STOCKOUTS IN FASHION MERCHANDISING: CUSTOMER REACTIONS AND CONSEQUENCES FOR THE RETAILER

By

Gerrit Pieter van Nederpelt

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ABSTRACT

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One critical decision retailers face in their role in the distribution channel involves the dimensions of the assortment to be carried. It is impossible to always have a "perfect" assortment and retailers need to strike a proper balance between overstock and understock. Traditionally, a stockout has been considered a negative business experience, and the more stockouts were feared, the more safety stock was carried. This research shows that the expensive method of protection, carrying safety stock, is but one alternative to deal with stockouts. Fashion apparel merchandising was primarily chosen due to the social risks to the consumer of this merchandise. Few consumers have distinct choice criteria in their purchasing behavior, which contributes to the importance of store image in this field, and affects the applicability of previous stockout research.

The first objective determined customer responses to stockouts, and the second, factors influencing such responses. The third objective investigated the effect of stockouts on store image and, the fourth determined the influence of store perceptions prior to a stockout experience.

The inadequacy of the traditional definition of a stockout became evident, and a broader definition was suggested. Further, the robustness of fashion store images, was substantiated. Using both scenarios and actual experiences, the attribute concerning the store's sales

force was shown to be of great importance in the establishment and maintenance of image. The price level also proves to be a sensitive element.

Customers' expectations regarding the store's merchandise assortment were influential in determining their stockout responses and the accompanying annoyment. Also, the research determined the benefits of creating an atmosphere in the store to encourage customers to express themselves to store personnel about assortment inadequacies. Generally, demographics and other situational variables showed little influence on stockout responses as opposed to frequency of stockout occurrences, and the intention behind the store visit.

The research contributes an improved perspective on merchandise assortment planning and the role of personnel involved in this activity. Also affected is the important role a retailer plays, or can play, in the distribution channel.

Dedicated to my parents,

Henny and Jan van Nederpelt

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CHAPTER I

INTRODUCTION

In most instances, an out-of-stock situation is a negative experience for a business. Except for a few situations where occasional unavailability may increase the shopper's perception of demand for the product, there is a general agreement that businesses should make at least a reasonable effort to avoid stockouts (see for example: Progressive Grocer, 1968; Ballou, 1973; Bowersox, 1974; Coyle and Bardi, 1980; Johnson and Wood, 1982). Many studies have measured the impact of these occurrences and determined how a business should attempt to avoid their negative consequences. Discussions have centered around general frameworks modeling alternative customer responses, or have involved investigations of monetary cost implications in very specific settings.

Out-of-Stock

Traditionally, an out-of-stock situation is where a seller does not have stock at the time a customer wants it. As a matter of fact, much of the literature implies this definition. This view may be too narrow.

A retailer's efforts in marketing the product assortment affect customer expectations regarding the items included in that assortment. Subsequent decisions to delete a product from the store's offering can result in unfulfilled customer requests. Customers may also have prior expectations, through previous experiences with other stores, word-of-mouth, etc., and assume the assortment has a greater variety than that

actually carried. Thus, both customer expectations and retail management's marketing efforts can cause an out-of-stock situation to exist with potentially negative consequences for the retailer.

With respect to these consequences, stockouts have been viewed as having three general alternative results (Bowersox, 1978):

1. The customer postpones the purchase;
2. the customer purchases the product elsewhere;
3. the customer purchases the product elsewhere and ceases to patronize the original outlet.

Clearly, the impact on the seller increases in severity in the same order. To measure that degree of severity, studies have centered around two types of costs, actual costs and loss of store image. On the one hand, actual costs have been identified and discussed in various settings (e.g., Schary and Becker, 1978; Walter, 1975; Heskett et al., 1973). On the other hand, particularly in the retailing literature, image studies have been undertaken with merchandise availability as one of the determinants of store image (e.g., Lesser, 1981; Lindquist, 1975).

Inadequate inventory levels can be the result of many factors. Marketers can rarely predict demand accurately. Also, they may encounter obstacles such as timely replenishment of inventory, clerical errors, etc. Those factors are not always under the retailer's control. Regardless of cause, the only method to prevent stockouts is to carry extra inventory, thus the greater the uncertainty, the greater the amount of safety stock carried. Simulation models have been developed to determine optimum levels for inventory, and expanding technology is giving us the tools to implement answers to this sort of problem.

The amount of effort spent on attempts to balance understocking and overstocking indicates a recognition of the seriousness of the

problems of inventory control. According to Ammer (1974), these problems have led to a style of decision making that operates without sufficient information on implications of stockouts to justify such decisions.

> . . . in general management tends to overprotect themselves against stockouts. All too often they are unwilling to accept the idea that if they want tight inventory control they must be willing to risk an occasional stockout. It takes a courageous manager to risk running out of stock when he knows it pays to take risks. When the stockout does occur, his boss is all too likely to think only of immediate loss and forget the enormous gains that come from low safety stocks and close control (p. 347).

However, the question of how much a stockout will cost has never been answered satisfactorily, although the literature shows evidence of many measurement attempts (e.g., Coyle and Bardi, 1982; Heskett et al., 1973; Burgin, 1970; Progressive Grocer, 1968).

Decision making has come under more pressure due to the recessionary periods witnessed in recent years. This pressure also has resulted in more emphasis on the development of techniques to improve the management of inventory levels.

Fashion Merchandising

Merchandise assortment planning for a retailer is a constant struggle to decide which items to carry in stock on the one hand, and how many of the selected items to include on the other hand. If we refer to merchandise assortment as the total product offering of a store, we can further identify the term "assortment" by its dimensions. According to Kotler (1980), the number of product lines carried determines the width; in other words, the greater the variety of different products offered, the wider the assortment. The depth is determined

by the number of different options available within each product line. Options here include alternatives to (package) sizes, brands, price ranges, etc., as well as the number available per stockkeeping unit. In fact, the number of items available per stockkeeping unit, labeled "support" by Mason and Mayer (1978), is the only element of depth considered in the retailing literature (see also for example, Davidson, Doody and Sweeney, 1975). The wider an assortment, the greater the chance that a broad range of customers can be served, yet the smaller the chance that the demand for each individual item can be adequately forecast. Thus, wider assortments lead to a greater chance that a stockout situation will occur.

Merchandise assortment planning involves many such trade-offs (Lusch, 1982). For example, the wider the assortment, the "shallower" it has to be as storage and shelf space become important issues. Also, the deeper the assortment, the more difficult (i.e., expensive) it becomes from an inventory control perspective. In any case, width and depth of an assortment are important elements in determining the image of a retail outlet (for example, see Martineau, 1958; Berry, 1968; May, 1973; Hirschman, 1978).

A third dimension of the assortment, consistency, is generally overlooked. Consistency refers to how closely the different product lines relate to one another within the assortment (Kotler, 1980). Like width and depth, this dimension also has very important consequences for the customer's image of a store. Retailer decisions regarding width and depth affect the consistency of the total assortment. For example, additions to width and/or depth, especially if advertised or passed along by word-of-mouth, can invoke expectations of an even

more expanded assortment. As a result, a consumer may expend the effort to visit the store, only to learn a particular item is unavailable. When retailers delete products from the assortment, conveniences such as the telephone book's "yellow pages" and other methods help reduce the customer's frustration with the product's unavailability because the amount of effort expended is not as high as a store visit. However, it is still a negative shopping experience and the frequency of it occurring can intensify the negative consequences for the retailer just as traditionally defined stockouts can.

Many prominent authors recognize the great amount of risk involved in merchandise assortment planning (Kotler, 1980; Bowersox, 1978). Rachman (1975), particularly, identifies an "internal risk" for retailers and a "consumer risk". An internal risk, as it relates to a policy of carrying more inventory than is needed for the purpose of protection against stockouts, involves the risk of markdowns. Not only are markdowns a heavy price to pay for overstocking, but there are also factors such as ordering and carrying costs to consider.

According to Rachman (1975), a consumer risk is incurred when a retailer does not carry enough inventory and thereby risks losing a sale.

> In theory, the retailer may not only be losing a sale but in the long run he may lose most of his customers simply because the buying public may tire of not finding what they want . . . the consumer may balance (1) the probability of finding a set of items in a store versus (2) the cost incurred in making the purchase. Obviously, the lower the probability of finding the wanted item, the less likely the consumer will be to shop in the store. In essence, this theory suggests that the retailer who is not in stock most of the time is faced with a possibility of losing not only a sale but also a customer (p. 284).

The major focus of this research is on "consumer risk", a risk of particular importance in fashion merchandising, where width, depth and consistency of assortments need to be planned far in advance of the actual selling season, increasing the uncertainty in these activities.

Stockout Measurement in Fashion Merchandising

Much has been published in terms of stockout costs although little has been applied to the fashion industry, particularly in the area of complementary products. For example, when a customer selects a blouse and looks for a skirt to go with it, will the fact that the right size is not in stock cause her to abandon the intention of purchasing the blouse? If she decides to purchase the blouse, will she wait for the skirt in her size or will she go elsewhere to find a comparable combination? The effects on the image of the store can readily be assumed to be present, but are extremely difficult to measure.

Fashion merchandising is a difficult field with respect to the measurement of stockouts for other reasons as well. For example, routine reordering is not as large a part of retail fashion buying as it would be for another type of retailer (Greenwood and Murphy, 1978). Also, the pressure on inventory decision making is even greater because there is very little prior knowledge of consumer demand beyond demand for apparel in general. This pressure is intensified by there being little opportunity to correct errors in assortment planning through backordering (Greenwood and Murphy, 1978).

Studies involving stockouts have been very situation and product specific due to the existence of factors unique to that situation or

product. Costs and image implications have been investigated in such settings as metal wholesaling firms dealing with manufacturers, grocery product retailing, etc. (Chang and Niland, 1967; Progressive Grocer, 1969). In these research efforts, the researchers have a high degree of control over the setting. In the fashion merchandising industry, however, such control does not exist to the same extent. Relatively few customers will ask store personnel about the availability of a product, even if they have a clear idea of what they want. Also, many customers shop for social reasons rather than for accomplishing a specific purpose. Fashion shoppers, furthermore, seem to have a tendency to continue shopping despite having found something to their liking (Troxell and Stone, 1981). These factors confound the measurement of customer reactions, which may explain why research on the consequences of stockouts for fashion retailers is non-existent. Although studies relating to fashion store image have shown that merchandise assortment problems such as unavailability are influential, there is a lack of research investigating the direct effects of stockouts on store image.

Objectives and Contributions

Even though many studies have focused on the role of stockouts in inventory management, little or nothing has been done in the area of retail fashion merchandising. It is the purpose of this research to investigate the following four issues:

1. how customers respond to product unavailability in a fashion retail store;
2. the factors that affect customer responses to product unavailability in a fashion retail store;

3. the influence of product unavailability on customer image of fashion retail stores;

4. the influence of store image on customer responses to stockouts in fashion retail stores.

This research provides insights into an area of retailing heretofore not included in stockout research. Even though cross-sectional, the research also provides further insight into the phenomenon of stockouts and the implications for retail store management. Up to now, it has appeared to be more beneficial for a retail buyer personally to risk understocking rather than overstocking, as costs of the latter are measured more readily through the amount of markdowns required to eliminate excess inventory. Greater knowledge of stockout effects on the retailer also provides improvements in the evaluation of a buyer's performance. Furthermore, such insight affects the evaluation of the salesperson who can be trained to persuade the customer to substitute another item for the out-of-stock item. Of course, knowing more about the effects of stockouts affects the merchandise plan that the retailer follows.

Description of Research Setting

This research involves a sample of customers of a chain of women's apparel outlets that cater to higher income shoppers. This setting is considered more polarized with regard to shopping behavior than in environments such as a department store. In department stores a variety of products with a variety of uses attract a variety of shoppers which merely confounds the research without aiding it (e.g., May, 1971; Rich and Portis, 1964). The setting in this reserach offers a greater specificity in shopping behavior. Yet, it is still difficult to measure

exact monetary costs of product unavailability, due to the type of shopping behavior encountered (Troxell and Stone, 1981; Greenwood and Murphy, 1978). Therefore, the impact of stockouts on store image is of great consequence to retail store management.

Limitations of this setting relate to the ability to generalize the results beyond fashion merchandising. This is particularly affected by the constraints on image measurement with regard to the product category and the type of retail establishment involved (Engel, Kollat and Blackwell, 1974). Another limiting factor stems from the cross-sectional nature of the research. Time related elements influence the measurement process as well (e.g., Andreasen, 1978).

Overview

Following the introductory chapter, Chapter II presents a literature review exploring the various research efforts relating to stockouts and fashion merchandising. Chapter III presents the methodology. The analysis of the data is described in Chapter IV as it relates to the relevant stockout issues. Chapter V contains a description of the implications for retail management, as well as a summary and conclusions.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Questions surrounding the implications of stockouts are very difficult to answer in terms of actual cost, customer reactions, etc. It is much easier to focus on overstocking and the cost involved in that activity (Ammer, 1974). However, in proper merchandise assortment planning, finding the correct balance between understocking and overstocking is a key ingredient in achieving profitability (e.g., Nelleman, 1975). Making the proper inventory decisions has also been identified as a very risky activity (e.g., Bowersox, 1978; Rachman, 1975).

To put the issue of merchandise planning in a better perspective it is appropriate to look at the issue of risk associated with carrying inventory, both from a retailer and a customer point of view. According to Bowersox (1978), risk can be looked at in terms of width and depth, as well as along time dimensions. Compared to manufacturers, retailers carry large numbers of products. As a result, retailers assume a degree of risk that can be considered wide, but not very deep since, by comparison, they do not have much inventory per stockkeeping unit. Manufacturers' risks are defined as narrow, but very deep. In this respect, it is understandable that a proper balance between width and depth is not only in the financial interests of the individual organization, but also a key ingredient in the success of the whole channel of distribution.

Rachman (1975) identified in this context as internal risk for retailers: carrying more inventory than needed means risking markdowns.

Markdowns essentially imply that a retailer cannot move the merchandise and that a retailer could pay a high price for overstocking. Furthermore, marking down does not guarantee a moving of the merchandise. Of course, as Rachman adds, there are other costs associated with this internal risk, carrying costs and ordering costs are the most obvious. Particularly, he noted the following concerning inventory costs and markdowns:

> Inventory costs that can be documented approximate 6 percent of sales in a large department store. However, markdowns and the cost of losing sales add to this estimate (p. 286).

It is interesting, to say the least, that he leaves the "cost of losing sales" virtually untouched.

Risks in inventory are intensified when economic pressures exist. The Wall Street Journal in August 1980 noted the importance of inventory control in inflationary periods.

> Inventory control gains in importance when interest rates and inflation run high. That's because inflation raises the value of goods in inventory and high interest rates raise the cost of financing, cutting into current profits. Despite all the attention inventory has got in the past five years, however, keeping just the right amount of goods on hand has proved neither simple nor painless (p. 15).

To provide an input in this risky decision area, it is necessary to look at the possible impacts of stockouts. In this chapter the following outlines will be used. First, a discussion on the definition of stockouts is presented. A review of studies related to customer reactions to stockouts follows including both conceptual and empirical writings. Also, situational variables identified as related to customer stockout perceptions are discussed. Third, the relationship between store image and product availability as previously researched is explored.

Lastly, a review of the relevant fashion merchandising literature is presented.

Definition of a Stockout

Throughout the literature, the term stockouts generally implies an evil that should be avoided if at all possible and, it not always possible, limited to a minimal chance of occurring (e.g., Bowersox, 1978; Heskett, 1973; Ballou, 1973). In all these writings, there is an implicit assumption of a standardized definition of what a stockout is: a situation in which a retailer does not have an item on the shelf when a customer demands it. This definition does not seem complete. For example, a customer asks a retailer for an item that the retailer does not carry as part of the assortment, some writings would not consider this a stockout (e.g., Progressive Grocer, 1968). Yet, the effect on the consumer is still that she walks out without her wants satisfied, which has possible implications for the customer's perception of the store. For the purposes of this paper, it is necessary to take a closer look at the definition of a stockout.

Some of the more frequently quoted sources in the literature have an explicit definition. A study done for Progressive Grocer (1968) defined the failure to serve the customer:

> A product of any brand, size, shape, flavor, color or type is out-of-stock if the item is usually carried in the store, but is not found on the shelf at a give time. This includes items which are missing from the shelf as the result of careless or faulty ordering practices--so-called 'lost items' (p. S-22).

This is actually the most complete definition found as it also addressed the problem of not being on the shelf, yet on the premises. Furthermore,

the definition covers a situation which arises when a customer request remains unfilled as a result of a conscious retailer decision to delete the item from the assortment.

> If the item is in the backroom, but not on the shelf it is still considered out; if it was ordered by the store, but not sent out by the warehouse for one reason or another, it is still recorded as out, although a separate record may be made that the out is not the fault of the store. If an item is authorized by headquarters, but is deliberately not carried by the store, because it is deemed a poor mover or unnecessary for variety, it is not considered as out-of-stock (p. S-22).

For this particular paper the issue is not so much the specific reason why the product is not on the shelf as the consumer does not know why the item is unavailable, is not interested in that reason or feels she will be given an excuse anyway, such as: "The truck has not come in yet" (Progressive Grocer, 1968, p. S-31). Instead, the point needs to be made that when a customer asks for an item a retailer does not carry, she must somehow have expected the product to be there. As a result, she could have the same feelings of disappointment experienced by a customer who finds a regularly stocked item unavailable.

Mason and Mayer (1978), even though explicit, proposed a definition of a stockout that seems rather narrow.

> A situation in which a retail store does not have enough items of a particular kind to meet customer demand; thus, the product is not available when consumers come into the store for the purpose of purchasing the item (p. 709).

They not only refer to products the store is supposed to carry, but also limit the definition to customers entering the store for the express purpose of buying the out-of-stock item.

Johnson and Wood (1982, p. 265) identified a stockout as occurring when "the supply of an item is exhausted and a customer wants to buy

the out of stock item." Ballou (1973, p. 282) stated that "out-of-stock costs are incurred when a customer places an order and the order cannot be filled from the inventory to which it is normally assigned." Even Bowersox (1978) leaves one to assume that stockouts refer only to situations where you do not have on hand what the customer wants. Other notables following this patterns are Heskett et al. (1973) and Stock (1982).

The question still remains, however, of what to call a situation in which a customer asks for an item that a retailer does not carry for strategic reasons. Therefore, for purposes of this paper, a stockout is defined as a situation which occurs when a customer is unable to buy a wanted item due to the unavailability thereof in that particular outlet.

Customer Reactions to Stockouts

Introduction

Bowersox (1978) noted that without the proper assortment of inventories, serious marketing problems can develop in revenue generation and customer relations. Wingate and Friedlander (1978, p. 119) stated: "The ultimate test of a stock is its capacity to satisfy the demand of the one customer standing at the counter."

Throughout the literature it is recognized that stockouts are expensive. Johnson and Wood (1982, p. 265) stated "the determination of stockout costs is difficult and inexact, but nevertheless real." Coyle and Bardi (1980) summarized the problem of calculating stockout costs.

> While the determination of the cost of carrying safety stock inventory may be relatively easy, determining the loss (cost) of not having an item for sale may be much more formidable. If a company is dealing with raw materials or supplies for a production line, a stockout would mean shutting down operations in whole or in part. The opportunity loss from such a shutdown would have to be calculated. Most companies would be able to determine the hourly or daily production rates, which could be multiplied by the loss of profit on the number of units not produced . . . The calculation of stockout costs for finished goods where a customer will be affected is usually a more formidable task than for raw material stockout cost (p. 91).

The following discussion on customer reactions to stockouts is divided into a review of conceptual developments and an analysis of empirical efforts to measure such reactions.

Conceptual Developments

Coyle and Bardi (1980) contended that three possible events can occur as a result of a stockout: a backorder, a lost sale or a lost customer. They went on to say that "from the viewpoint of most companies, these three possible outcomes of a stockout are stated from best to worst in terms of desirability" (p. 91).

Heskett, Glaskowski and Ivie (1973) discussed these costs in terms of "hard" versus "soft" costs with "hard" costs being, for example, for duplicate order processing, extra communication and LTL transportation costs. They found that the "soft" costs are almost never considered and nearly impossible to measure; they define them as costs of lost selling time and foregone contribution on lost sales.

Heskett et al. (1973, p. 349) recognized that "in many situations, the 'soft' costs exceed the 'hard' ones, particularly for products for which substitutes are readily available to the buyer." Morrell (1967) in this respect stated that

> . . . a factor which may have to be taken into account when considering stockouts of finished products is customer goodwill. If, because of inadequate stocks, a customer's order must be refused or unduly delayed, this may lead to the loss of some or all of any future business with that customer. The more competitive the market, the more important this factor becomes, although even when there is little competition there may be a feeling of moral obligation to meet any demand. It should be borne in mind, however, that in a competitive market customers may be gained from, as well as lost to, competitors (p. 7).

