀하는 그중 어떤 상품을 담당하고 계십니까? | (A) 여성 의류 (악세서리) |
| (What type of products are you responsible for?) | (B) 남성 의류 (악세서리) |
| | (C) 아동 의류 (악세서리) |
| | (D) 여성 + 남성 의류 (악세서리) |
| | (E) 여성 + 아동 의류 (악세서리) |
| | (F) 남성 + 아동 의류 (악세서리) |
| | (G) 여성+남성+아동 의류 (악세서리) |
| | (H) 그 외, 구체적으로 써주세요: | |

| 8. 귀하는 어떤 종류의 회사에서 일하십니까? | (A) 백화점 |
| (What type of retail firm do you work for?) | (B) 대형 할인점 |
| | (C) 또는 (D)를 선택하신 분들은 9, 10 번을 하실 필요가 없습니다 |
| (A) 백화점이나 (B) 대형 할인점을 선택하신 분들은 9, 10 번을 하실 필요가 없습니다 |
| (D) 브랜드 (백화점 매장중심) |
| (E) 브랜드 (할인점 매장중심) |
| (F) 독립적인 의류매장, 부티끄, 등 |
| (G) 그 외, 구체적으로 써주세요: | |

| 9. 귀하는 어떤 유형의 회사에서 일하십니까? | (A) 독립적으로 경영하는 한개의 매장을 소유한 회사 (예: 이태알 삼) |
| (What type of retail firm do you work for?) | (B) 독립적으로 운영되는 여러개의 매장을 소유한 회사 (예: 여러개의 이태알 삼들을 소유) |
| | (C) 한개의 체인 매장 (브랜드로부터 공급) |
| | (D) 여러개의 체인매장을 소유한 회사 (브랜드로부터 상품 공급) |
| | (F) 그 외, 구체적으로 써주세요: | |
Part 5 (계속). 각 문제당 해당되는 답을 하나씩 콜라서 동그라미(O)를 해주세요.
(Please select one answer for each question and circle the letter of your response)

| 10. 귀하 회사의 연매출은 어디에 해당합니까? (What is the annual sales of your firm?) | (A) 5억원 이하  
(B) 5억 ~ 10억원  
(C) 11억 ~ 100억원  
(D) 101억 ~ 500억원  
(E) 501억 ~ 1000억원  
(F) 1001억 ~ 5000억원  
(G) 5001억 ~ 1조  
(H) 1조 이상 |
|---|---|

감사합니다.
(Thank You)
Appendix D

Consent Form
Consent Form for Participant

*Title of Study: Developing a retail buying model based on the use of assortment decision factors

Purpose: The purpose of this study is to develop a retail buying model for fashion retailers.

Procedure: If you agree to take part in this research, you will be contacted to schedule a 10 minute survey. Prior to the survey, this consent form will be reviewed in person in order to facilitate answering any questions you may have and ensure that you understand the purpose of the study and your rights as a participant. After you sign this form, the survey will begin. In this survey there are multiple choice questions about assortment planning decision factors, success levels of your assortment planning, and firm performance.

Risks and Benefits: There is minimal risk involved in this study. As you will be asked about your assortment planning and firm performance, there is minimal risk that you may experience strong emotion during the survey. There is no direct benefit to you by participating. However, the results of the study will be shared with the academic community and may help improve retail buyer behavior.

Right of refusal to participate and withdrawal: Your participation in this research is completely voluntary. You are free to choose to participate in the study. You may refuse to participate at any point during the process. You may also refuse to answer some or all the questions if you do not feel comfortable with those questions.

Compensation: There is no compensation for participating in this study.

Confidentiality: The information provided by you will remain confidential. No one outside of the research team will have an access to the survey result. In the event of publication of this research, no personally identifying information will be disclosed.

Who to Contact with Questions: Questions about this research study should be directed toward the member of the research team conducting your survey. Questions about your rights as a research participant should be directed to the Virginia Tech Institutional Review Board Office, IRB Chair, Dr. David M. Moore. His phone number is (540) 231-4991 and email address is moored@vt.edu.

AUTHORIZATION I have read and understand this consent form, and I volunteer to participate in this research study.

_________________________________: (Print) Name

_________________________________: Signature _________________:Date
Appendix E

Consent Form – Korean
참여자를 위한 동의서

리서치 제목: 결정 요소사용을 기본으로 한 의류소매업자의 어소트 기획을 위한 소매업의 구매모델 개발

목적: 이 리서치의 목적은 패션소매업자들의 어소트 기획을 위한 소매업의 구매모델을 개발하기 위함입니다.