In trying to get a better understanding of the cost of stockouts Heskett et al. (1973) recognized that lost sales are a function of consumer buying behavior. Johnson and Wood (1982, p. 265) contended that "estimating the cost . . . (of) a stockout involves an understanding of customers' reactions to a seller being out of stock at the time the customers want to buy an item." They listed a set of six possible consumer reactions and discussed their effects with the inclusion of a "for the sake of simplicity" (p. 265). All (including Lusch, 1982) seemed to recognize with Lambert and Stock (1982) that

> . . . in consumer goods companies, it is difficult to determine the cost of lost sales associated with different levels of customer service. Usually customer service levels are measured between the manufacturer and intermediaries excluding the consumer, the person who purchases the product at the retail level (p. 66).

In any case, there is agreement with Lambert and Stock (1982, p. 66) that "in order to determine the cost of lost sales at the retail level, it is necessary to know what the consumer is likely to do when faced with a stockout."

Conceptual Modeling Efforts

Several models have been developed that deal with responses to stockouts, ranging from very mathematical ones to graphic, descriptive ones depicting alternative consumer reactions.

Sasieni (1961) took a mathematical approach. Through an intricate set of formulas and derivations, he attempted to apply queuing theory to the inventory problem. Using a taxi stand and the resulting queues of passengers and/or taxis as his basic starting point, his application defined the backlog of orders as corresponding to the queue of customers, and items in stock to the taxis. He assumed that orders not filled in a certain time are cancelled, and that items are perishable, unable to be sold if stocked too long. As such, his approach could be applied to fashion apparel. Sasieni's set of equations needed to determine stockout effects, however, is highly impractical from a managerial perspective as he was more concerned with supplying proof of the theoretical underpinnings of his formulas than with a practitioner's use.

Schwartz (1966) developed the idea of a perturbed demand curve to show the effect of loss of goodwill on total stockout costs. Schwartz identified the stockout penalty as the cost incurred when demand exceeds supply. He adjusted the demand, after the experience of a stockout, by a disappointment factor alpha: the ratio of demand occurring during stockout conditions to total demand. Schwartz recognized the existence of many statistical problems but contended that they can be formulated exactly. In a later article (1970), he attempted to refine his approach and clarify his perturbed demand concept.

> The effect of a stockout is not to impose a cost against the firm at the time of the incident, but rather to modify the demand pattern in the future from that which otherwise would have occurred. This is a manifestation of loss of goodwill, in which the customer alters his future course of action due to meeting a stockout, rather than causing the firm some immediate, vaguely defined loss (p. B-509).

It is interesting to note that he deliberately ignored loss of profit on a sale not made due to the stockout. In any case, he again referred to the still unresolved statistical problems that continued to plague his highly mathematical approach rendering his formula virtually impractical.

Burgin (1970) also had a quantitative approach, correlating the number of days a stockout existed with the lost sales as a result of the stockout. He recognized, however, that his approach was very incomplete:

> No account is taken of intangible considerations ("loss of customer goodwill") or of possible long-term effects (customer waits this time but in future may go somewhere else). Similarly no account is taken of interactions with other items (because one particular item is not available the customer may not place the rest of his order), or the possibility of an in-stock being substituted for the item out of stock (p. 453).

In defending his quantitative relation between time out of stock and sales lost due to the stockout, Burgin did assume that a monetary value could be placed on sales lost, without addressing how that is done. But at least he addressed the issue of length of time out-of-stock affecting stockouts.

Chang (1967) developed a model to calculate the cost of stock depletion for a steel warehouse. He attempted to measure expected stockout costs by considering them "a function of prior inability to meet a customer's demands, both for one stockout and a series of

future stockouts" (p. 427). Several conditions were established, such as that data collection needed to be inexpensive and that the "computational method should be simple enough to be computerized or to be processed by clerical personnel" (p. 428). Interestingly, he added another requirement in that the underlying concepts be simple enough to be readily understood by management.

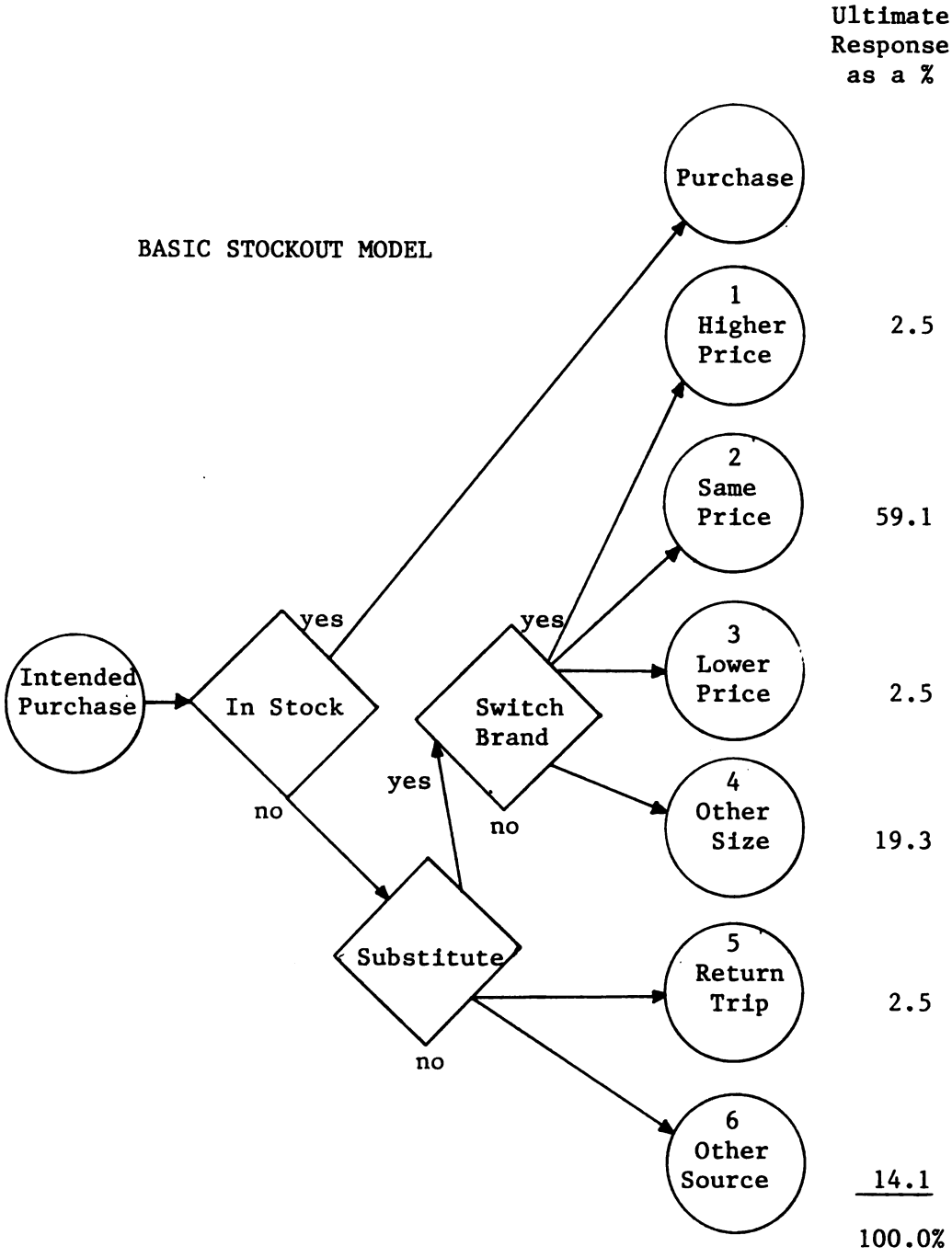
These considerations were possible given the type of organization and the sample he worked with: the metal wholesaler had either only one buyer or a principal buyer per stock item. This allowed him to limit the possible outcomes of a stockout. Chang then proposed to attach conditional probabilities to the conditional consequences of the stockout and, in this manner, to calculate the expected value of the stockout.

With Niland, Chang (1967) extended this model to include consequences of repeated stockouts, but recognized that

> . . . it should be borne in mind that some of the particular assumptions underlying this method of computing stockout costs may be quite unrealistic in situations that are different from the type studied (p. 446).

Walter (1971) used this model to develop his own to determine the effects of product stockouts in liquor stores in Ohio. He presented a final consumer perspective and, as a result, had some different alternative customer reactions than were considered in the Chang model.

Together with Lalonde (1975), the model was extended again to include subsequent stockouts and their effects (see Figure 1). The relevance of this study is somewhat mitigated if the conditions surrounding it are taken into account (especially if managerial implications are considered of value) given the type of product and



Source: Walter and La Londe (1975).

Figure 1. Walter's Stockout Model

the controlled conditions surrounding the sample involved in the study (liquor stores in Ohio are State operated).

Schary and Christopher (1979) studied reactions to stockouts by final consumers in a British setting. They broke their model down into four component modules: I. store and product decisions, II. consumer behavior, III. response to out-of-stock situations, and IV. retail merchandising strategy, and concluded that

> The only areas of possible measurement are the actual stockout behavior, and retail merchandising strategy; the rest are implied. Nevertheless, inferences should be possible based on the evidence of past and present behavior (p. 61).

Three general conditions were identified affecting the response to a stockout: brand loyalty, store loyalty and loyalty to neither. The basis for the distinction was the difference in options customers had after experiencing a stockout. Whether they went to other stores, substituted brands or postponed the purchase, brand loyal shoppers had their image of the store weakened primarily, and possibly of the product also. Store loyal shoppers experienced a weakening of the product image first and then maybe of the store. Non-loyal shoppers posed the least threat, yet, as Schary and Christopher contended, they could form an important segment in the market to be focused on in the store management strategies. Schary and Christopher's concern being with the final consumer is a vital one and, furthermore, their managerial emphasis in this regard is a critical focal point.

Other, more recent modeling efforts, again, are more oriented towards higher echelons in the channel. Bennion (1980) dealt with stockouts as customer service failures with regard to intermediaries in the channel of distribution as customers. Six case studies

allowed him to model the middleman's reactions to a manufacturer stocking out.

Even though it is important to study these reactions as "the implications of a stockout are serious to all members of the marketing channel" (Schary and Christopher, 1979, p. 59), this paper focuses on (1) the final customer's reactions to stockouts by the retailer regardless of what caused these customer service failures, and (2) the managerial implications for a retailer, as such reactions are important in determining which products (width) and how many of them (depth) to carry in the store's assortment.

A final criticism of the above modeling efforts is that they all assumed that the customers facing stockout situations intended to purchase the out-of-stock items before entering the store. It is conceivable, however, that the decision to buy an item is made after exposure to a related, but at that time unwanted item in the store (impulse buying) or that the purchase of another item triggers the want for the out-of-stock item. Zinszer and Lesser (1979, p. 377) expanded on this, "in a retail store setting, the actual sight of the product, as well as salesmen involvement, commonly play a role in consumer's shopping process."

They identified three different types of shopping activities as inputs in their model: (1) a search for the best purchase to fulfill a recognized need, (2) purchasing as a result of exposure to the item (impulse), and (3) acquiring of information to be used for a purchase decision on an as yet unrecognized need. This allowed them to identify more customer reactions to stockouts than had been used until that

time. The expanded list was divided into long and short run reactions (see Figure 2).

Furthermore, they identified three types of characteristics that induce negative consumer reactions to stockouts. First, consumer characteristics were mentioned: personality, demographics and group membership. Secondly, store and product characteristics included store geography, store type and specific product characteristics, such as prestige and dependability. Shopping processes formed the third category of relevant characteristics encompassing nearness to purchase, information processing (e.g., consciousness of stockout) and goals sought in life.

Zinszer and Lesser's modeling effort was essentially aimed at explaining stockout responses rather than merely describing them, as had been done in prior studies. As such, they make a major contribution from a managerial perspective.

Empirical Measurement Efforts

According to Speh and Hutt (1978), up to the time of their writing, no method was available to estimate the costs associated with a stockout at any level in the channel of distribution. They referred to the lack of a concensus on a general method, because several attempts had been made, and they recognized the difficulty involved.

> In addition to the loss of profit, we may also be concerned with the loss of goodwill from stockouts. Goodwill is difficult to measure and often ignored in inventory decisions, but it can be very important to the overall profits of the corporation (Coyle and Bardi, 1980, p. 93).

CUSTOMER REACTION	Short-Run	Long-Run
Short-Run		
1. Brand switching	o	x
2. Product class substitution	o	x
3. Attribute switching of same brand	o	xx
4. Shopping at other stores	x	x
5. Postponing purchase--return later	x	x
6. Not noticing stockout--no interest triggered	x	o
7. Deciding to terminate shopping	x	x
8. Not buying spurious purchases	x	o
9. Obtaining a "rain check"	x	xx
Long-Run		
10. Altering choice behavior for later decisions	o	xx
11. Changing opinion of product attributes (cognitive dissonance)	o	xx
12. Changing distribution of segments	x	xx

o = No negative stockout effect on supplier
x = Some negative stockout effect on supplier
xx = Major negative stockout effect on supplier

Source: Zinszer, Paul H. and Jack A. Lesser, "A Behavioral Model of Customer Response to Stockout," p. 378.

Figure 2. Supplier Effects of Customer Reactions to Stockouts

Magee (1967, pp. 10-20) stated "in a competitive economy where costs of manufacturing are increasingly rigid, the 'unit cost' of lost sales is probably growing in most businesses."

In terms of actual measurement, several attempts have been made to put real numbers on the effects of stockouts. The most quoted seems to be the study done by Nielsen for Progressive Grocer (1968). An important conclusion reached in this study is that about 20% of the customers will not substitute a brand, or a size, if the desired item is out-of-stock, indicating that they go elsewhere or simply postpone the purchase. Of course, whether a customer switches products depends on many factors such as product characteristics, but an average of 42% were unwilling to change brands, a percentage that could go as high as 62% for a product such as toothpaste. Perceived product differences, even colors, also had an effect on whether the customer wanted to switch brands: 28% of the shoppers refused to switch brands if they could not get the color desired.

This study shows postponement of purchase and store switching as alternative reactions and furthermore that these reactions are influenced by demographic characteristics: 58% of high income shoppers would switch, but only 33% of the black respondents would switch. Blue collar and black shoppers also seemed to be the most likely to postpone the purchase.

The study brought out the importance of communication with customers in store management's coping with stockout related problems:

> . . . lack of communication is frequently the store's fault. It is also a reflection of the hopelessness with which some shoppers view any effort to extract reliable answers from store personnel. Shoppers have longer memories than retailers give them credit for. And past failures in their

> attempts to get accurate information, about why an item is out-of-stock or when it can be expected are etched deeply enough in their minds to discourage future pursuits for answers (Progressive Grocer, 1968, p. S-31).

Clearly, there are alternatives open to retailers in mitigating the severity of negative customer responses to stockouts.

Another measurement effort comes from Shycon and Sprague (1975) who found that there is a high correlation between out-of-stock costs, as measured by gross profit lost, and the number of days the stockout existed. As in the Progressive Grocer study, this study also dealt with retail grocery sales. In the same field, yet more in terms of the relationship between supermarkets and their warehouses, Ingram, Brown and Earle (1969) found that retail supermarkets were out of stock 5.9% of the time and their warehouses 7.6%. A major conclusion was that stockouts are severe, but that there is no indication of how severe financially.

According to Walter and Grabner (1975) 40% of liquor shoppers indicated that they would shop elsewhere if their brand and size were not available. Mason and Wilkinson (1977) identified product unavailability as a major source of consumer dissatisfaction. Their research was concentrated in food retailing, where they also concluded in a later study that while 45% of the shoppers said they would switch stores, only 6% actually did so when they found the product they were looking for unavailable (Mason and Wilkinson, 1977).

Schary and Becker (1978) looked at market share for the product as a measurement basis for the effect of stockouts. They studied the distributions of beer in the northwest U.S. and found that certain brands, due to a strike among distributors, lost market share. More

importantly, it was found that after the strike was over market share did not return to pre-strike levels. A confounding problem in this study was that after the strike, locally brewed beer brands had their prices raised slightly and national brands remained unchanged, which affected the results. Labeled as a quasi-experiment due to the relatively controlled conditions for the study, this measurement effort has merit in the sense of its longitudinal nature. The study also pointed out that "the influence of a stockout is greatest in the immediate post-impact time periods" (Schary and Becker, 1978, p. 40). This furthermore implies that prevention of stockouts is an enabling element in the marketing mix for the product, enabling in the sense that "all efforts to build brand loyalty among customers and ultimate consumers must fail if the supply of products to the market becomes erratic or uncertain" (p. 41). Using Schary and Christopher's reference (1979) to the retailing mix, product availability would then be an enabling factor in the creation of store loyalty.

Experimentally, Charlton and Ehrenberg (1976) in their study of brand choice variables, tested the influence of product availability, among others, on brand loyalty. Particularly, the purchase of artificial "brands" of detergent was monitored over a period of 25 weeks. The sample of heavy-user customers was faced with the withdrawal of one of the available "brands" and was told that the brand was temporarily out-of-stock. One of the conclusions was that most buyers had no difficulty substituting for the unavailable brand, the switching of which was encouraged within the "outlet" by a price reduction. More importantly it was observed that "subsequent sales

of the withdrawn brand were not affected at all" (Charlton and Ehrenberg, 1976, p. 102).

Charlton and Ehrenberg stated furthermore that experiments of the kind they ran, experimentation on a longitudinal basis, is the main way "for learning about consumers' responses to varying marketing inputs" (p. 102). Miklas (1979) agreed and proposed an ad hoc consumer panel to monitor customer reactions over time. He suggested a quota sample of heavy users of a frequently purchased product be monitored during simulated shopping trips using photographs of product assortments in the subject's own home. Collected over a period of 20 weeks, Miklas stated that the data thus collected allow for testing of models and hypotheses relating to individual customers. As an alternative method, he also suggested the paired-preference test. By requiring the making of preference choices between all possible pairs in a single merchandise classification,

> . . . the researcher will be able to deduce the order of the various alternatives available to the consumer and ultimately the researcher should be able to predict the proportion of potential buyers who will: switch brands, shop at another store, etc. (Miklas, 1979, p. 239).

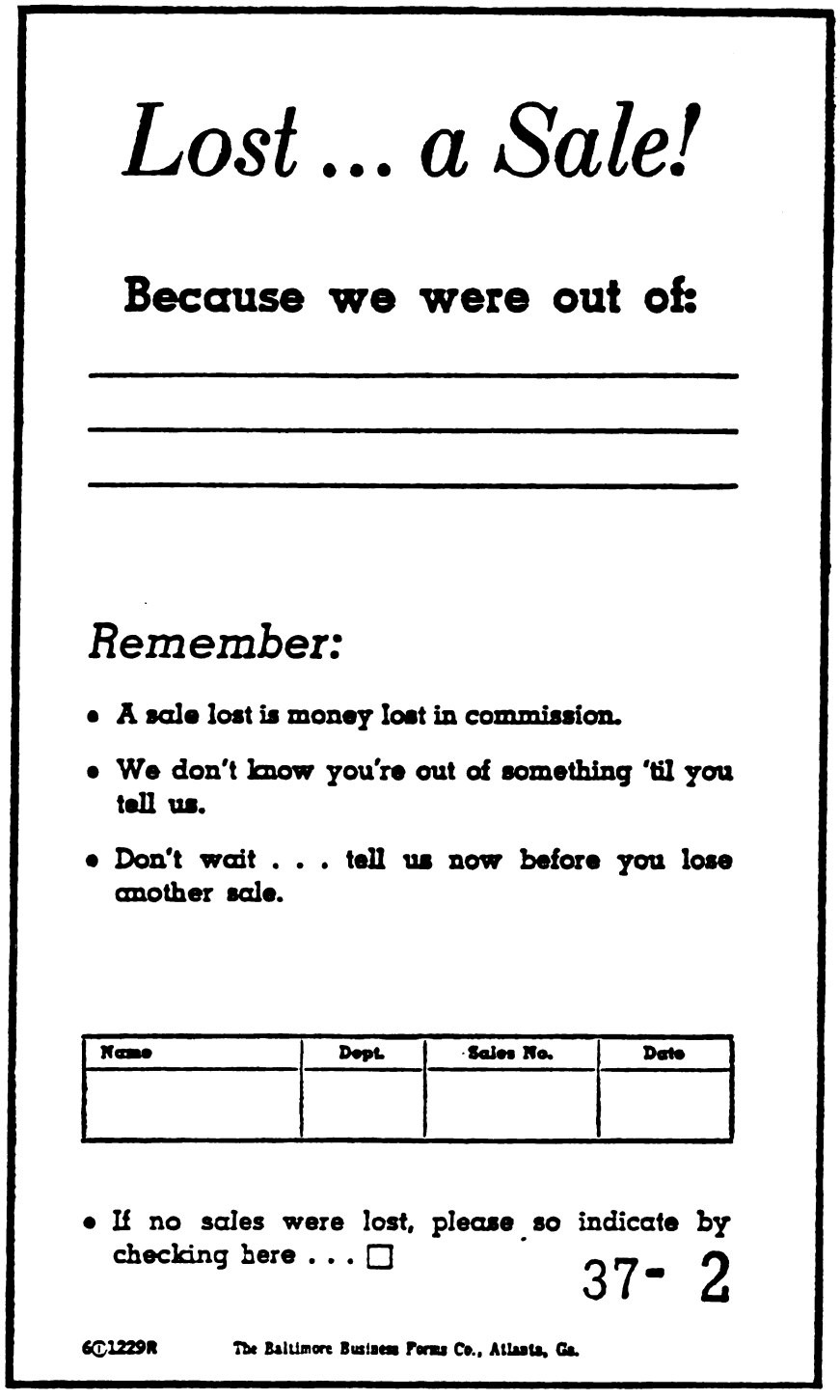
Even though, as Miklas contended, large amounts of relevant data might be provided on the topic of retail shelf out-of-stocks, which to him is under-researched, the time and money that needs to be invested in the project in many cases becomes prohibitive.

Sanger-Harris, Inc. of Dallas, Texas, provides an example of retailer efforts underway to measure the impact of stockouts (Carrekar, 1983). Sales personnel are required to keep a record of customers asking for items not stocked or not available at that time. An estimate is made of the costs involved which might lead to a decision

to carry the item not stocked. The method has been recommended and used many times before (Buyer's Manual, 1965) (see Figure 3), the effectiveness could conceivably be hurt in that not every customer experiencing a stockout will "voice" the problem to store personnel. As a result, these effects rely on well-trained personnel creating an atmosphere in which consumers feel they can communicate any problems they have with the assortment.

In all the efforts referred to above, a real key to the severity of reactions to stockouts is the willingness of a customer to buy substitute brands, colors, sizes, etc. Goodwill implications for the store as measured by store loyalty form a different factor (Stephenson, 1969). This has to do with availability of store alternatives as well, a competitive factor that is reflected in market share for a particular store (Schary and Becker, 1978). Lesser (1981) found that "stockout dissatisfied shoppers" caused the store severe image problems although the exact impact differed, based on demographic characteristics. The significance for the purposes of this paper is that stockouts are very important for a retail outlet, which is very dependent on a certain image (Schary and Christopher, 1979); also, stockouts cause a lot of emphasis to be put on other elements of the "retailing mix," such as costly promotions to rectify the situation. Bowersox et al. (1968) stated the following in this respect.

> The full impact of a lost sale is directly related to the customer service policies of competitors. A customer who is denied by one supplier and serviced by a competitor may become a customer again only through the use of substantial sales and promotional effort (p. 196).



Lost ... a Sale!

Because we were out of:

_____

_____

_____

Remember:

- A sale lost is money lost in commission.
- We don't know you're out of something 'til you tell us.
- Don't wait . . . tell us now before you lose another sale.

Name	Dept.	Sales No.	Date

- If no sales were lost, please so indicate by checking here . . . ☐

37- 2

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Source: The Buyer's Manual (1964).

Figure 3. Example of a Want Slip

Store Image and Product Unavailability

Introduction

As developed earlier, a definition of a stockout should include situations in which a customer asks for an item that the retailer does not carry. However, something must give that customer reason to believe that the store carries the desired item. Without going into specific reasons behind those expectations, we can safely assume that shopping stores of that type and others, and word-of-mouth will have an effect on those expectations. Therefore, the image a customer has of a store, no matter how it is formed, could be responsible for the trip to the store to discover the item's unavailability.

Definitions of Store Image

Store image in general refers to the way in which consumers perceive a store (Engel, Kollat and Blackwell, 1974). Many authors define the concept more specifically. In 1958, Martineau showed that besides the usual price, quality and service interpretations, also a "personality" factor played a role in why customers shop at a certain store. He concluded that "the shopper seeks the store whose image is most congruent with the image she has of herself" (p. 48). Even though economic factors will always be important, Martineau stated that "price announcements" are meaningless if the store image is not acceptable to the shopper. One of the conclusions these observations led to was that a store cannot be all things to all people.

Martineau (1958, p. 47) described store image as "the way in which the store is defined in the shopper's mind, partly by its

functional qualities and partly by an aura of psychological attributes." Therefore, he concluded that not only store image preselects customers, but also that it is a major determinant in retail buying behavior. Through many examples, he helped show that, even though it is still a vague concept, it can be made operational through an appropriate research design. In a subsequent article, Martineau attempted to provide more insight into the concept by relating store image to social class. He found a positive correlation between these two concepts (p. 49).

Arons (1961, p. 2), saw image as a "complex of meanings and relationships serving to characterize the store for people." As such, he not only recognized Martineau's attributes ("meanings"), but he added a dimension that dealt with elements that somehow tie the attributes together ("relationship"). He implied that these relationships are necessary for shoppers to be able to manage that complexity.

Kunkel and Berry (1968) summarized the definitional development up to 1968 by stating that retail store image is the total conceptualized or expected reinforcement that a person associated with shopping at a particular store. However, they added that even though the literature on retail image has increased notably in the ten years prior to their writing the rate of knowledge has lagged.

Lindquist (1974), while discussing various definitions, concluded the following:

> One may generalize . . . that the entity, 'retail store image' does exist and that its descriptors are to be found in varying degrees among the attributes [found]. Of particular interest is the finding that of the nine summary factors listed, three were apparently dominant, and of the three, Merchandise (Selection, Quality, Pricing and Styling/Fashion) appears to be the key image factor (p. 37).

Through his work, Lindquist indicated that there was no agreement on a universal definition on the concept of store image. Berry (1969, p. 3) had already stated that "characteristically, 'image' had been treated in the literature as an intangible 'something', a vague, untouchable, forbidding, virtually unmeasurable phenomenon." Pessemier (1980) seemed to underscore this confusion. But the common denominator appears to be a basic disagreement on the determinants of store image. Pessemier concluded that current image research focuses on not only understanding shoppers, but also the stores in which they shop. This would lend credibility to Kunkel and Berry's (1968, p. 21) conclusion that "retail store image is an alluring, yet uncrystallized concept" even today.

Martineau (1968) stated that the shopper seeks the store whose image is most congruent with the image she has of herself. Subsequent studies showed evidence of this, culminating in Bellenger (1976) finding support for the basic hypothesis that the correlation between self and store image is related to store loyalty.

The importance of store image has been contested occasionally, starting as early as Alderson and Hollander who adopted a more economic view of the consumer. Alderson saw the consumer as being a problem solver with a "goodly" measure of common sense with respect to economic matters. Hollander (1958) concluded that

> . . . if shopping is simply operational behavior through which fairly rational individuals seek to gather bundles of desired goods without excessive expenditure of money, time or effect, then our beloved concept of 'personality' is less important than such mundane aspects of retailing as merchandising, pricing, and customer service (p. 176).

Dalrymple (1969) resolved these extremes by stating the following:

> If consumers make complex, multivariate value judgments which result in some total impression being formed, it does

> not mean that the considerations which mold such impressions are necessarily noneconomic or emotional in nature. Rationality and imagery are not incompatible concepts (pp. 124-125).

Doyle and Fenwick (1974) provided a straightforward definition, that store image is the consumer's evaluation of all salient aspects of the store as individually perceived and weighted.

In any case, store image plays a very important role in retail buying whether the basis for the image is rational or emotional.

Retail Store Image Determinants

Few authors agreed with Fisk's (1962) initial belief that store location is perhaps the most powerful dimension of image. Martineau (1958) thought that elements of such image were primarily layout/architecture, symbols/color schemes, advertising, and sales personnel. The latter especially is brought out as a key element through various examples. He does not touch on product availability, merchandise suitability and assortment, etc., as ingredients which subsequent authors found to be very important.

Dalrymple (1969), while using essentially the same factors in describing store image, employees, fixtures and decoration, price and advertising, cautioned that store image represents a composite formed from a great number of pieces of information. Subsequent articles continued to stress this compositional nature (e.g., Bearden, 1977). Engel, Kollat and Blackwell (1974) discussed general determinants of store choice and recognized that these vary a lot with the type of product bought, type of store in which the product is generally available and the customer characteristics. However, this variation

is in terms of their relative importance in a given situation rather than in their absolute value as store choice determinants. In general, they are (1) location, (2) depth and breadth of assortment, (3) prices, (4) advertising and word-of-mouth communication, (5) sales promotion, (6) store personnel, (7) services, (8) physical attributes and (9) store clientele. Engel, Kollat and Blackwell (1974, p. 453) concluded that the way the customer perceives these determinants make up the store's image, further, "while definitions differ somewhat, the essential point is that the store, as perceived by the consumer, may differ from what the store 'actually is' in an 'objective sense'." Evidence of the difficulty in pinpointing determinants continues to be found in the literature (e.g., Arnold, Ma and Tigert, 1978; Alpert, 1980). Lindquist provided an extensive review of the literature on retail store image attributes (see Figure 4).

Store Image Measurement Methods

Engel, Kollat and Blackwell (1974) discussed the semantic differential as the most popular method to measure store image. As a caveat, however, they stated that the bipolar adjectives must be carefully chosen to include actual determinants. Kelly and Stephenson (1967) discussed this method in detail. Some major determinants of store image they cited, after applying the semantic differential, were physical characteristics of the store, products offered, convenience of reaching the store from the customer's location, prices, store personnel. These were further broken down, but one of the conclusions of their research was that the semantic-differential

Merchandise

- Quality
- Selection/Assortment
- Styling, Fashion
- Guarantee
- Pricing

Service

- Service, General
- Salesclerk Service
- Self-Service
- Ease of Return
- Credit
- Delivery
- Phone Orders

Clientele

- Social Class Appeal
- Self-Image Congruency
- Store Personnel

Physical Facilities

- Physical Facilities
- Store Layout
- Shopping Ease
- Architecture

Convenience

- Convenience
- Locational Convenience
- Parking

Promotion

- Sales Promotion
- Advertising/Display
- Advertising
- Trading Stamps
- Symbols and Colors

Store Atmosphere

- Atmosphere/Congeniality

Institutional

- Conservative/Modern
- Reputation
- Reliability

Post-Transaction

- Satisfaction

Source: Lindquist, Jay D., "The Meaning of Image," pp. 33-35.

Figure 4. Image Attributes Popular in the Literature

"can be used to develop information on virtually any patronage determinant a decision maker finds interesting" (p. 47).

Major criticisms have been labeled against the semantic differential as well. Kunkel and Berry (1968) stated that by forcing the respondents to evaluate characteristics that do not necessarily play a role in that particular respondent's image of the store being studied, the actual results measure an "image" that is apt to show a higher correlation with the instrument than with reality. He explained that

> . . . the semantic-differential test forces responses for all image components included in the questionnaire, and hence cannot serve to isolate critical image components (Kunkel and Berry, 1968, p. 25).

According to Marks (1976), retail image studies typically employ the semantic differential with customers being asked to rate many individual characteristics of a store. The number of characteristics depends upon the creativity of the author, ranging from as few as six (Fisk, 1961) to as many as 42 (May, 1971). Berry (1969) found 12 determinants of store image and concluded that his measurement showed a greater precision than Fisk's. Thus, he essentially inferred that the more determinants the better the image measurement.

Marcus (1972) pointed at the elusive nature of the image concept after studying the variation in image between stores of the same retail chain. The fact that such variation is possible was further studied by Hirschman, Greenberg and Robertson (1978). They essentially found that both within and across markets the principal components from ten store image attributes resulted in disappointingly low levels of congruence. In other words, retail store image is among other things also trading area specific. However, it is reliably possible

to state that store image attributes relevant in one market are also relevant in another market. Thus, if a retail store is higher ranked on four very salient attributes in one area, it will also have a desirable market position in other areas.

Retail Store Image vs. Customer Satisfaction/Dissatisfaction

May (1974) observed the following in one of her studies on retail store image:

> Image research cannot stand on its own. It must be supplemented by other customer research--customer profiles, shopping habit studies, trading area studies, and so forth--but more importantly, it must be supplemented by the merchandising and operating expertise of the members of the retail management. The integration of image research into other types of consumer information, however, is vital to retailing today (p. 20).

Evidence of the relevance of this observation is continuously uncovered.

Venner (1979) estimated that for every $100 a consumer spends in a typical retail store, another $75 to $90 would have been spent if the customer's needs could have been better satisfied. He added that "at least half of this loss has been attributed to out-of-stock conditions" (p. 2). This customer satisfaction is an important element in store image (e.g., Stephenson, 1969; Lesser, 1981) and profitable retailing in general (Herndon, 1972; Lindquist, 1974; Schary and Christopher, 1979). Establishing customer service departments has a favorite means of enhancing customer satisfaction as a key to retail profitability (Fornell, 1976). According to Fornell, customer service activities such as complaint resolution, are very important with regard to customer satisfaction. This particular research culminated over a

long period in which it was believed that the level of satisfaction was directly related to the level of retailer effort to reduce post-purchase phenomena such as cognitive dissonance. Lately, however, studies have pointed out

> . . . that satisfaction results from a subjective comparison of the expected and received product attribute levels . . . but that the exact nature of the satisfaction process is unknown (Oliver, 1981, p. 26).

Hirschman (1970) developed a theory stating that individuals react to discrepancies between desired and actual states of affairs by the market mechanisms of "exiting" and "voice". The exiting consumer's reactions include switching brands or shifting patronage. In contrast, "voice" refers to a verbal protest directed at the seller, and, if there are no satisfactory results, through third parties. Consumer reactions such as those modeled in Walter and La Londe (1975) (Figure 1) are classified as "exiting" behavior.

According to Oliver (1981), there is no agreement on the psychological meaning of the satisfaction concept. The amount of research effort spent on dealing with this concept and the implications of stockouts for that satisfaction as described earlier warrants a closer look at satisfaction/dissatisfaction research. Oliver (1981) continued to explain as follows:

> Satisfaction may best be understood as an evaluation of the surprise inherent in a product acquisition and/or consumption experience. In essence, it is the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience. Moreover, the surprise or excitement of this evaluation is thought to be of finite duration, so that satisfaction soon decays into (but nevertheless greatly affects) one's overall attitude toward purchasing products, particularly with regard to specific retail environments (p. 27).

It can be concluded from the above literature that customer satisfaction is related to past experiences and future expectations and intentions. Furthermore, as the second part of Oliver's observation suggests with regard to "decaying satisfcation", importance is attached to retailer efforts to mitigate negative experiences such as stockouts. Therefore, it is important to learn what consumers expect retailers to do in the case of product unavailability, and what will bring them back after they have decided to leave the store dissatisfied.

The relevance of the literature on customer satisfaction/dissatisfaction that applies to this research concerns the concept of expectations which customers have before encountering the stockout, rather than with post-purchase conditions which is generally associated with the construct of satisfaction (e.g., Oliver, 1981; Andreasen, 1977). Miller (1977, p. 72) stated "customer satisfaction [really] results from the interaction of levels of (a) expectations about anticipated performance and (b) evaluations of perceived performance." Particularly, it is the "expected" type of expectation, as labeled by Miller (1977), based on past average performance. Thus, it reflects what the customer feels performance probably will be. In other words, even if the retailer normally does not carry an item, merely by the consumer expecting and wanting it, there is still a stockout and the consequences can be accordingly.

With regard to this type of expectation, Oliver (1981) used the concept of disconfirmation: the degree to which the product or service performance deviates from the pre-purchase expectation level. This deviation could be positive if performance was above expectations,

negative if below expectations or zero if expectations equal performance. Oliver (1981) goes on to say that

> . . . because of the complexity of the retail store milieu, the potential for expectancy disconfirmation is greatly enhanced. Parking areas may be filled, stockouts may occur, clerks may be discourteous, or, on the pleasant side, an anticipated bargain may be encountered (p. 34).

The concept of disconfirmation is therefore extended to store performance as well. It can be inferred then that satisfaction is also a function of subjective comparison of the expected and received store attribute levels. This indicates the relevance of retail store image literature in the context of this paper. It is agreed with Oliver (1981) that

> . . . the first step in the application of satisfaction processes is an understanding of expectation formation. It is generally agreed that expectations are consumer-defined probabilities of the occurrence of positive or negative events if the consumer engages in some behavior. This definition applies equally to product purchase, store patronage, and complaining behavior. In all cases the consumer enters a situation with various expectations ranging on a probability continuum from 'certain not to occur' to 'certain to occur' (p. 33).

Oliver and Linda (1981) found that simply asking respondents to predict the degree of satisfaction anticipated on a dissatisfied-satisfied scale can be used to measure such expectations. This would avoid having to measure both evaluation and beliefs, but it means sacrificing diagnostic information evaluation and belief measurement could provide. In terms of measuring scales with regard to determining expectations, Oliver (1980) found that the Likert and semantic-differential scales had the highest reliability.

In summary, customer expectations as to an item's availability prior to entering a store appear to form an important factor in

stockout behavior. Therefore, not having an item on hand due to logistical or clerical errors, or for strategic reasons all, at least theoretically, affect stockout behavior.

Fashion Merchandising

Introduction

Definitions of stockouts and the discussion of implications thereof have always been very situation specific. For example, the Progressive Grocer study (1969) related primarily to grocery products; Walter (1971) referred to liquor store items; Schary and Becker (1978) were interested in beer distribution; while Bennion (1980) and Chang (1967) studied higher echelons of the channel of distribution. However, an industry where psychology plays a very major role in the buying process, as will be shown later such as the apparel merchandising field, has not been exposed to any of the kind of studies as mentioned above. The peddler, regarded as one of the pioneers in the development of retailing, recognized early on that you cannot do business from an empty wagon, thereby emphasizing the lost sale consequences, yet unmeasured, of a stockout (Troxell and Stone, 1981). Most of his customers relied very much on his traveling around for information on fashion, access to goods, etc., and given the fairly limited number of peddlers relative to the territory, there was not much competition as we know now. This essentially eliminated the threat of losing customers to competitors, yet without that threat costs were already regarded as high enough to pay attention to properly stocking the wagon.

To put the research setting into perspective, a general background on the fashion merchandising industry is provided. The overall discussion is divided into a review of definitions frequently used in this field, a discussion of channels of distribution used in the industry, and an exploration of the activity of merchandising in fashion stores.

Definitions

Fashion invariably means different things to different people and many words have been used to describe it to the point of becoming synonymous (Nystrom, 1928; Troxell and Stone, 1981). Fashion is defined as a style that is accepted and used by the majority of a group at any one time. As a further classification, high fashion refers to apparel shopped for by the group of elite customers, the fashion leaders, usually the innovators in adoption of change in fashion. Mass fashion implies styles adopted by the majority of customers, yet fashion conscious, usually at lower prices. The style is "the characteristic or distinctive appearance of a garment, the combination of features that make it different from other garments" (Troxel and Stone, 1981, p. 3). One important aspect with regard to styles is that they follow a cyclical path, thus bringing them in and out of fashion (Frings, 1982; King, 1963). Laver (1969) described the following cycles as the relationship between taste and fashion to illustrate the fickleness of the consumer and the social implications of fashion:

indecent -- 10 years before its time
shameless -- 5 years before its time
outre -- 1 year before its time
smart -- in its time
dowdy -- 1 year after its time

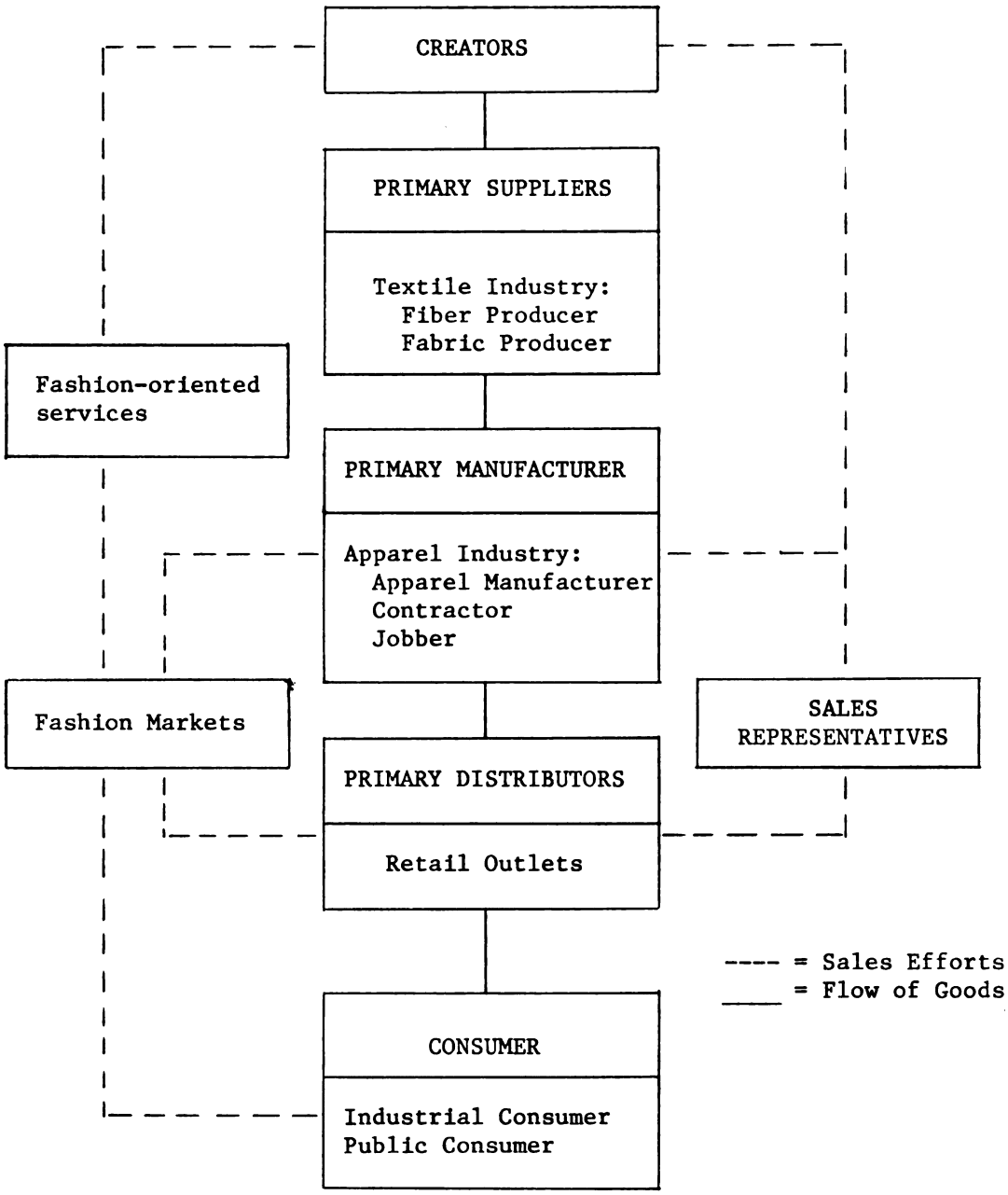
hideous -- 10 years after its time
ridiculous -- 20 years after its time (p. 7).