과정: 만일 당신이 이 리서치에 참여하는 것에 동의했다면 당신은 10분-설문조사를 위한 스케줄을 잡기 위한 연락을 받을 것입니다. 설문조사에 앞서, 이 동의서는 당신이 참여자로서의 권리를 가지고 있고 이 리서치의 목적을 이해한다는 것을 확인하고 문제들에 답을 하기 위해 직접 검토하게 됩니다. 당신이 이 동의서에 사인한 후에 설문조사가 시작 될 것입니다. 이 설문조사지 안에는 어소트 기획 결정요인, 당신의 어소트기획의 성공 수준, 그리고 회사 실적에 관한 객관식 문제들이 있을 것입니다.

위험과 이익: 이 리서치 안에는 위험요소가 거의 없습니다. 당신은 당신의 어소트 기획과 회사의 실적에 관하여 문제 되기 때문에 이 설문지에 답을 할 동안 당신이 강한 감정적인 경험을 할 위험요소는 거의 없습니다. 이 설문에 참여함으로 인한 직접적인 이익도 없습니다. 하지만, 이 리서치의 결과는 학계에서 나눠질 것이며 소매바이어들의 바잉행동을 개선시켜줄 수 있을지도 모릅니다.

참가를 거절하거나 그만둘 권리: 당신의 이 리서치에 관한 참여는 완전히 자발적인 것입니다. 당신은 이 리서치의 참여에 관한 결정의 자유를 가졌습니다. 당신은 설문과정의 어느 과정에서도 참여를 거절할 수 있습니다. 당신은 또한 만일 당신이 어떤 물음에 관해 불편함을 느낀다면 그 문제 혹은 전체 문제들에 대한 답을 거절할 수 있습니다.

익명성: 당신에 의해 제공된 정보는 모두 익명입니다. 회사이름도 익명입니다. 리서치는 어느 설문지가 어느 회사에서 나왔는지 알 수 없습니다. 리서치들 이외의 사람들은 설문결과를 가질 수 없습니다. 만일 이 리서치가 출판된다면 개인적인 혹은 개별회사의 정보는 절대 나오지 않습니다.

222ybs@vt.edu 만일 질문이 있으시다면: 이 리서치에 관한 물음들은 직접 리서치팀과 연락해야 합니다. 당신의 참여자로서의 권리로 박사님과의 맛있는 둘이 먹어 보세요. 당신은 이 메일로 moored@vt.edu 입니다.

확인: 나는 이 동의서를 읽고 이해하며, 이 리서치에 자발적으로 참여함을 확인한다.

__________________: 이름
__________________: 서명 ____________: 날짜

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Appendix F

IRB Approval
MEMORANDUM

DATE: March 21, 2011

TO: Doris H. Kincade, Youngjin Bahng

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires October 26, 2013)

PROTOCOL TITLE: Developing a Retail Buying Model for the Assortment Planning of Clothing Retailers Based on the Use of Decision Factors

IRB NUMBER: 11-304

Effective March 21, 2011, the Virginia Tech IRB PAM, Andrea Nash, approved the new protocol for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at http://www.irb.vt.edu/pages/responsibilities.htm (please review before the commencement of your research).

PROTOCOL INFORMATION:
Approved as: Exempt, under 45 CFR 46.101(b) category(ies) 2
Protocol Approval Date: 3/21/2011
Protocol Expiration Date: NA
Continuing Review Due Date*: NA

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:
Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals / work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.
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*Date this proposal number was compared, assessed as not requiring comparison, or comparison information was revised.

If this IRB protocol is to cover any other grant proposals, please contact the IRB office (irbadmin@vt.edu) immediately.

cc: File
MEMORANDUM

DATE: March 28, 2011

TO: Doris H. Kncaide, Youngjin Bahng

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires October 26, 2013)

PROTOCOL TITLE: Developing a Retail Buying Model for the Assortment Planning of Clothing Retailers Based on the Use of Decision Factors

IRB NUMBER: 11-304

Effective March 28, 2011, the Virginia Tech IRB PAM, Andrea Nash, approved the amendment request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at http://www.irb.vt.edu/pages/responsibilities.htm (please review before the commencement of your research).

PROTOCOL INFORMATION:
Approved as: Exempt, under 45 CFR 46.101(b) category(ies) 2
Protocol Approval Date: 3/21/2011
Protocol Expiration Date: NA
Continuing Review Due Date*: NA

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:
Per federally regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals / work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

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If this IRB protocol is to cover any other grant proposals, please contact the IRB office (irbadmin@vt.edu) immediately.

cc: File