Troxell and Stone (1981, p. 5) recognized that the time it takes for an individual fashion to complete its course depends on its style as they support the idea of cycles in fashion, "a new style is often considered daring and dubious in taste. It is then gradually accepted, then widely accepted, and finally gradually discarded."

One important common denominator from the preceding discussion is the aspect of time. Apparently, there are two implications. One, a retailer has to make an assessment as to the length of time a certain style will stay in vogue and therefore the extent to which he wants to be involved in carrying it. Thus, the length of time of popularity of a style should influence the retailer's perception of the importance of stockouts. Along the same lines, timing also affects a customer's perception as expectations are involved regarding the retailer carrying the item, but being out of stock at the time it is desired. Another generalization from these definitions relates to the type of customer. Popularity has been identified as a criterion in the above definitions and that phenomenon is dependent on individual and/or group tastes, which implies the critical influence of heterogeneity of customer demand in merchandise assortment planning.

Channels of Distribution in Fashion Merchandising

In fashion merchandising a channel of distribution most clearly follows a pattern of producer-retailer-consumer (Greenwood and Murphy, 1978) (see Figure 5).



Source: Greenwood, Kathryn L. and Mary F. Murphy, Fashion Innovation and Marketing, 1978, p. 57.

Figure 5. Distribution Channels in Fashion Merchandising

Greenwood and Murphy (1978) stated that

> . . . fashion-marketing is unique in several aspects. . . . the flow of goods begins with the supplier, move directly to the manufacturer, then to the retailer and finally to the consumer. Fashion goods are seasonal, and consumer acceptance cannot be predicted accurately enough for merchandise to be processed by a wholesaler or stored at a distribution center over a period of time (p. 178).

Typical channel participants are:

a. The manufacturer, whose activities could involve purchasing fabrics, designing styles and patterns, showing styles to potential retail buyers and order taking, cutting pieces according to pattern layouts, and sewing and assembling.

b. The jobber, who could be involved in designing styles, making arrangements for outside contracting in cutting and sewing, and storing and shipping of finished garments.

c. The contractor, who could either cut the garment pieces according to manufacturer specifications, and/or sew and assemble the finished garments according to such specifications.

With regard to the role of retailers, Frings (1982) noted that

> . . . exclusivity does not seem to be as important to retailing as it once was. In the United States the consumer is more interested in availability. Stores across the country try to provide their customers with a wide selection of popular national brands. As stores stock more and more national brands, exclusivity tends to decrease (p. 218).

Despite this recognition of the broadening of choices for the consumer (increased width of the assortment), there is continued persistence to refer only to stock shortages (lack of depth of assortment) in stockout related matters, even in very recent textbooks in the field such as Frings' work. These shortages are then defined as lower physical inventory versus book inventory and are generally blamed on theft, damage or clerical error. Further discussion of the impact is

limited to stating that it could be severe (James, Walker and Etzel, 1972; Wingate, Schaller and Miller, 1972). Continued to be ignored are the expectations retailer actions create among shoppers as described in the above quote by Frings.

Merchandise Assortment Planning

It appears from the above discussion that availability at the right time is extremely crucial, particularly for the fashion retailer. Having too much inventory at the time interest in a fashion diminishes, results in markdowns and sometimes throwaways when that style has become "dowdy". Not having it on hand could immediately result in lost sales. Even though they are costly, as addressed before, it is the possibility of other consequences affecting inventory management in fashion retail stores that is of primary interest in this study.

An underlying implication is that studying customer perceptions and responses to stockout situations is critical in reducing some of the many uncertainties in fashion merchandise assortment planning. The above points are further illustrated by the principles of fashion as identified by Troxell and Stone (1981).

1. Consumers establish fashions by their acceptance or rejection of the styles offered. Designers try to anticipate what a customer might like through trial and error. Retailers choose among those, sometimes hundreds of 'trials', styles which they think will appeal to their customers. The ultimate customer decides on what becomes fashion through what they buy.

2. Fashions are not based on price. Different versions of a certain style may eventually be offered at many different price levels, yet the style itself will be essentially the same.

3. Fashions are evolutionary in nature; they are rarely revolutionary. An important key to fashion design is to keep in mind what is currently in vogue. As Troxell and Stone stated, consumers today buy apparel and accessories to supplement and update the wardrobe they already own, some of which was purchased last year, some the year before, some the year before that, and so on (pp. 4-5).

4. No amount of sales promotion can change the direction in which fashions are moving. Troxell and Stone used the example of retailers' and manufacturers' efforts in the late 1970's and early 1980's to get young people to wear hats. As these failed, they also drew the conclusion that timing is very important for retailers; once sales start slumping all efforts should be geared to getting rid of the leftover stock.

5. All fashions end in excess. Once the extreme in styling has been reached [diameter-, width-, lengthwise], a fashion is nearing its end. The attraction of the fashion wanes and people begin to seek a different look--a new fashion (p. 15).

These "principles" imply that a retailer has very little, if any, influence on what is or what becomes fashion. They also imply that merchandise assortment planning is a risky business for retailers. A retailer with some influence on aspects of fashion, at least as a source of information, is considered a fashion leader. This illustrates the importance of customer expectations and necessitates a discussion of the type of retailer involved in fashion merchandising.

Categorizing retailers is a difficult process, but the concensus in the literature is that the basis ought to be leadership position. Troxell and Stone (1981) summarized that retailers who are carrying new, usually expensive styles, are fashion leaders. Characteristically, they seem to carry few lines and limited amount of depth within those. The biggest group is comprised of fashion followers which carry the products that are in the middle stages of their life cycles. Uusally the fashions are widely accepted and more moderate in price. Mass

merchants are the ones who can be considered the laggards in carrying widely accepted fashions, generally at lower prices.

The leadership position of the retailer affects among other things the assortment carried in terms of width and depth. The assortment is identified by Troxell and Stone (1981) as one of the reasons why consumers might select a certain store over another. Other reasons are fashion reputation, price ranges, services offered, size and layout of the store, etc., yet no relative importance standing is alluded to. However, it is very important to identify the effects inadequate stocking policies have on such patronage.

Wingate (1959, p. 6) stated that the goal of all assortment planning is to carry "stocks that provide the customer with the combination of [selection] factors that to [that customer] are most significant."

It is interesting to note that Troxell and Stone (1981), while discussing this objective, are more concerned with overstocks and having room in the buying plan for "hot" items and special event buys, without addressing the issue of understocking. This seems fairly typical for the literature in this area, yet, as stated above, severe implications following a stockout have been recognized (e.g., Wingate, 1959).

A potentially complicating factor that remains to be addressed, is that "producers of budget and moderate priced fashions are becoming reluctant to accept reorders for any but the most classic of their styles" (Troxell and Stone, 1981, p. 375). This places even more emphasis of the adequacy of assortment. In addition the importance of reputation (image) is enhanced in determining where customers

will look for new fashions as customers seem to be "making it plain that they want to see new styles each time they shop a fashion department" (Troxell and Stone, 1981, p. 375).

Naturally, the fashion merchandising field has its theories for adoption of fashions, too. The original downward-flow theory has been joined by the horizontal-flow and the upward-flow theories (King, 1963). Each has different implications for fashion merchandising, but an important element involving all of the theories is the role played by the customer. Since, as identified above, the customer determines what is fashionable, it is necessary to look at different groups of customers as distinguished by the degree of fashion leadership, consistent with the classification of retailers. Consequently, we have fashion leaders and fashion followers. To King (1964, p. 124), a fashion leader is "a person who is quicker than his or her associates to try out a new style." In some instances he even recognized a fashion influential as being someone whose advice is sought by associates. What determines a follower or a leader is of course situation specific, and many distinguishing characteristics have been identified. With Bell (1947, p. 48) though, it has to be noted that a fashion leader is not the creator of fashion, "the leader of fashion does not come into existence until the fashion is itself created."

The importance of this aspect of adoption, is that retailers need to be conscious of this process as it may determine what will be demanded in the (near) future by the majority of the consumers. Thus, recognizing innovators and their purchases could give the retailer some time in the proper planning of his merchandise assortment. But, most of all, it is clear that a fashion retailer should create an

atmosphere in which a shopper will ask about the item she cannot find at that time. Identifying those customers displaying either "voice" or "exit" behavior, in Hirschman's terminology, becomes very relevant.

A last issue to be addressed is that consumer demand for apparel products has been called relatively inelastic. As Rachman (1975, p. 143) puts it, "lower prices do not cause large increases in sales. Nor does an increase in consumer demand." One reason is the lack of established brands, or the minor importance of brands. Recently, however, as witnessed by the upsurge in demand for designer jeans, for example, branding has become more a factor (Frings, 1982).

Responses to such developments would indicate that status is very important and that price takes more of a backseat. Elasticity as discussed by Rachman (1975) relates to the apparel industry in a macro sense. On a micro level, elasticity shows great fluctuations, both by outlet and by apparel type (women's, men's, etc.) (Rachman, 1975). Everyone needs clothing, but there are many alternatives as to the style or color bought and the store where bought. As a matter of fact, store choice seems to be a critical one, which puts the status impact of stockouts into the foreground. It also points at stockout behavior differing by what in particular was unavailable: style, color, brand, etc.

Particularly the first principle of fashion, or the consumer deciding what becomes fashion, underscores Magee's point referred to earlier. Not only in business in general is the "unit cost" of lost sales growing, but through its trial and error practices, unit cost is increasing even more in the fashion industry. This phenomenon further justifies a specific focus on the fashion relating business,

especially since Stern and El-Ansary (1977) have noted that one of the five basic steps in retailing strategy design involves

> . . . developing the retailing mix that represents a plan for the allocation of available resources among alternative uses in a coordinated manner to maximize the total impact generated to influence the customers in the defined market target [and furthermore that] . . . the main mix element is merchandising (p. 60).

Conclusion

The illustration used by Troxell and Stone concerning the peddler, points out the major shortcomings of discussions on stockouts in fashion merchandising, that not having enough on his wagon implied not enough depth of his assortment. Furthermore, as his customers came to regard him and their major source of information on fashions, the width of his assortment was not as critical for his business. In subsequent developments, such as increased competition, width has become more of a factor. Evidence is found in the specializations of fashion retailing emphasizing various combinations of high or low fashion and/or wide or narrow assortments.

The third element of assortment, consistency, deserves attention as well. Consumers have a wide choice of stores to patronize. As identified above, many customers have a tendency to shop more than one apparel store, forming opinions of them as they shop. These impressions, even of those not visited, are affected by retailer advertising, product assortment decisions, word-of-mouth, etc. Continuing to include a store on the "shopping rounds", is influenced by these "images". Based on the image research reported, several components have been identified, not the least important of which is merchandise

assortment. While realizing the relevance of width or depth, consistency, or the degree to which the merchandise is related, is a critical factor in the forming of those images. Yet, until now, the fashion merchandising literature has not paid attention to the element of consistency.

According to Progressive Grocer (1968, p. S-19), stockouts are on the rise because of four reasons: (1) squeeze of profits, requiring cost control; (2) more inventory control, as "there is little room for error"; (3) proliferation of new items; and (4) tight labor market. Given the above discussion of fashion, the third reason as identified above is especially applicable in the fashion merchandising field. Furthermore, a (potential) squeeze on profits is a fact of life for all of business and will need to, among other things, result in more inventory control (Lambert, 1976; Ballou, 1973; Wall Street Journal, August, 1980).

CHAPTER III

METHODOLOGY

Introduction

The review of the literature in Chapter II provided a basic overview of what is known in the area of stockouts and their effects on the consumer. The review can be summarized with Lusch (1982) who had one of the most general coverages, identifying three effects for a retailer who is out-of-stock: favorable, unfavorable, and questionable. Favorable effects occur when a customer switches brands, styles, etc., but buys within that store. It is only favorable in the short run as, due to a recurring of the situation, customers will increasingly wonder if it is worth the trip to that store.

An unfavorable effect exists if the customer buys elsewhere at that time, and, especially, if she decides to stop patronizing the original store for future purchases. The third set of effects is called questionable, involving a postponement of the purchase. In the short run, it turns out favorable if the customer comes back to buy that item, but unfavorable if she does not. The important conclusion for this research is that frequency of stockout situations leads, in the long run, to diminished patronage.

As to actual numerical analysis of stockout implications in terms of dollar cost (e.g., Progressive Grocer, 1968) or alternative reactions in probabilities (e.g., Walter and La Londe, 1975), the conclusion is that it depends on the situation, the product, demographics, etc.

Lessig (1973) pointed out that store loyalty is related to store image, confirming many previous studies which had assumed this relationship. In many of those studies, as reviewed in the previous chapter, image determinants were searched for with the perspective in mind of enhancing this image. Merchandise selection/assortment was one of the most common determinants (e.g., Lindquist, 1975). Stockouts, as a factor involved in this ingredient, should therefore also be related to the image determination process. The above can be summarized in the model presented in Figure 6. The model portrays consumers responding differently to stockout situations. It also shows that these reactions are influenced by a group of factors related to store image. Evidence of this comes from many sources in the literature (e.g., Martineau, 1958; Myers, 1960; Rich and Portis, 1964; Berry, 1969; Lessig, 1973). Based on this literature, as the model indicates, prior experience with factors such as merchandise selection, prices, etc., affect whether the out-of-stock item will be bought at a later date, substituted in the same store, purchased elsewhere only at that occasion or continued to be bought in a competitor's store.

Other situational variables affect reactions to stockouts as well. For example, the reason a shopper had to enter a store will affect the way in which she responds to a desired item being unavailable. According to Bellenger, Robertson and Greenberg (1977):

> The store patronized is a result of both the relative importance of various motives and the shopper's assessment of alternative stores with respect to the various factors used in making the selection (p. 30).

In other words, the intention to buy a specific item for a specific purpose will result in a customer reacting in a different manner upon

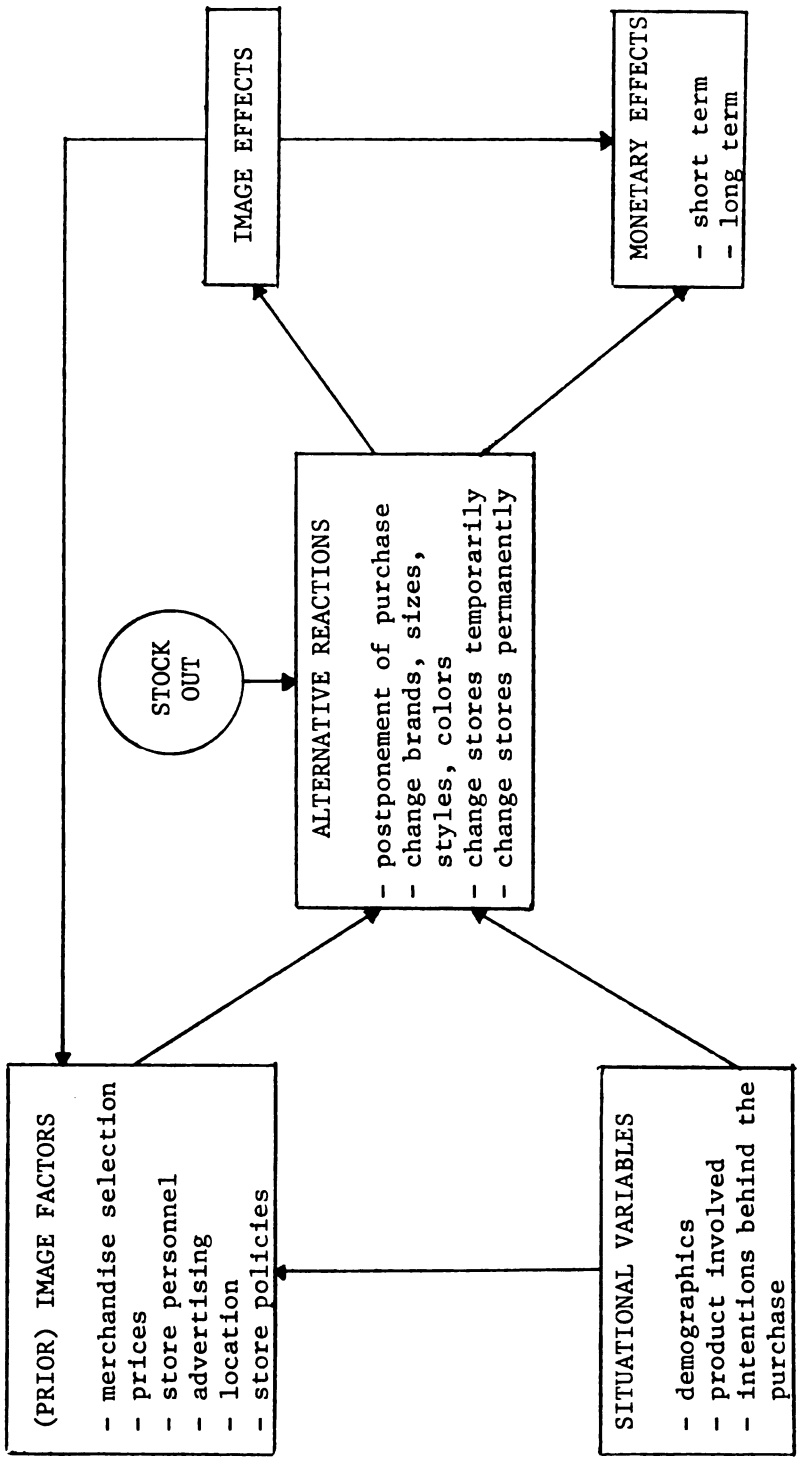


Figure 6. Research Model

finding the item out of stock than the buyer who sees shopping as a social event at the time. The latter, the recreational shopper, in Bellenger and Korgaonkar's (1980) terminology, might merely postpone the purchase, whereas the first could stop patronizing the store.

With regard to the other elements of the model, the literature, as discussed in Chapter II, is replete with accounts of the relationship between situational variables and image components (e.g., Martineau, 1958; Progressive Grocer, 1968).

The alternative reactions a customer displays, following an out-of-stock experience, have either one, or both, primary consequences for a retailer: there could be a monetary repercussion, as well as an effect on the customer's perception of the store. The former can be of a short or a long term nature depending on whether the customer buys the desired item elsewhere only at that time or switches patronage permanently. The extent to which the image of the store is affected by the stockout experience influences the long versus short run monetary loss to the store (Lusch, 1982).

In any case, it is obvious that some monetary effects result from a stockout situation. The effect might be positive if the customer switches to a higher margin item within the store, or might be negative if she decides to buy the item elsewhere as the margin on the out-of-stock item is foregone. The actual degree of monetary effect, however, is not the focus of this study.

The dynamic nature of the image development process has been documented frequently in the literature. For example, Kunkel and Berry (1968) concluded that retail store image is the total conceptualized or expected reinforcement that a person associates

with shopping at a particular store. Thus, image is constantly affected by positive and negative experiences.

Research Purpose

The model in Figure 6 leaves several questions which are not or not sufficiently dealt with in the literature. Therefore, the purpose of this research is to specifically investigate four questions:

1. How do customers respond to product unavailability in a fashion retail store?
2. What factors affect customer responses to product unavailability in a fashion retail store?
3. What is the influence of product unavailability on the customer's image of fashion retail stores?
4. What is the influence of store image on the customer's responses to stockouts in fashion retail stores?

In terms of the model, the first area of investigation involves the determination of how customers respond when an item is not available at the time it is desired. The distinguishing characteristic here, and for all four questions, is that the concern is with fashion merchandising, an area heretofore not studied in a similar manner. The second question deals with the way in which situational variables, such as demographics, product involved, etc., affect customer response to out-of-stock conditions. The third and fourth questions deal with product unavailability and its relation to the image of the store: whether product unavailability affects store image and whether prior store image affects the manner in which a customer responds to product unavailability.

Hypotheses

Buying an alternative to the out-of-stock item within the store, as deemed favorable by Lusch (1982), is one possible reaction by the shopper. It is riskier for the retailer if the shopper is willing to wait ("questionable"), but for a customer to shop elsewhere is the most negative of the three categories of reactions ("unfavorable"). The importance of these risks led to the following hypothesis:

> H1: Customer responses to stockouts in fashion merchandising are primarily characterized by exit rather than switching behavior or by purchase postponement.

Exit behavior in this context refers to a customer leaving the store without putchasing anything or even consciously postponing the purchase of the out-of-stock item. From the fashion merchandising literature there is an a priori expectation that the customer is inclined to shop elsewhere when she is faced with an out-of-stock situation (e.g., Troxell and Stone, 1981; Wingate and Friedlander, 1978; King, 1963).

The conclusion reached by Bellenger et al. (1977) with regard to the importance of shopping motives in the development of store image and store loyalty, gave rise to the following hypothesis:

> H2: Customer reactions to stockouts are affected by the intentions behind the attempted purchase.

Ideally, this hypothesis is accepted so as to give a retailer an idea on what influences stockout reactions. It would allow his/her, in a sales seminar to stress empathy, to make an effort to find out what a customer is particularly interested in, to determine if the customer wants to be left alone while shopping, etc.

Knowing a little more about what influences customer reactions to stockout helps reduce the uncertainty in the retailers assortment

planning as retailers are constantly forced to adapt to varying demands of prospective customers (e.g., Prasad, 1975). Much of this adaptation is affected by the customer's demographic characteristics. In the literature there are many examples of studies dealing with such descriptors starting with Martineau (1958). Empirical studies, such as the one Nielsen performed for the Progressive Grocer (1969) continue to outline the importance of demographics. This lead to the hypothesis that:

> H3: Demographic characteristics of shoppers, such as age, income, level of education, number of children, affect customers' responses to stockouts.

Similarly, many other studies (e.g., Schiffman, Dash and Dillon, 1977; Bearden, 1977) investigated the effects of other variables, such as locational convenience, on store patronage. Thus, it can also be hypothesized that:

> H4: Situational variables, such as distance traveled, affect customers' responses to out-of-stock situations.

Whatever the result of testing the above two hypotheses, the key for the retailer is to reduce the uncertainty surrounding the occurrence of stockouts, a phenomenon that has always been treated as a necessary evil.

The a priori relevance of the variables referred to in hypotheses three and four is depicted in Figure 7. With respect to the question on the number of children under 12 still at home, the cut-off age of 12 was chosen because, until that time, the decision maker on what is fashion, though being influenced, and the financier of the desired purchase is still one and the same person, yet not the child. Beyond

Variable	More Serious	Less Serious	Reason
Age	Young	Old	Time Available to Shop
Employment	Employed	Unemployed	Time Availability
Education	More Education	Less Education	Fashion Consciousness
Distance	Long	Short	Shopping Effort Involved
Length of Residence	Short	Long	Familiarity with Shopping Alternatives
Marital Status	Single	Married	Peer Group Influence
Children Under 12	Few	Many	Economy Oriented
Income	High	Low	Fashion Consciousness

Figure 7. Customer Related Variables as They are Expected to Affect the Seriousness of a Stockout Reaction to the Retailer

that age, it is presumed that there is growing financial "independence" allowing the child to express its own fashion tastes more significantly. Image implications of stockouts have been discussed in several studies (e.g., Lesser, 1981; Zinszer and Lesser, 1980). As fashion shopping is considered riskier in "psychological" terms than, for example, grocery shopping (Tigert and Arnold, 1981), we can conclude that store images are very important in fashion shopping. Hisrich, Dornoff and Kernan (1972, p. 459) showed that "the higher the risk, the more important the store choice is as a surrogate for not knowing much about the product."

The contention in this study is that a rare experience with a stockout has relatively little influence on the image of the store, given that high-fashion retailers present the strongest overall image (Rich and Portis, 1964). Thus, it becomes importance, particularly given the relation between store loyalty and consumer store images (e.g., Lessig, 1973), to test the following hypotheses:

H5: When a customer is faced with an out-of-stock situation, there will be a negative effect on the customer's perception of the store.

H6: Customer responses to stockouts are affected by the image of the store which the customer held prior to the stockout experience.

Preferably, hypothesis five is rejected; however, even if it is not rejected, as is expected, it will provide a better perspective of the risk involved in merchandise assortment decisions and the associated training and instructions for the store's buyers. Also, a better perspective will force a reevaluation of the focus on overstocking issues as proposed by Ammer (1973).

The acceptance of hypothesis six will guide a retailer's marketing efforts towards a strengthening of the store's image. With a strong positive store image, it could act as a buffer, taking some pressure off the difficult assortment decisions. Also, from a competitive standpoint, image sharpening, repositioning, etc. (e.g., Ring, 1979) become very important issues.

The basis for the above contention on the (lack of) impact of stockouts on the image of fashion stores, lies in the existence of the many alternatives for the retailer to mitigate the effect of the negative stockout reaction (e.g., Progressive Grocer, 1969). With statements like "we could only buy so many of this popular model", "the manufacturer does not make them any more", "new fashions are coming in", the consumer may be more willing to accept a stockout without becoming annoyed. However, for a retailer to be able to use these mitigating statements, a customer has to check with store personnel when they cannot find what they are looking for. Hirschman's (1970) distinction between "exit" and "voice" behavior needs to be explored, leading to the following hypothesis:

H7: In fashion shopping, customer responses to stockouts are characterized by "exit" rather than by "voice" behavior.

Ideally this hypothesis is rejected as retailers need to have customers who cannot find a desired item identify themselves. Therefore, the result of this hypothesis test should lead to an enhancement of the atmosphere in the store to elicit "voice" behavior.

Measurement

The measuring instrument used in obtaining answers to test the research hypotheses was a questionnaire. One thousand questionnaires were mailed to a systematic random sample of credit card customers of Streets', Inc., a chain of high fashion outlets of women's and children's clothing in Oklahoma City, Oklahoma. A total of 250 usable responses was desired, given the requirements of some of the statistical techniques to be used in analyzing the data.

Many factors particular to the sampling selection process can influence the measurement results. According to Schiffman, Dash and Dillon (1977) these factors are more likely to confound matters than the research instrument:

> . . . it is more likely that any unintentional variation in findings [in prior image studies] are influenced by the definition of the sample (p. 4).

In this particular study it is not the objective to measure image in an absolute sense. Rather, the intention is to measure relative changes among components of the image construct. These components have been identified in the literature and include location, advertising, interior design, other types of customers, merchandise aspects, sales staff related factors, store services, etc. (see Lundquist, 1974-1975). As Hansen and Deutscher (1977-1978, p. 61) observed, "the manager wants to know: (a) how to interpret the results . . . and (b) what strategic changes he should make based upon the results."

The respondents were informed of the purpose of the study--to allow the store to provide customers a more complete assortment. However, they were not told how names were drawn so as to protect

the privacy implication of credit card information. Also, the researcher, and not the store, was identified as the primary source of the study. A copy of the cover letter for the questionnaire can be found in Appendix B.

With regard to the specific store chain, Streets' is a retailer of women's fashion apparel in the central Oklahoma area. The chain consists of ten outlets in the higher income shopping locations, each with an area of approximately 10,000-15,000 square feet. Credit card customers of this retailer are women who can be expected to be fashion conscious meeting the classification criteria by Troxell and Stone (1981). Demographic data on the stores' trading areas are provided in Appendix A.

The central element of the methodology was an experimental design involving two scenarios. Several reasons exist for the approach. The key area of focus in this part of the research was to measure how the customer's prior impression of the "personality" of the store influences the response to the out-of-stock situation. In order to accurately measure this prior image, it is not valid to ask the customer's opinion about an existing store and then ask her how she reacted at the time she could not find what she was looking for in that store. In that case, the out-of-stock experience has already become part of the store image she reported on earlier.

To request that the consumer identify whether--to what extent--the stockout experience has influenced her opinion of the store, invokes too much confounding by variables such as intermediate positive or negative experiences, discussions with friends, store

management's efforts to mitigate the seriousness of the customer's reactions, etc.

Because of the above measurement problems, a more reliable alternative to determine image prior to the experience was used to put the customer in a new situation. Being "new" in the area, she would receive information about the shopping alternative through advertising by the store, as well as word-of-mouth about the store, its location, clientele, sales people, etc. Asking for her opinion of the described store also allowed for better control over how much time has elapsed between the forming of the store opinion and the "actual" stockout experience. Using this approach avoids the problem that a time factor might affect the response of the customer to the situation.

Other projective techniques used to measure someone's feelings and beliefs, such as Thematic Apperception Tests, Sentence Completion, etc., were eliminated as alternative measurement techniques due to the length of time the respondent is exposed to the picture, sentence, etc. Each of these techniques requires an immediate response (Kinnear and Taylor, 1979), which is impossible to control in a mail questionnaire.

The scenarios were used in the following way. Half of the respondents was exposed to a basic store description (Scenario A) in which they were told about various elements, such as demographics of the store's trading area, size of the store, interior design, etc. The description of the store matched as closely as possible the actual environment surrounding a high fashion store. However, a hypothetical name was used to avoid obvious identification with a store the respondent might be familiar with.

The other half of the respondents was exposed to another basic store description (Scenario B). This time the environment sketched corresponded to a store that projected a distinctly different image, which also provided an opportunity to test the validity of the scenarios. Pretesting verified the dissimilarity in store images projected.

After being exposed to their respective scenarios, one-third of each group (A I vs. B I) received no further information, but was asked for an opinion of the store described to them, as well as to the likelihood of their shopping there. The second subgroup, of equal size (A II vs. B II), was exposed to a situation in which they had a positive experience in that they found what they were looking for. Then they, too, were asked their opinion of the store and desire to shop there. The last subgroup (A III vs. B III) was asked the same two questions about the store, but this time following a stockout experience. Respondents were randomly assigned to the respective scenarios. A copy of the particular scenarios can be found in Appendix C.

According to Kinnear and Taylor (1979) a Posttest-Only Control Group Experimental Design is created as depicted in Figure 8. In this type of true experimental design, with randomized assignment of respondents to the different scenarios and different groups within each scenario, "the extraneous variables have been controlled and we have a nonconfounded measure of the treatment effect" (Kinnear and Taylor, 1979, p. 343).

Scenario A			Scenario B		
A I	A II	A III	B I	B II	B III
Basic Store Description	Basic Store Description + Positive Experience	Basic Store Description + Negative Experience	Basic Store Description	Basic Store Description + Positive Experience	Basic Store Description + Negative Experience

Figure 8. Scenarios Used in the Image Measurement Process

Methods of Analysis

Following the format as described above, makes several analyses possible. By ensuring that the scenarios are distinctly different, any differences in responses to the stockout situation between scenarios is attributed to the differing prior image. Within each scenario, having three groups of respondents undergo three different treatments allows for a check on the validity of the scenario as a methodological tool. Thus, when statistically significant differences occur between customer responses as well as between customer perceptions of the stores as described to them, they can be attributed to the various treatments, one of which is the stockout experience.

In this experimental design, two treatments were used (positive and negative experiences) as well as a control "treatment" (no specific experience). Effects within each of the two scenarios were searched for, as well as effects between them. In this manner, analysis of variance was a reliable method of analysis with alternative reactions as dependent variables, including the desire to shop. Consequently, hypotheses four and five were tested using the above approach.

Determining actual customer reactions to a stockout situation is an ex post facto measurement and the results, as stated above, constituted dependent variables in the analyses to be performend. With the intentions behind the attempted purchase, demographic characteristics of shoppers and other situational variables as independent, input variables, ANOVA was, again, a simple and reliable method of analysis used to test hypotheses two, three, and six.

Customers displaying a tendency for "voice" behavior are the ones retailers can easily identify and deal with accordingly. "Exit" behavior is displayed by people who do not ask a sales person when they cannot find an item and are, therefore, more difficult to identify. Given the responses to question 11, a comparison of proportions of each behavior type is the appropriate test for hypothesis seven.

Questionnaire Development

In developing the questionnaire, two pretests were conducted. The first pretest involved a group of 90 students and determined whether any logical problems existed with the measuring instrument itself. Based on the responses, the questionnaire was updated and subsequently administered to ten women who were considered similar to the projected sample subjects. The questionnaire was amended as a result of these responses and a copy of the final result is provided in Appendix D.

The first two questions, on perception of the store and likelihood of shopping there, were designed to measure reactions to the hypothetical store as described. In selecting store image components, it should be stressed that the intent in this research was not its identification in an absolute sense. Rather the purpose was to identify certain key ingredients that received a high degree of concensus in the literature, to create a composite that, when used to measure store image before and after, allowed relevant conclusions to be drawn as to the effect(s) the change agent had on image of the store in which the change agent operated. Given criticism regarding selection of bi-polar attributes (e.g, Engel, Kollat and Blackwell, 1974) and

with respect to the method itself (Kunkel and Berry, 1968), this appears to be a relevant assumption.

There is an agreement that store image is a composite of dimensions that consumers perceive as the store (e.g., Dalrymple, 1969; Berry, 1969; Marks, 1976; Bellenger, 1976). The assumption can be made then, too, that given the same geographical area (see Hirschman et al., 1978) one only needs a certain composite stressing an availability factor and a few generally acceptable ingredients to measure effects on image. In other words, using the same composite before and after an incident believed to affect image, reliably measures effects of that incident on image regardless of the initial composite being the most accurate measure of the absolute image.

In the construction of the scenarios, generally recognized image components such as locational convenience, advertising, store atmosphere (e.g., Prasad, 1972) were used to describe the two different stores. Other components, fashionability, price level, width of assortment, helpfulness of sales people, were used in the measurement of differences between the images projected in the scenarios as perceived by the respondents in the study. "Will (not) have what I want" was a measure of expectation and therefore was considered to be related to the consistency dimension of an assortment. Store policies on refunds and returns were identified by, among others, Tigert and Arnold (1981) as store service elements and formed the last two on the seven attribute image scale.

The question on "likelihood of shopping there" was inserted to obtain a composite measure of image which was considered important in view of Bearden's (1977, p. 15) insistence that "store image is a

comprehensive concept that reflects overall consumer attitudes toward individual stores." The impact of store image as a composite was then looked at versus image as a set of individual store attributes as most studies reported (see e.g., Alpert, 1980; Arnold, Ma and Tigert, 1978).

The respondents who constituted groups A I and B I answered the first two questions only. Respondents in groups A II and B II were asked their perception of the store and the likelihood to return there. In addition to these same questions, groups A III and B III were asked to respond to a question on how they would respond in the out-of-stock situation. Alternative reactions to the latter question emerged from the pretesting phase. For actions regarding the clothing item, a skirt, there are three alternatives: the customer could buy it, not buy it or ask for it to be held for her. Given these three, there are two possibilities with regards to a matching blouse. The blouse could be either ordered or not ordered and looked for elsewhere. This resulted in the six possible combinations depicted in Figure 9.

		Skirt		
		Buy	Do Not Buy	Hold
Blouse	Order			
	Do Not Order			

Figure 9. Alternative Reactions to the Stockout in the Scenarios

The pretest indicated that if there was an interest in the skirt/blouse combination, there would at least be a desire to ask for the skirt to be held, rendering the "do not buy/do not order" cell irrelevant. Instead, an alternative emerged in that a decision to "hold/buy" the skirt is affected by whether the blouse is already on order.

Following the questions on the hypothetical situation, all respondents were exposed to a set of questions in reference to an actual stockout experience they had at Streets'. However, it was important to clear the mind of the respondent at this point before asking her to respond, so as not to confuse the scenario with the actual situation. At the same time, an appreciation was expressed to increase the chance that the respondent would complete a comparatively lengthy questionnaire. Furthermore, learning which of the ten possible outlets the respondent referred to, allowed a better interpretation of the results given the differences in physical location, demographic make-up of the trading area, accessability, etc. According to Marcus (1972, p. 42), such variables do confound image measurement, "variations in images of three branches of May Co. department stores . . . stemmed from age of the stores, differences in environment, and variation in company policy among stores."

Question six, measuring the perception of the Streets' store the respondent shops at, was kept consistent with previous store perception questions as to the image scale used. Question seven, besides for purposes of ensuring the cooperation of Streets' management, and in combination with question six, was primarily included to assure a

disconnection in the respondent's mind between the previous and the following set of questions.

Questions eight through 18 were specifically designed to get the respondent's total reaction to the actual stockout experience. Included in this set were inquiries into the purpose behind the shopping trip, the role played by the sales person and the customer's perception of what should be done to correct the particular situation. Particularly, the questions on what actions would bring a very annoyed customer back and what actions a retailer could take in this matter, were included to comply with the managerial orientation of this research. Demographic and situational variables were asked in questions 19 through 26.

CHAPTER IV

DATA ANALYSIS AND RESULTS

Introduction

The demographic characteristics of the sample are discussed first and compared to the demographics of the areas from which the sample was drawn. Subsequently, reliabilities are reported on for the constructs that were used, for example, image. Measurement results are then discussed along with conclusions regarding the hypotheses and factors which affected this research effort.

Sample Characteristics

The sample of 1006 customers responded with 264 usable returns, a response rate slightly over 26%. Demographic characteristics of this sample can be found in Appendix E.

A comparison of demographics as previously known about the areas in which the stores are located (Appendix A), and those obtained through the questionnaire (see Appendix E), shows that there were substantial differences as addressed below. These differences were expected as the sample was drawn from a population of active charge card holders from a store chain that is known for merchandise in higher price ranges. The fact that charge card privileges were awarded, further explains why the sample was not representative of the store area's general population (Bonk, 1975; Hirschman, 1979).

Other reasons for differences exist. An important reason was that the sample was not drawn to be representative of the trading areas. Even though respondents were randomly selected, the population they

were drawn from--active charge card holders--cannot be considered representative of the total clientele of the individual stores, especially, since each store's trading area was not proportionally represented in the drawing process for the sample. Based on the question of which Streets' store was the shopper's favorite, only one respondent in the sample preferred the Sooner Fashion Mall in Norman, a suburb of Oklahoma City, and only four considered the Rockwell Plaza store their favorite. Consequently, these two stores were left out of the general comparison on demographics.

Differences between sample demographics and previously known demographics, particularly with regard to age, existed primarily because the data from the Continuing Consumer Audit (CCA) were based on the age of the head of the household which may or may not be the same as that of the respondent to the questionnaire. Differences in the measurement categories pertaining to education, presence of young children and income, were also responsible for deviations. The latter, for example, was measured by CCA in category sizes of $10,000, $5,000, $5,000, $10,000, respectively, in addition to a category for those earnings over $30,000. This latter category proved to be the one with the highest frequency among respondents in the sample, which featured categories of $10,000 (see Appendix E).

Even though questions related to the demographics of the sample were not designed according to the limited data that was available on the stores' trading areas, some particular differences can be pointed out. In the sample, most respondents were older (> 45 years), had a higher income, had no small children at home, had higher education levels and were either employed or already retired as can be deducted

from the higher age representation in the sample. Also, most of the respondents were married and were long-time Oklahoma City residents. Due to the existence of ten stores in the "prime" locations, distance from a Streets' store in time was rarely more than 15 minutes (see Appendix E).

No significant differences were found between demographics of the respondents to the individual scenarios (Table 1).

Scenario Reliability

"Because measurement error is an important issue in the use of any measurement method, investigation of reliability should be made when new measures are developed" (Nunnally, 1967, p. 210). To determine the internal consistency, Cronbach's coefficient alpha was calculated not only per scenario--A I, A II, A III, B I, B II, B III--but also per set of "positive" (A II + B II), "negative" (A III + B III), and "no experience" (A I + B I) scenarios. Furthermore, alpha was calculated for the two basic scenarios, A and B. The results are presented in Table 2. Alpha was chosen here as it "provides a good estimate of reliability since the major source of measurement error is because of the sampling content" (Nunnally, 1967, p. 211).

Clearly, scenario B showed a higher alpha than scenario A, but with the lowest individual scenario showing an alpha of .67, we can say that all of the scenarios were reliable instruments.

For the scenario as a whole, an alpha of .85 was calculated (Table 3). By contrast, alpha was also calculated for the same scale, which was used to measure the image of the actual store. The resulting alpha was much lower: .69. Interestingly, the analysis showed that

Table 1. A. Comparison of Demographic Characteristics by Scenario Using ANOVA

Source of Variation	D.F.	Sum of Squares	Mean Squares	F Prob	Sign. of F
a. Age					
Type of Experience	2	5.94	2.97	.84	.44
Store Type	1	3.68	3.68	1.04	.31
2-Way Interaction	2	.81	.41	.11	.89
Explained Variance	5	10.23	2.06	.58	.72
Residual	258	916.41	3.55		
Total	263	926.64	3.52		
b. Employment					
Type of Experience	2	3.19	1.60	.89	.41
Store Type	1	1.50	1.50	.83	.36
2-Way Interaction	2	3.93	1.97	1.09	.34
Explained Variance	5	8.52	1.71	.95	.45
Residual	258	465.01	1.80		
Total	263	473.53	1.80		
c. Education					
Type of Experience	2	.78	.39	.22	.80
Store Type	1	.05	.05	.03	.87
2-Way Interaction	2	17.92	8.96	5.13	.01
Explained Variance	5	18.75	3.75	2.15	.06
Residual	258	450.53	1.75		
Total	263	469.28	1.78		
d. Distance from Store					
Type of Experience	2	4.05	2.03	1.00	.36
Store Type	1	1.86	1.86	1.03	.33
2-Way Interaction	2	1.27	.64	.32	.72
Explained Variance	5	7.18	1.43	.73	.60
Residual	258	507.50	1.97		
Total	263	514.68	1.96		

Table 1. A. Continued

Source of Variation	D.F.	Sum of Squares	Mean Squares	F Prob	Sign. of F
e. Length of Time in OKC					
Type of Experience	2	11.72	5.86	1.87	.14
Store Type	1	1.10	1.10	2.56	.49
2-Way Interaction	2	2.38	1.19	.52	.60
Explained Variance	5	15.20	3.05	1.33	.25
Residual	258	590.06	2.29		
Total	263	605.26	2.30		
f. Marital Status					
Type of Experience	2	1.20	.60	.68	.51
Store Type	1	.15	.15	.17	.68
2-Way Interaction	2	1.83	.92	1.04	.36
Explained Variance	5	3.18	.63	.72	.61
Residual	257	226.80	.88		
Total	262	229.98	.88		
g. Children < 12 at Home					
Type of Experience	2	.01	.01	.01	.99
Store Type	1	.06	.06	.09	.76
2-Way Interaction	2	1.35	.67	1.01	.36
Explained Variance	5	1.42	.28	.43	.83
Residual	257	171.01	.67		
Total	262	172.43	.66		
h. Income					
Type of Experience	2	5.29	2.64	.40	.50
Store Type	1	4.75	4.75	1.25	.27
2-Way Interaction	2	6.38	3.19	.84	.43
Explained Variance	5	16.32	3.27	.86	.51
Residual	257	977.60	3.80		
Total	262	993.92	3.79		

Table 1. B. Crosstabulation of Education with Scenario Type

Education Level	Scenario Type A I	A II	A III	Total
High School or Less	13* (11.4)	7 (12.1)	12 (11.8)	79 (32.6%)
Some College	11 (13.6)	18 (14.4)	13 (14.0)	94 (38.8%)
College Degree	6 (4.8)	5 (5.0)	4 (4.9)	33 (13.6%)
Graduate Training	5 (5.2)	7 (5.5)	7 (5.4)	36 (14.9)
Total	35 (14.5%)	37 (15.3%)	36 (14.9%)	242 (100.0%)

	B I	B II	B III	Total
High School or Less	9 (14.0)	21 (14.0)	17 (15.7)	79 (32.6%)
Some College	20 (16.7)	17 (16.7)	15 (18.6)	94 (38.8%)
College Degree	7 (5.9)	3 (5.9)	8 (6.5)	33 (13.6%)
Graduate Training	7 (6.4)	2 (6.4)	8 (7.1)	36 (14.9%)
Total	43 (17.8%)	43 (17.8%)	48 (19.8%)	242 (100.0%)

Chi-Square = 17.11 Degrees of Freedom = 15

Significance = .31 Cells with Exp. Freq. < 5 = 8.3%

*Absolute frequency
(expected frequency).

Table 2. Reliability Coefficients for Individual Scenarios

Scenario	Coefficient Alpha	N
A I	.78	41
A II	.70	39
A III	.67	43
B I	.80	44
B II	.90	46
B III	.88	51
Average Random Error	.205	264
A I + B I	.81	85
A II + B II	.88	85
A III + B III	.86	94
Average Random Error	.15	264
A	.73	123
B	.87	141
Average Random Error	.199	264

the price component included in the "image" construct turned out to be the greatest impediment to a higher alpha level for any of the "images" measured while using the identical scale. For example, without "price" the alpha coefficient for the image measurement scale for the actual store would have been higher: .73 (Table 3).

Table 3. Image Measurement Scale Reliability Coefficient and the Effect of the Price Component

	Alpha if Item Deleted	N	Alpha
A. Hypothetical Store			
Fashionability	.82	264	.85
Price Level	.87 !		
Assortment Width	.83		
Sales People's Courtesy	.82		
Availability Expectation	.82		
Refund Policy	.82		
Return Policy	.82		
B. Overall Streets' Image			
Fashionability	.62	264	.69
Price Level	.73 !		
Assortment Width	.59		
Sales People's Courtesy	.66		
Availability Expectation	.61		
Refund Policy	.66		
Return Policy	.68		
C. Downtown Store			
Fashionability	.62	28	.68
Price Level	.70 !		
Assortment Width	.58		
Sales People's Courtesy	.58		
Availability Expectation	.58		
Refund Policy	.67		
Return Policy	.72		

Table 3. Continued

	Alpha if Item Deleted		N	Alpha
D. Mayfair				
Fashionability	.72		14	.78
Price Level	.83	!		
Assortment Width	.77			
Sales People's Courtesy	.70			
Availability Expectation	.73			
Refund Policy	.73			
Return Policy	.73			
E. Penn Square				
Fashionability	.32		13	.50
Price Level	.79	!		
Assortment Width	.22			
Sales People's Courtesy	.41			
Availability Expectation	.46			
Refund Policy	.29			
Return Policy	.33			
F. Reding				
Fashionability	.64		81	.70
Price Level	.77	!		
Assortment Width	.57			
Sales People's Courtesy	.66			
Availability Expectation	.66			
Refund Policy	.65			
Return Policy	.68			
G. Windsor Hills				
Fashionability	.61		19	.63
Price Level	.69	!		
Assortment Width	.54			
Sales People's Courtesy	.55			
Availability Expectation	.58			
Refund Policy	.57			
Return Policy	.61			

Calculating the reliability coefficient for the image measurement scale for each individual store further reinforced this finding with regard to the impact of price on image measurement (Table 3).

Factor analyzing the image determinants used further illustrated the "independence" of price level perception in the measurement of image. Other than price, a factor relating to the merchandise selection and one pertaining to store service elements stood out as being very important (Table 4).

Table 4. Factor Analysis* of Image Measurement Scale Components (for the Actual Store)

Component	Factor 1	Factor 2
Fashionability	.84	.12
Assortment Width	.72	.40
"Always has what I need"	.65	.43
Price Level	.56	-.48
Refund Policy	.12	.70
Return Policy	.12	.65
Sales People Courtesy	.32	.51

	Communality	Factor	Eigenvalue	Pct of Var
Assortment Width	.71	1	2.65	44.2%
Fashionability Level	.73	2	1.05	17.5%

*Varimax rotation.

As a further assurance of reliability, the split-half method was also applied. With this method scale components were divided in half and scores on the two half-scales were correlated. Since the scale in

this research had seven components, the two part scales had four and three components respectively.

The primary reason for including this method was that different time periods may have elapsed in the forming of the store image by the respondent. This could be true in the case of the store in the scenario, but particularly for the store where the actual experience took place. According to Nunnally (1967, p. 214), the split-half method takes this potentially important factor into consideration. Results of this method's application can be found in Table 5.

Table 5. Split-Half Reliability Coefficients

		ALPHA 1 4 items	ALPHA 2 3 items	Correlation Alpha 1 and 2	N
A.	Hypothetical Store	.73	.81	.70	264
	Actual Store	.56	.56	.47	264
B.	A I	.41	.75	.61	41
	A II	.54	.70	.54	39
	A III	.44	.64	.47	43
	B I	.64	.75	.62	44
	B II	.79	.89	.79	46
	B III	.75	.83	.83	51
C.	A I + B I	.65	.80	.62	85
	A II + B II	.79	.83	.73	85
	A III + B III	.73	.79	.86	94
D.	A	.44	.74	.55	123
	B	.73	.83	.76	141

Again, as was the case when coefficient alpha was used, the scenarios showed a higher reliability when measuring image of the hypothetical store than the measurement of the actual Streets' store image (Table 5A). In any case, however, the basis for a more reliable data analysis was formed given the emphasis on and results of the above tests.

Measurement: Dependent Variables

In scenarios A III and B III, alternative responses to a stockout experience in the hypothetical situation were measured.

Analysis showed (Table 6) that most people would be apt to purchase neither the skirt nor the blouse, or buy only the skirt and then leave the store. The next most likely reaction was to buy the skirt if the blouse is on order. "Asking for the skirt to be held while an alternative to the blouse is being searched for elsewhere" was the next likely reaction, closely followed by "buying the skirt and asking for the blouse to be ordered." The least likely reaction by far was that of asking for the skirt to be held while a blouse is put on order.

Table 6. Likelihood of Alternative Responses to the Hypothetical Stockout Experience

Alternative	Mean	Std. Dev.	Mentioned as a Likely Action
Buy skirt, then leave	2.38	1.69	46.8%
Forget both	2.47	1.52	45.2
Buy skirt, if on order	2.72	1.87	39.7
Hold skirt, search elsewhere	2.85	1.81	34.6
Buy skirt, order blouse	2.97	1.83	31.3
Hold skirt, order blouse	3.17	1.82	28.4

For purposes of analysis, alternative stockout reactions to an actual experience were combined into a category of "buying something else within" (switching behavior). Another category was made of respondents who left and bought what they were looking for elsewhere (exit behavior). A third category consisted of respondents who were willing to wait (postponement). In testing hypotheses two, three, and four, these categories formed the dependent variable. With the above mentioned three categories for responses to question 11, cross-tabulations were performed on the demographic data, due to the categorical nature of that data.

Hypothesis Testing

Hypothesis One

Of all the respondents, 65.4% left the store upon not being able to find what they were looking for. Respondents willing to switch within the same store and those willing to postpone the purchase made up 21 and 13.6%, respectively. A chi-square test of uniformity showed in a statistically very significant manner that exiting behavior dominated the alternative reactions to an actual stockout situation (Table 7). This finding tends to be confirmed by looking at Table 6. Those reactions involving leaving the store upon not finding the desired item in stock are the first ("buy skirt and leave"), second ("forget both and leave") and fourth ("hold skirt and search elsewhere") most likely to be displayed. As a result, hypothesis one, as stated, was accepted.

Table 7. Alternative Reactions to an Actual Stockout

Reaction	Absolute Frequency	Relative Frequency	Expected Frequency
Switching within the same store	51	21.0%	81
Leaving when item not in stock	159	65.4	81
Postponing the purchase	33	13.6	81
Total	243	100.0%	243

Chi-Square statistic = 1474*, 2 degrees of freedom

*This is significant at the $p < .0001$ level.

Hypothesis Two

Intentions behind the attempted purchase, as measured through the question "for what reason did you initially go to the store," appeared to have a statistically significant relationship with customer stockout responses ($p < .05$). Customers shopping for a particular item showed a higher frequency of buying something else within the same store than was expected. When looking for several items, a customer was much more likely to shop elsewhere when a stockout was experienced. Further, if a customer was just browsing, whether alone or with a companion, she was much less willing to wait than was expected. Yet she was also more willing to buy something else in the store (Table 8).

Another way of looking at these relationships is that of all the respondents who bought something else inside, those looking for several items constituted a substantially lower number than was expected. In conclusion, at the .05 level of significance, hypothesis two was accepted.

Table 8. Crosstabulation of Stockout Responses with Purchase Intentions

Purchase Intentions	Stockout Responses: Switching	Exiting	Postponing	Total
To buy a specific item	15* (19.1)	68 (63.1)	11 (11.8)	94 (40.7%)
To buy several items	19 (16.0)	33 (37.6)	4 (7.0)	56 (24.2%)
Just to browse	13 (16.5)	54 (54.4)	14 (10.2)	81 (35.1%)
Total	47 (20.3%)	155 (67.1%)	29 (12.6%)	231 (100.0%)

Chi-Square = 10.45 Degrees of Freedom = 4

Significance = .03** Cells with Exp. Freq. < 5 = none

*Actual frequency (expected frequency).

**Significant at $p < .05$.

Hypothesis Three

As Table 9 shows, demographics were very ineffective in explaining how a customer responds to a stockout. At $p < .05$, only age and the presence of young children showed any statistically significant relationship. With regard to age, the customer buying something else within was primarily in the "over 45" category. Apparently, older people were much less likely to go elsewhere, also a greater number in this category was willing to wait.

The 25-34 and 35-44 groups were more willing to shop elsewhere upon not being able to find what they were looking for, whereas the under-25 group was more willing to wait than expected.

Presence of children under 12 had a significant bearing on the shoppers reaction to a stockout ($p < .01$). When no children were present a significant number of customers were more likely to buy something else within the store or were willing to wait. In conclusion, 25-44 year-old shoppers were more likely to buy elsewhere and so were shoppers without young children. However, these were the only demographics of those used that showed a statistically significant effect on stockout behavior.

Hypothesis Four

The brand, style, color, size, or even the price of the product involved showed no significant relationships with stockout reactions (Table 10). The same result applied to distance (as measured in time) from the store. However, the frequency of having a stockout experience showed a very significant relationship ($p < .0005$, see Table 10). The people who "hardly ever" experienced a stockout were much more likely to shop for something else within the same store or were willing to wait, and those who experienced it "occasionally" were likely to buy elsewhere. The degree to which people with many experiences ("frequently") of this nature were likely to buy elsewhere was much greater than for those who had it happen occasionally. As a result, it was found that the more frequently a shopper experienced a stockout, the more likely she was to buy the item elsewhere (Table 10).

Table 9. Crosstabulation Analyses Between Stockout Reactions and Demographic Characteristics

	Reactions			Total
	Switching	Exiting	Postponing	
a. Age Groups				
Under 25	2 (3.1)	8 (9.9)	5 (2.0)	15 (6.8%)
25-34	7 (10.6)	40 (34.4)	5 (7.1)	52 (23.5%)
35-44	8 (11.0)	42 (35.7)	4 (7.3)	54 (24.4%)
45-54	9 (7.3)	21 (23.8)	6 (4.9)	36 (16.3%)
55 and Over	19 (13.0)	35 (42.3)	10 (8.7)	64 (29.0%)
Total	45 (20.4%)	146 (66.1%)	30 (13.6%)	221 (100%)
Chi-Square = 16.39	Degrees of Freedom = 8			
Significance = .04**	Cells with Exp. Freq. < 5 = 20.0%			
b. Employment Status				
Unemployed	19 (14.7)	43 (47.5)	10 (9.8)	72 (32.7%)
Employed	26 (30.3)	102 (97.5)	20 (20.2)	148 (67.3%)
Total	45 (20.5%)	145 (65.9%)	30 (13.6%)	220 (100%)
Chi-Square = 2.47	Degrees of Freedom = 2			
Significance = .29	Cells with Exp. Freq. < 5 = none			
c. Level of Education				
High School or less	18 (14.8)	43 (47.3)	11 (9.9)	72 (32.9%)

Table 9. Continued

	Reactions			
	Switching	Exiting	Postponing	Total
College	20 (24.2)	81 (77.6)	17 (16.2)	118 (53.9%)
Grad. School	7 (6.0)	20 (19.1)	2 (4.0)	29 (13.2)
Total	45 (20.5%)	144 (65.8%)	30 (13.7%)	219 (100%)

Chi-Square = 3.37 Degrees of Freedom = 4

Significance = .50 Cells with Exp. Freq. < 5 = 11.1%

d. Time Lived in OKC

< 10 years	6 (7.5)	25 (24.0)	6 (5.5)	37 (17.1%)
> 10 years	38 (36.5)	116 (117.0)	26 (26.5)	180 (82.9%)
Total	44 (20.3%)	141 (65.0%)	32 (14.7%)	217 (100%)

Chi-Square = .47 Degrees of Freedom = 2

Significance = .79 Cells with Exp. Freq. < 5 = none

e. Marital Status

Single	19 (14.6)	40 (46.8)	13 (10.6)	72 (33.2%)
Married	25 (29.4)	101 (94.2)	19 (21.4)	145 (66.8%)
Total	44 (20.3%)	141 (65.0%)	32 (14.7%)	217 (100%)

Chi-Square = 4.26 Degrees of Freedom = 2

Significance = .12 Cells with Exp. Freq. < 5 = none

Table 9. Continued

	Reactions			
	Switching	Exiting	Postponing	Total
f. Children at Home?				
None	35 (31.0)	90 (99.4)	28 (22.6)	153 (70.5%)
Yes	9 (13.0)	51 (41.6)	4 (9.4)	64 (29.5%)
Total	44 (20.3%)	141 (65.0%)	32 (14.7%)	217 (100%)
Chi-Square = 9.19	Degrees of Freedom = 2			
Significance = .0101*	Cells with Exp. Freq. < 5 = none			
g. Level of Income				
30,000 or less	21 (19.1)	63 (64.7)	14 (14.3)	98 (47.6%)
30,001-50,000	15 (15.0)	49 (50.8)	13 (11.2)	77 (37.4%)
> 50,000	4 (6.0)	24 (20.5)	3 (4.5)	31 (15.0%)
Total	40 (19.4%)	136 (66.0%)	30 (14.6%)	206 (100%)
Chi-Square = 2.36	Degrees of Freedom = 4			
Significance = .67	Cells with Exp. Freq. < 5 = 11.1%			

*Actual frequency
(expected frequency).

**Significant at p < .05.

Table 10. Crosstabulation Analysis of Stockout Responses with Selected Situational Variables

	Reactions			
	Switching	Exiting	Postponing	Total
a. Time Distance from Store				
0-5 min.	8 (9.1)	32 (29.2)	5 (6.6)	45 (20.7%)
6-10 min.	15 (13.4)	38 (42.9)	13 (9.7)	66 (30.4%)
11-15 min.	14 (12.6)	37 (40.3)	11 (9.1)	62 (28.6%)
16-20 min.	4 (6.5)	27 (20.8)	1 (4.7)	32 (14.7%)
> 20 min.	3 (2.4)	7 (7.8)	2 (1.8)	12 (5.5%)
Total	44 (20.3%)	141 (65.0%)	32 (14.7%)	217 (100%)
Chi-Square = 9.44	Degrees of Freedom = 8			
Significance = .31	Cells with Exp. Freq. < 5 = 20.0%			
b. Frequency of the Stockout Event				
Hardly Ever	22 (13.1)	28 (41.3)	13 (8.6)	63 (26.1%)
Occasionally	21 (26.8)	90 (84.6)	18 (17.7)	129 (53.5%)
Frequently	7 (10.2)	40 (32.1)	2 (6.7)	49 (20.3%)
Total	50 (20.7%)	158 (65.6%)	33 (13.7%)	241 (100%)
Chi-Square = 20.42	Degrees of Freedom = 4			
Significance = .0004***	Cells with Exp. Freq. < 5 = none			

Table 10. Continued

	Reactions			
	Switching	Exiting	Postponing	Total
c. Opinion Change?				
Yes	2 (5.2)	22 (16.4)	1 (3.4)	25 (10.3%)
No	48 (44.8)	137 (142.6)	32 (29.6)	217 (89.7%)
Total	50 (20.7%)	159 (65.7%)	33 (13.6%)	242 (100%)
Chi-Square = 6.17	Degrees of Freedom = 2			
Significance = .046***	Cells with Exp. Freq. < 5 = 16.7%			

*Actual frequency
(expected frequency).

**Significant at p < .0005.

***Significant at p < .05.

The conclusion, being in terms of the single item rather than "items", was reinforced by the statistically significant relationship (p < .001) between the feelings the shopper had when she learned that the item was out of stock. Of those who were annoyed by it, almost half of them (46%) were looking for a specific item. More than half (52%) of those who were not annoyed were just browsing when they had their out-of-stock experience (Table 11).

Table 11. Crosstabulation Analysis of Purchase Intention and Level of Annoyment

Purchase Intention	Annoyed	Not Annoyed	Total
Buy a specific item	63 (53.9)	30 (39.1)	93 (39.1%)
Buy several items	39 (33.1)	18 (23.9)	57 (23.9%)
Just browsing	36 (51.0)	52 (37.0)	88 (37.0%)
Total	138 (58.0%)	100 (42.0%)	238 (100%)

Chi-Square = 16.71 Degrees of Freedom = 2

Significance = .0002* Cells with Exp. Freq. < 5 = none

*Actual frequency
(expected frequency).

Thus, it was concluded with regard to hypothesis four, that frequency of a stockout experience occurring significantly affected the stockout response, with the higher frequency being very strongly related to the customer leaving the store and buying somewhere else.

A summary table, involving the variables referred to in testing the hypotheses three and four, is provided in Table 12.

Hypothesis Five

In this study, the hypothesis was tested with two measures, the first test involving the hypothetical situation presented in the first part of the questionnaire. The "likelihood of returning to the store" was used as the dependent variable. Secondly, by using the direct

question of "did your opinion of Streets' change due to this experience", hypothesis five was tested using the actual stockout to which the customer was asked to refer.

Table 12. Summary Table of Crosstabulations of Stockout Reactions with Various Demographic and Situational Variables

Actions by Shoppers With:	X^2	Significance Level	% of Cells with Exp. Freq. < 5
Age	16.39	.03*	20%
Employment Status	2.47	.29	none
Education Level	3.37	.50	11.1%
Years in the City	.47	.79	none
Marital Status	4.26	.12	none
Children < 12	9.20	.0101*	none
Income	2.36	.67	11.1%
Time to Get to Store	9.44	.31	20%
Frequency of Happening	20.42	.0004*	none
Reason for Shopping	10.45	.0335*	none

*Actual frequency (expected frequency).

Using both these measures, hypothesis five was rejected. There were no statistically significant differences between the people who had the "negative" shopping experience and those who had the "positive" one or the ones who had no experience at all with regard to their likelihood of return (Table 13).

Asking respondents a direct question on their opinion change showed the following breakdown (Table 14). Twenty-six shoppers (10.2%) said that their opinion had changed, whereas 221 (85.0%) said the stockout experience had not affected their opinion. The rest either did not

respond (did not report any stockout experiences) or said that the one experience had not affected their opinion at that time, but it would change if it were to happen again.

Table 13. Oneway Analysis of Variance: Type of Shopping Experience and Likelihood of Return Visit

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between type of experience	2	4.67	2.33	1.63	.20
Within type of experience	261	373.48	1.43		
Total	263	378.15			

Table 14. Opinion Change Due to a Stockout Experience

Opinion Change?	Frequency	Percent
Yes	26	10.2%
No	221	87.0
No, but it will next time	7	2.8
Total	254	100.0%

It was also found that to a significant extent ($p < .0001$) an opinion change was more likely to happen when there was a higher frequency of stockout situations in the experience of the shopper. However, opinion change was not significantly related ($p < .05$) to the reason why the customer originally went shopping (Table 15). It was worth noting that a significantly greater percentage of respondents,

Table 15. Crosstabulation Analysis of Opinion Change with Selected Situational Variables

	Opinion Change?		
	Yes	No	Total
a. Frequency of Stockout Event			
Hardly Ever	2*	66	68
	(7.0)	(61.0)	(26.9%)
Occasionally	7	127	134
	(13.8)	(120.2)	(53.0%)
Frequently	17	34	51
	(5.2)	(45.8)	(20.2%)
Total	26	227	253
	(10.3%)	(89.7%)	(100%)
Chi-Square = 37.08 D.F. = 2			
Significance = .0000** Cells with Exp. Freq. < 5 = none			
b. Level of Annoyment			
Annoyed	24	119	143
	(13.8)	(129.2)	(57.7%)
Not Annoyed	0	105	105
	(10.2)	(94.8)	(42.3%)
Total	24	224	248
	(9.7%)	(90.3%)	(100%)
Chi-Square = 17.64 D.F. = 1			
Significance = .0000** Cells with Exp. Freq. < 5 = none			
c. Specifics of Item Not Found			
Brand	2	10	12
	(1.2)	(10.8)	(4.9%)
Size	4	94	98
	(9.5)	(88.5)	(39.7%)
Style	16	68	84
	(8.2)	(75.8)	(34.0%)

Table 15. Continued

	Opinion Change?		
	Yes	No	Total
Color	0 (2.4)	25 (22.6)	25 (10.1%)
Particular Item	2 (2.7)	26 (25.3)	28 (11.3%)
Total	24 (9.7%)	223 (90.3%)	247 (100%)
Chi-Square = 15.45 D.F. = 4			
Significance = .004*** Cells with Exp. Freq. < 5 = 30.0%*****			
d. Purchase Intentions			
Specific Item	13 (10.2)	86 (88.8)	99 (39.1%)
Several Items	6 (6.1)	53 (52.9)	59 (23.3%)
Browsing	7 (9.8)	88 (85.2)	95 (37.5%)
Total	26 (10.3%)	227 (89.7%)	253 (100%)
Chi-Square = 1.75 D.F. = 2			
Significance = .42 Cells with Exp. Freq. < 5 = none			
e. Talk with Sales Person About It?			
Yes	18 (11.8)	95 (101.2)	113 (45.6%)
No	8 (14.2)	127 (120.8)	135 (54.4%)
Total	26 (10.5%)	222 (89.5%)	248 (100%)
Chi-Square = 5.54 D.F. = 1			
Significance = .02**** Cells with Exp. Freq. < 5 = none			

Table 15. Continued

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*Actual frequency
(expected frequency).

**At $p < .0001$.

***At $p < .005$.

****At $p < .05$.

*****As this number is higher than the generally accepted criterion of 20% (Upton, 1978), greater caution is required in interpreting these results.

who expressed themselves to a salesperson about the event, said that their opinion of the store was affected (Table 15e).

Interestingly, these was a statistically significant relationship ($p < .05$) between what was out of stock and the change of opinion. Color showed a very low bearing on likelihood of opinion change, but brand and style were very significant (Table 15c).

A direct reference to consistency of assortment was the question asked, as part of the image dimension on "will/will not have what I want." In the context of the scenario, there was a significant relationship ($p < .005$) between the level of expectations of finding what the shopper was looking for and the two scenarios (Table 16). Also the store in scenario A created much higher levels of expectation than the scenario B store. Furthermore, it was found that a significant correlation ($p < .001$) existed between the likelihood of returning to the store and the level of expectations ($r = .59$, see Table 17a).

Table 16. Level of Expectations and Scenario Type

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Scenarios A and B	1	18.19	18.19	13.25	.0003*
Within Scenarios	262	359.80	1.37		
Total	263	377.99			

*Significant at $p < .0005$.

Table 17. Crosstabulation Analysis of Levels of Assortment Expectation with Likelihood of Patronage and Leaving Store Without Purchase

Level of Expectation	0-25%	26-50%	51-75%	76-100%	Total
a. Likelihood of Patronage					
Very High	2 (7.2)	4 (9.4)	5 (6.6)	19 (6.9)	30 (12.1%)
High	7 (14.8)	9 (19.3)	20 (13.6)	26 (14.3)	62 (25.1%)
Medium	13 (19.1)	35 (24.9)	21 (17.5)	11 (18.5)	80 (32.4%)
Low	19 (12.7)	25 (16.5)	8 (11.6)	1 (12.2)	53 (21.5%)
Very Low	18 (5.3)	4 (6.9)	0 (4.8)	0 (5.1)	22 (8.9%)
Total	59 (23.9%)	77 (31.2%)	54 (21.9%)	57 (23.1%)	247 (100%)

Chi-Square = 121.15 D.F. = 12

Significance = .0000** Cells with Exp. Freq. < 5 = 5.0%

Pearson's R = -.59 Significance = .0000**

Table 17. Continued

Level of Expectation	High	Medium	Low	Total
b. Likelihood of "Forget Both" Response				
High	7 (9.5)	4 (4.3)	10 (7.3)	21 (25.0%)
Medium	12 (17.2)	9 (7.7)	17 (13.1)	38 (45.2%)
Low	19 (11.3)	4 (5.1)	2 (8.6)	25 (29.8%)
Total	38 (45.2%)	17 (20.2%)	29 (34.5%)	84 (100%)
Chi-Square = 15.2	D.F. = 4			
Significance = .004**	Cells with Exp. Freq. < 5 = 11.1%			

*Absolute frequency
(expected frequency).

**At $p < .0001$.

***At $p < .005$.

It was also found that the higher the expectations, the more a respondent was likely to not buy the already found skirt upon not being able to find the desired blouse, thus indicating a very strong reaction (Table 17b).

When looking at the actual situation the same pattern developed. It was desirable to study the actual situation in which a shopper had experienced a stockout for several reasons. Actual store image has not only had more time to form, but is also based on a broader customer

knowledge as to the actual merchandise carried and the relative interest in different apparel such as outerwear, underwear, sleepwear, etc.

Expectation levels related very significantly to the actual response by the customer (Table 18a). The higher the expectations were of finding what the shopper wanted, the more likely he/she was to look for an alternative within the same store, or at least postpone the purchase. A significantly lower than expected number of shoppers decided to go elsewhere under these conditions. Furthermore, expectation levels were highly related to the degree of annoyance felt by the customer (Table 18b). The more she expected to find what she wanted, the more annoyed she felt upon finding the desired item out of stock. Of all those customers annoyed by the stockout, 57% had high expectations of finding what they were looking for. Only 22% of those annoyed did not have very high expectations.

As was found earlier, the level of annoyance in a stockout situation affected the way a customer responded to it. Also, being annoyed was not further influenced by expectations prior to the experience. However, of those not annoyed, the shopper with the higher expectations was more likely to leave and buy elsewhere (Table 19).

Hypothesis Six

The testing of this hypothesis was more complex. Analysis of variance of the two relevant individual scenarios (A III and B III) showed that there was no statistically significant ($p < .05$) difference between the two scenarios as to what the respondents do when faced with a stockout (Table 20).

Table 18. Crosstabulation Analysis of Level of Expectations with Stockout Responses and Level of Annoyment

Level of Expectation	Switching Within	Exiting	Postponing	Total
a. Stockout Responses				
Very High	13*	5	3	21
	(4.4)	(13.7)	(2.9)	(8.8%)
High	16	41	14	71
	(14.9)	(46.3)	(9.8)	(29.7%)
Medium	17	80	13	110
	(23.0)	(71.8)	(15.2)	(46.0%)
Low	4	30	3	37
	(7.7)	(24.2)	(5.1)	(15.5)
Total	50	156	33	239
	(20.9%)	(65.3%)	(13.8%)	(100%)

Chi-Square = 31.81 D.F. = 6

Significance = .0000** Cells with Exp. Freq. < 5 = 16.7%

b. Level of Annoyment

	Annoyed	Not Annoyed	Total
Very High	12	12	24
	(13.8)	(10.2)	(9.4%)
High	35	40	75
	(43.1)	(31.9)	(29.5%)
Medium	68	49	117
	(67.3)	(49.7)	(46.1%)
Low	28	7	35
	(20.1)	(14.9)	(13.8%)
Very Low	3	0	3
	(1.7)	(1.3)	(1.2%)
Total	146	108	254
	(57.5%)	(42.5%)	(100%)

Table 18. Continued

Chi-Square = 13.64 D.F. = 4

Significance = .009*** Cells with Exp. Freq. < 5 = 20.0%

*Absolute frequency (expected frequency).

**p < .0001.

***p < .01.

Table 19. Three-Way Crosstabulation of Level of Expectations and Purchase Intentions by Level of Annoyment

Level of Expectation	Stockout Response: Switching Within	Exiting	Postponing	Total
a. For Respondents Who Were Annoyed				
High	9* (7.5)	27 (31.1)	8 (5.3)	44 (31.4%)
Medium	11 (11.1)	48 (46.0)	6 (7.9)	65 (46.4%)
Low	4 (5.3)	24 (21.9)	3 (3.8)	31 (22.1%)
Total	24 (17.1%)	99 (70.7%)	17 (12.1%)	140 (100%)

Chi-Square = 3.37 D.F. = 4

Significance = .50 Cells with Exp. Freq. < 5 = 11.1%

Table 19. Continued

Level of Expectation	Stockout Response: Switching Within	Exiting	Postponing	Total
b. For Respondents Who Were Not Annoyed				
High	19 (12.0)	19 (27.3)	9 (7.7)	47 (48.0%)
Low	6 (13.0)	38 (29.7)	7 (8.3)	45 (45.9%)
Total	25 (25.5%)	57 (58.2%)	16 (16.3%)	98 (100%)

Chi-Square = 13.12 D.F. = 2

Significance = .0049** Cells with Exp. Freq. < 5 = none

*Absolute frequency
(expected frequency).

**$p < .005$.

Table 20. Relationship Between Scenario Type and Stockout Response

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
a. Leave without Buying Skirt or Blouse					
Between scenarios A and B	1	6.79	6.79	3.02	.09
Within scenarios	92	206.67	2.25		
Total	93	213.46			
b. Hold Skirt, Look Elsewhere for Blouse					
Between scenarios A and B	1	.73	.73	.22	.64
Within scenarios	92	299.41	3.25		
Total	93	300.14			
c. Buy Skirt, Then Leave Store					
Between scenarios A and B	1	1.35	1.35	.48	.49
Within scenarios	92	257.29	2.80		
Total	93	258.64			
d. Buy Skirt, Order Blouse					
Between scenarios A and B	1	.09	.09	.03	.87
Within scenarios	92	304.90	3.31		
Total	93	304.99			
e. If Blouse on Order, Buy Skirt					
Between scenarios A and B	1	.17	.17	.05	.83
Within scenarios	92	317.71	3.45		
Total	93	317.88			

Analysis of variance also indicated very clearly that the main effect of stores, or store A versus store B, significantly affected the perception of the stores and thus confirmed the pretest results (Table 21).

At least at the same significance level ($p < .01$), and even at $p < .05$, the variance in store image due to the experience within the store (positive, negative, or no experience) was not statistically significant (Table 21).

Another indicator of the difference between scenarios in terms of the prior image effect on stockout response came from the answers to question two, or the likelihood with which customers were to return to the hypothetical store.

It was learned as shown in Figure 10, that the store described in scenario A had a higher image level than the store in scenario B. Results showed (Table 22) that respondents who had a positive shopping experience under conditions of scenario A, were more likely ($p < .05$) to return than the ones who had no particular experience at all given that scenario. This difference was not significant at that level for scenario B. For example, the difference in likelihood of returning for respondents exposed to scenario A I ($\bar{X}_{A\ I}$)--having no particular experience--and A II ($\bar{X}_{A\ II}$)--positive experience--is -2.37. This was barely significant at the $p < .05$ level.

Interestingly, the respondents, with a positive experience under scenario A (A II respondents), showed the most significant difference in likelihood of returning when compared to the respondents exposed to the negative experience under scenario B III (see Table 22). Furthermore, when comparing the likelihood of returning for respondents

Table 21. Relationship Between Scenarios A and B, Type of Experience, and Store Perceptions

Source of Variance	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
a. Fashionability Level					
Between types of experience	1	.02	.02	.02	.90
Between scenarios A and B	1	101.69	101.69	93.46	.000*
Within individual scenarios	261	283.99	1.09		
Total	263	385.70			
b. Price Level					
Between types of experience	1	1.87	1.87	1.32	.25
Between scenarios A and B	1	79.96	79.96	56.51	.000*
Within individual scenarios	261	369.32	1.42		
Total	263	451.15			
c. Assortment Width					
Between types of experience	1	2.26	2.26	1.42	.23
Between scenarios A and B	1	15.94	15.94	10.02	.002**
Within individual scenarios	261	415.43	1.59		
Total	263	433.63			
d. Courtesy of Sales People					
Between types of experience	1	2.60	2.60	1.48	.23
Between scenarios A and B	1	57.23	57.23	32.46	.000*
Within individual scenarios	261	460.15	1.76		
Total	263	519.98			
e. Assortment Expectations					
Between types of experience	1	1.19	1.19	.86	.35
Between scenarios A and B	1	18.01	18.01	13.10	.000*
Within individual scenarios	261	358.79	1.38		
Total	263	377.99			
f. Refund Policy					
Between types of experience	1	1.99	1.99	1.00	.32
Between scenarios A and B	1	8.88	8.88	4.45	.036***
Within individual scenarios	261	520.67	2.00		
Total	263	531.54			

Table 21. Continued

Source of Variance	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
g. Return Policy					
Between types of experience	1	.34	.34	.20	.66
Between scenarios A and B	1	18.86	18.86	10.85	.001**
Within individual scenarios	261	453.80	1.74		
Total	263	473.00			

*At $p < .001$.

**At $p < .005$.

***At $p < .05$.

exposed to a positive experience and for those with no particular experience at all, given the higher image store, the ones who found what they were looking for showed a higher propensity to return. The above finding, with regard to the influence of prior image once a shopper experiences a stockout, was confirmed by noticing (Table 22) that there was no significant differences as to the likelihood of returning to the store in the case of shoppers who had the negative experience under both scenarios ($\bar{X}_{A\ III} - \bar{X}_{B\ III}$).

The differences in likelihood with which respondents returned to the hypothetical store did not significantly depend on the type of experience the customer had in that store as shown in Table 23. For example, the mean likelihood of returning to a store in which the respondent had no experience at all ($\bar{X}_{NO}$) differed from the mean likelihood of returning for a respondent who had a positive experience. However, at the .05 level (2-tail) it was not a statistically significant difference.

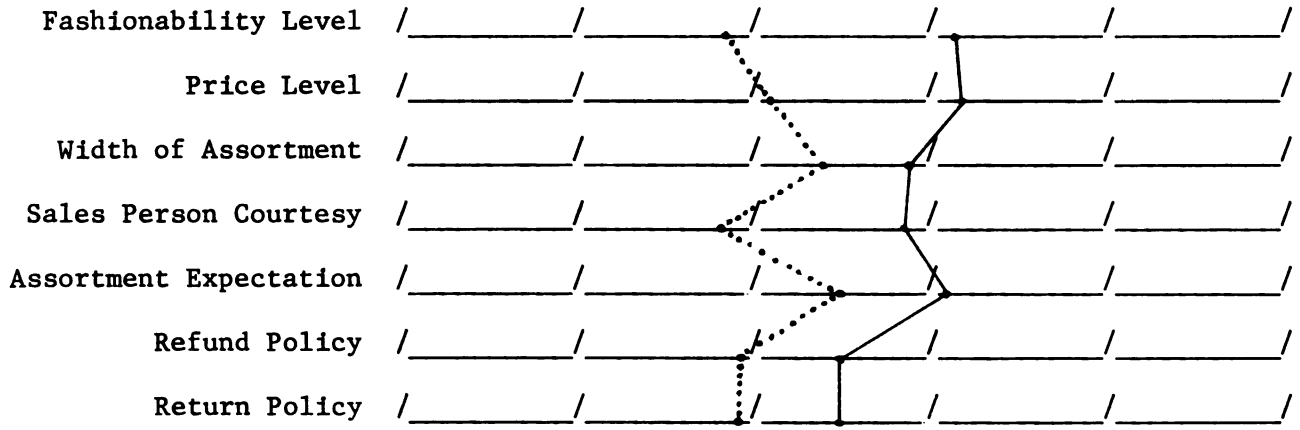

Image Attribute	Scenario A		Scenario B	
	Mean	Std. Dev.	Mean	Std. Dev.
Fashionability level	1.870	.887	3.113	1.159
Price level	2.073	1.132	3.191	1.177
Width of assortment	2.390	1.205	2.887	1.310
Sales person courtesy	1.846	1.071	2.801	1.410
Assortment expectation	2.545	1.147	3.071	1.193
Refund policy	1.967	1.187	2.504	1.392
Return policy	1.959	1.183	2.496	1.422

Figure 10. Perceptual Map Comparison of the Two Scenario Stores

Table 22. Paired T-tests Between the Specific Type of Hypothetical Store and Likelihood of Patronage

Paired Difference	T-value	Significance
$\bar{X}_{A\ I} - \bar{X}_{A\ II}$	-2.37	.02*
$\bar{X}_{A\ I} - \bar{X}_{A\ III}$	-1.26	.21
$\bar{X}_{A\ I} - \bar{X}_{B\ I}$	-.32	.75
$\bar{X}_{A\ I} - \bar{X}_{B\ II}$	-.29	.77
$\bar{X}_{A\ I} - \bar{X}_{B\ III}$	.43	.67
$\bar{X}_{A\ II} - \bar{X}_{A\ III}$	1.29	.20
$\bar{X}_{A\ II} - \bar{X}_{B\ I}$	2.12	.04
$\bar{X}_{A\ II} - \bar{X}_{B\ II}$	2.18	.03
$\bar{X}_{A\ II} - \bar{X}_{B\ III}$	3.00	.004**
$\bar{X}_{A\ III} - \bar{X}_{B\ I}$	.96	.34
$\bar{X}_{A\ III} - \bar{X}_{B\ II}$	1.01	.31
$\bar{X}_{A\ III} - \bar{X}_{B\ III}$	1.85	.07
$\bar{X}_{B\ I} - \bar{X}_{B\ II}$	.04	.97
$\bar{X}_{B\ I} - \bar{X}_{B\ III}$	.80	.43
$\bar{X}_{B\ II} - \bar{X}_{B\ III}$	.77	.44

*At the $p < .05$ level (2-tail).

**At the $p < .001$ level (2-tail).

Table 23. Paired T-tests Between Likelihood of Returning Under Different Conditions in the Store

Paired Difference	T-value	Significance
$\bar{X}_{NO} - \bar{X}_{POS}$	-1.58	.12
$\bar{X}_{NO} - \bar{X}_{NEG}$	-.25	.80
$\bar{X}_{POS} - \bar{X}_{NEG}$	1.42	.16
$\bar{X}_{A} - \bar{X}_{B}$	2.04	.04

Given the above findings, insufficient evidence was found to accept hypothesis six.

Hypothesis Seven

The a priori assumption was that the percentage of "exiters" was equal to the percentage of "voicers" for two reasons. First, there was no indication found in the literature to lead to a different assumption. Second, from a statistical perspective, the case of 50/50 provides for the greatest allowance for sampling related variance (standard error) making it more difficult to make type II errors (e.g., Bacon, 1974). Here, type II is considered to be the more serious error. It is, as outlined above, desired to have the customer express to store personnel that she cannot find what she is looking for. Erroneously rejecting the hypothesis that most people "exit" rather than "voice", results in a reduction of the attention paid to creating an atmosphere in which a customer feels comfortable expressing herself

before leaving, and thus the retailer loses valuable input in the merchandise planning function.

A simple test of proportions tested hypothesis seven (Table 24). Using an alpha of .05 and a one-tail test--due to the risk mentioned in the previous paragraph--this hypothesis was rejected. Unfortunately for the retailer, however, at least half of the respondents still displayed this "exit" behavior.

Table 24. Test of Proportions Involving "Exit" versus "Voice" Behavior

Type of Behavior	Absolute Frequency	Proportions	Expected Proportions	Standard Deviation	Critical Value
Voice	113	.4556	.5000	.0318	.5522
Exit	135	.5444	.5000		
Total	248	1.0000	1.0000		

Other Important Findings

As shown in Table 25, when the respondent was asked to report on what would influence her responses to a stockout, the sales person factor was mentioned the most as being important (71%).

Closely following in importance were how badly they wanted the item (66%) and the time available for shopping (62%). Also rated as rather important was the reason for shopping at the time (53%). The importance of other possible factors dropped rapidly: feelings at the time (39%), number of occurrences (29%), and being alone or with others (17%).

Table 25. Factors Influential in Determining Stockout Reactions as Reported on by Respondents

Factors Mentioned	% Considering it Important
Helpfulness of the sales people	71%
How much the item is desired	66
The time available for shopping	62
The reason for shopping	53
"How I feel at the time"	39
Number of times it has happened	29
Whether alone or with others	17

When asked about which factors could bring the annoyed shopper back, the location of the store stood out as being the most important reason for returning. Very few were adament about not returning for any reason (Table 26).

Table 26. Factors Considered Important for an Annoyed Shopper to Return

Reason for Returning	% Considering it Important
Convenience of location	80.5
Special sales	72.6
Image of the store	70.0
Possession of a store credit card	59.0
Desire to shop around anyway	44.0
A friend's/relative's suggestion	28.5
A manager's personal touch	27.0
Shopping with a friend/relative	20.0
Nothing could bring her back	6.0

After factor analyzing these "reasons" it became clear that essentially two main elements were at work (Table 27). Store related elements of location and "image" formed very significant factors. Elements related to the individual's psychological and social needs, such as desire to shop around, friend's suggestion, etc., formed important factors also, yet they do not appear to be as much under the direct control of the retailer as the store related factor.

Table 27. Factor Analysis* of Important Reasons to Return to a Store After a Stockout Experience There

Reason for Returning	Factor 1	Factor 2
Shopping with a friend/relative	.77	.24
A manager's personal touch	.75	.16
Nothing could bring her back	.73	.11
Desire to shop around anyway	.64	.30
A friend's/relative's suggestion	.61	.43
Convenience of location	.12	.84
Image of the store	.17	.80
Special sale	.36	.53
Possession of a store credit card	.48	.53

	Communality	Factor	Eigen-Value	Pct. of Var.
Special sale	.42	1	4.13	45.9%
A friend's/relative's suggestion	.55	2	1.02	11.3%

*Varimax rotation.

The respondent was also asked what action they preferred the retailer to take in out-of-stock instances. The preferences ratings on alternatives for retailers in shown in the following breakdown in Table 28.

Table 28. Respondent Perceived Alternative Retailer Actions

Alternative	Very Much Preferred	Preferred
Check other Streets' stores	61.2%	30.8%
Call when item is in	43.6	37.2
Check any other location	40.9	39.1
Tell how long it will take	35.0	56.9
Give an acceptable reason	27.8	41.8
Show an acceptable alternative	17.2	41.8

Since these alternatives depend on contact with store personnel there was a high degree of consistency with the above findings. However, it also put more weight on the results of the testing of hypothesis seven, which is discussed further in Chapter V.

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

In this chapter the research purposes are again addressed, followed by a summary of the research itself. Conclusions are then discussed along with implications for future research.

Research Summary

Traditionally, stockouts have been negatively looked upon by business. According to the literature, the definitions identifying a stockout all relate to not having normally available stock at the time a customer wants it. Whether the cause for the stockout was a mistake in buying plans, errors in stocking, a customer not returning merchandise to the proper location after examining the item, or theft, depth of assortment was the critical variable. The question raised by authors such as Ammer (1974) concerned justifying the amount of attention being paid to overstocking as a safeguard against understocking. However, if an important factor in assortment planning is a proper balance between understocking and overstocking, we know surprisingly little about both sides of the scale, but particularly the understocking side.

In addition to the above observation, it was noticed that the definition used in the literature for a stockout only applied to a logistical perspective. Questions can be asked: What is a situation called when a shopper asks for an item that is not carried at all?

Why has the shopper made the effort in some way to find out if the item is available? Recognizing the importance of this situation, a strategic view on what the effect is of not carrying what the customer expects you to carry should definitely be taken into account as well in assortment planning. Whether the customer expectations are a result of direct retail management actions, competitor actions or purely related to consumer ignorance, is not relevant at this point. The key is that the customer has a negative shopping experience at that location. As a result, in this research a stockout is defined as a situation which occurs when a customer is unable to buy a wanted item due to the unavailability thereof (strategically or logistically) in that particular outlet.

Strategically speaking, it can be said that it is not profitable for the retailer to cater to the occasional shopper wanting a certain item or the retailer may deem that a certain item may not suit his intended target market. However, it is difficult to make that decision if we do not know enough about how much it costs to be forced to say "no" to an inquiring shopper, even if we assume we know exactly how expensive it is to carry a not so popular item. This research is part of an effort to shed more light on the merchandise assortment decision and some of the factors that affect it and are affected by it.

Research Design

As reported in Chapter II, many attempts have been made to answer the question on how much understocking costs. A major conclusion is that we cannot tell for certain. But what we can do, is learn more

about factors that influence those costs. This research investigated four major issues:

1. how customers respond to product unavailability in a fashion retail store;

2. what factors affect customer responses to product unavailability in a fashion retail store;

3. the influence of product unavailability on customer store image in fashion merchandising;

4. the influence of store image on customer responses to stockouts in fashion retail stores.

Through the cooperation of a high fashion women's apparel store chain in Oklahoma City, a sample of their customers was taken from the active charge card file. A total of 1006 customers was mailed a questionnaire without any other incentive than the promise that store management would be provided with inputs to upgrade the service and image of the store. Twenty-six percent of the sample returned usable responses which were analyzed to specifically test seven hypotheses:

H 1: Customer responses to stockouts in fashion merchandising are primarily characterized by "exit" rather than switching behavior or by purchase postponement.

H 2: Customer reactions to stockouts are affected by the intentions behind the attempted purchase.

H 3: Demographic characteristics of shoppers, such as age, income, level of education, number of children, affect customers' responses to stockouts.

H 4: Situational variables, such as distance traveled, affect customers' responses to out-of-stock situations.

H 5: When a customer is faced with an out-of-stock situation, there will be a negative effect on the customer's perception of the store.

H 6: Customer responses to stockouts are affected by the image of the store which the customer held prior to the stockout experience.

H 7: In fashion shopping customer responses to stockouts are characterized by "exit" rather than by "voice" behavior.

Experimental Design

The scenario approach was deemed necessary as it is difficult to get an idea of what the customer thinks of a store before she has an out-of-stock experience there. Two stores were projected with distinctly different images. Pretesting assured the distinction, but it was unequivocally substantiated by the actual research. In the description of the stores, certain image elements such as location and advertising were used to assure differences between the two. For measurement purposes in the actual questionnaire, other popular dimensions (see Lundquist, 1974) such as merchandise selection, sales people, store services, etc., were used. Within a given store, randomly selected respondents were exposed to one of three possible situations: a positive one in which the particular shopper found the right size of a desired item, a negative one in which she did not find the right size, and as a control group, a situation with no particular experience.

Analysis of variance showed that prior image did not necessarily affect how a customer responded and, especially, that the actual experience per se did not significantly relate to what she decided to do about it. The fact that less than 10% changed their opinion due to the negative experience, may or may not cause retail store management any concern, but that percentage appears low, confirming Rich and Portis' conclusion that fashion store images are among the strongest (1964).

Important observations were made regarding the price level perception as part of the store image measurement. In many cases, price stood out as an image attribute that depressed the overall reliability of the measurement scale used. These observations indicate that pricing was very much a separate factor in store perception. Factor analysis, as also reported in Chapter IV, reinforced this conclusion.

Given the substance and the variation of the impact, it can be concluded that price levels confuse customers in their perceptions of a store. In the case of the actual store, where the impact of price level perception on image scale reliability was even more negative, the confusion can be attributed to a deviation in store policy on only carrying higher priced merchandise. After checking with store management, there had indeed been some instances where close-out merchandise was carried at relatively "bargain" prices.

Conclusions

Hypothesis One

With regard to hypothesis one, crosstabulation analysis as reported in Chapter IV showed that most fashion apparel shoppers tended to walk out before they switched to another item within the same store and were even less willing to wait. Referring to the actual stockout experience by the respondent, the question was asked, "What did you do when you could not find what you were looking for?" In interpreting answers to this question, buying another version ("switching") of whatever the shopper was looking for--brand, size,

style, color--is not necessarily a negative reaction for the retailer (e.g., Lusch, 1982). The literature has not reported any conclusive research findings on whether buying alternatives, as mentioned above, result in more or less money being spent by the shopper. However, when consumers decide to buy something else, we may safely assume that the monetary losses for the retailer are not as severe as when consumers leave and buy somewhere else. For the same reasons, buying something entirely different is still buying within the same store and cannot be considered a very negative result for the store either.

In the case of the hypothetical experience the same type of interpretation can be made. The alternative of "forgetting both" is considered the worst from a retailer's point of view. The less negative alternative is that a customer asks for the skirt to be held, while she looks for a matching blouse somewhere else. This is based on the premise that she had somewhat of a commitment to return, although this commitment may not be very strong. Holding the skirt and ordering the blouse is considered to be a sign of willingness to wait, which merely postpones the cash-flow until the order comes in. This, of course, is assuming that reorders are possible, which is generally not the case (Greenwood and Murphy, 1978).

Buying the skirt, conditional upon the blouse being on order, moves up some cash-flow and therefore is considered less unfavorable a reaction than the preceeding ones. Given the slight chance that backordering is possible in the industry (Greenwood and Murphy, 1978), this alternative ranks at about the same level as "buying the skirt and leaving" as a reaction. If the consumer is willing to buy the

skirt and to order the blouse, the retailer is presumed to suffer the least from the out-of-stock experience given the possible reaction by the consumer.

In any case, results showed distinctly that "exiting" was a frequently displayed behavior by a customer who would not buy the item(s) for which he/she was looking. Clearly, this behavior results in the immediate loss of the sale and thus the margin that could have been earned on the item. Further repercussions for the retailer depended on other factors that were investigated and are discussed below.

Hypothesis Two

Regarding hypothesis two, the reason why the shopper originally went to the store--to buy one or several items, or to browse--had a very significant effect on what the customer did in case of an out-of-stock situation.

Clearly, there is an element of importance to a shopper involved in deciding what to do when the out-of-stock situation is encountered. Customers looking for only one item are apparently spending more time looking for an item in one store. There search/choice criteria for that item may be clearer and they feel that there is a chance to find at least a close alternative. Those who are looking for several items may not have that time or are simply not even expecting to find all that they are looking for in one store: they might as well not spend much time on one item as they could expect to run into something similar in another store they were going to visit anyway. The shopper who is just browsing causes the retailer the least amount of concern in this case, as respondents were more likely to buy something else

"within" or were willing to wait for the item in question. If several items are sought then the customer might as well go elsewhere as she probably does not expect to be successful in finding all of the desired items in one specialty store.

Given the cross-sectional nature of this research, it was difficult to identify over time the effects on customers' store perception in these situations. With the importance of frequency of occurrence in determining what to do, the longitudinal perspective is relevant.

In conclusion, at the .05 level of significance hypothesis two was not rejected. This finding is in agreement with the literature, particularly Bellenger and Kargaonkar (1978).

Hypothesis Three

Analysis, using various methods such as cross-classification and analysis of variance, showed that only age and the presence in the family of children under 12 had a significant effect on the way shoppers responded to stockouts. The demographic variables that were included in the questionnaire were picked as they were the most frequently mentioned in the literature, starting with Martineau (1958), as possibly being influential in image related situations.

Interestingly, the "under 25" group was more willing to wait than was expected. It can be explained by the apparent importance of status to this group in buying from a high fasion store. This importance could be enhanced by the older reference groups (relatives and/or employers) who, according to the demographics analysis, made up the largest percentage of patrons of the store chain involved.

The 25-34 and 35-44 groups were more willing to shop elsewhere upon not being able to find what they were looking for. More than likely a respondent in these groups can be classified as a recreational shopper (Bellenger and Kargaonkar, 1978): whether she is with the stroller or with a friend/relative, this shopper conforms more to the "shopping around" type. Customers, buying for their children, were more than likely also looking for themselves. In this manner, they fit the group classified earlier as "shoppers for several items". Thus the results confirm those found earlier for that group: shoppers with children under 12 were much more likely than expected to buy elsewhere. The conclusion also supports the recreational shopper theory.

Hypothesis Four

Situational factors were also tested as possibly affecting stockout responses. The number of times a shopper had experienced an out-of-stock proved very important. Another factor was the extent to which the shopper was annoyed by the occurrence. These results confirmed what was intuitively expected.

Hypothesis Five

A given stockout experience, however, did not significantly affect the response to the situation. Two indicators were available to test this hypothesis. One measurement involved a direct question on the basis of an actual experience by the respondent. The second one was made possible by the experimental design element of the questionnaire which was necessitated by the need to test the effect of prior image on stockout response as referred to again in the previous section. The

scenario approach yielded answers to a question on the likelihood of returning to a hypothetical store in which a shopper had a certain experience. That this likelihood was not significantly affected by the type of experience--positive, negative or none in particular--also led to the conclusion that hypothesis five should be rejected, again with the caveat that a cross-sectional view was taken.

Hypothesis Six

With the general finding being that prior image did not affect the manner in which a customer responded to an out-of-stock situation, the following point needs to be made.

In the testing of this hypothesis, it was found that only in certain cases somewhat of a prior image effect on stockout response could be detected. One of the cases involved a difference in likelihood of returning to the store between respondents who had a positive experience under scenario A and those who had no particularly described experience in that store under the same scenario. This difference indicates the important influences that finding a desired item has on a customer's image of the store.

The other case entailed the "positive" experience under scenario A versus the "negative" one under scenario B. This differences in likelihood to return to the store as a result of the type of experience in it, can be explained given the difference in image found between the overall scenarios A and B (Figure 10). With the above difference then being a difference between extremes, a conclusion of prior image having a significant effect on the out-of-stock response, as measured in this way, has to be treated very cautiously.

Apparently positive experiences are effective in enhancing store image than negative experiences in detracting from store image (also see the conclusions on hypothesis five). It becomes almost a rationalization to shop there ("I was successful there before, so why not"), whereas going back to the store in which a stockout was experienced, can be rationalized in many ways, too (e.g., "Oh, why not, who knows they may have something; besides, it's on the way").

In any case, this research lends credibility to what has been found in the literature, that images of fashion stores are the strongest of all store images (e.g., Rich and Portis, 1964). Also, it is again concluded that fashion store images, if not the strongest, are at least rather robust with respect to stockout occurrences (hypothesis five).

Hypothesis Seven

The issue of the number of customers walking out without communicating in some way with store personnel that they had an out-of-stock experience, became apparent. If store management is to improve its merchandise selection and its chances in mitigating the impact of inadequacies in it, it would certainly help if customers express themselves. Whether the customer is annoyed or not by the experience, valuable input on customer expectations, motives and wants can be obtained if an atmosphere can be created in which she feels comfortable providing that feedback. As it turned out, a substantial number of shoppers did walk out, for various reasons, without checking with store personnel.

If a customer leaves the store without interacting with a sales person, the customer's action not only conceals the inadequate restocking and organizing of the shelves and racks, but also eliminates valuable input in assortment planning decisions. In other words, if "exit" behavior is displayed, monitoring of customer preferences, an important retailing function (e.g., Bowersox, 1978), is severely lacking.

Over and over, merchandise and sales person related factors turned up being very important, leading to the conclusion that assortment decisions have to be approached very carefully, but if mistakes are made, the sales person still has a lot of influence on how the negative experience affects the shopper and her perception of the store.

Implications

According to one of the original objectives, the attempt was made to provide greater insight in the merchandise assortment decision. After thoroughly verifying the reliability of the measures used, several important implications are evident.

Stockout Definition

The research showed clearly that the traditional way of defining a stockout is inadequate. From a retailer point of view, the literal interpretation of a stockout implies an inventory management problem. However, another form of stockout is encountered after a retailer either drops a product from the assortment or decides not to carry one to begin with for strategic reasons. In this situation, it will very likely be necessary to contend with shoppers who still ask for the unavailable item. To the customer it is still an out-of-stock

experience which, as the research findings showed, was also important when compared to how she reacts under traditional stockout conditions. As a result, we can now speak of a logistical (inventory management) stockout and a strategic stockout.

Consequently, for the retailer in the integrated merchandising decisions, depth of assortment (logistical view) is not the only important dimension of assortment. Width, or breadth, particularly in terms of different fashion items, has to be considered as well. In doing so, decisions on width either enhance or detract from the consistency of assortment, or the relationship among product lines carried. Thus, the consistency dimension has to be considered as well in the assortment decision. Consistency leads to expectations formed by the customer: a hardware store is not expected to carry living room furniture, but it might be that a shopper expects it to carry some lawn furniture. The greater the variety of items that store has carried, in the customer's own past experience or according to word-of-mouth, the greater the chance, in the consumer's mind, of the lawn furniture being carried.

In particular, one research conclusion drawn was that depth of assortment (color and size availability) was not considered as brand availability which is an element of width. However, a much greater influence on stockout responses was found in the (lack of) availability of styles which points in the direction of consistency of assortment.

In essence, the decision on which items to carry and which to drop affects the consistency of the whole assortment and, thus, it could affect the expectations of the shopper. The importance of at least studying those factors in terms of their effects on consequences

of stockouts was brought out by this research. Level of expectations showed a strong relationship with (1) customer actions taken in the case of a stockout, (2) the extent of her being annoyed, as well as (3) the likelihood of her returning to the store, with all the influence she may have on friends and relatives. Even though several factors, in the time between the visit during which the out-of-stock was experienced and a possible next visit, could mitigate the seriousness of the reactions to the retailer, this shopper's influence on other shoppers has to be considered, too. Factor analysis showed that store related variables such as location, could be among those mitigating factors. However, psychological and social issues formed an important factor also. Shopping with a companion, or at least discussions with friends or relatives on the patronage topic seemed to be strong issues in bringing these shoppers back, but when asked what a retailer could do to improve the chance of returning, the respondent placed greater importance on the sales personnel influence.

Buyer Evaluation

Traditionally, the buyer's task has been to purchase within guidelines as primarily dictated by the selling potential of the merchandise. As forecasting is a difficult task, the performance of a buyer has to be evaluated carefully. From a personal standpoint, this buyer, if he/she is going to make an error, will be least subject to negative evaluations by management if he/she errs toward the understock rather than the overstock side of the assortment balance. The inability to measure the costs of stocking out, relative to the

ability to determine costs of overstocking, is greatly responsible for this behavior.

Furthermore, it is conceivable that a buyer is regarded as successful if more often than not the quantity of merchandise bought is sold without markdowns being necessary just to move the goods. However, this same buyer's performance should, given the results of this research, be subjected to closer scrutiny if too often his/her merchandise is cleared without such markdowns. Particularly with merchandise that is determined to be closely related to the store's main mission and very sensitive from an image building point of view, a closer look should be taken. A more realistic formula could be found to more critically evaluate a buyer's performance. Perhaps, a priority scale could be developed for merchandise categories, based on store management's assortment policies, with a ratio assigned to each category as to the frequency allowed of overstock versus no overstock (where no overstock might indicate the possibility of stockouts).

Sales Personnel

Given that many people walk out without talking to sales people regarding an item not found, it is imperative that an atmosphere is created in the store to entice the consumer to communicate. The research points out that sales personnel are very influential in affecting customer reactions to possible assortment imbalances. As a result, training of these employees can be modified to include ways to determine as soon as possible the type of customer entering the store. Future research could involve a discriminant analysis to

analyze if "exit" customers differ from "voice" customers and in which characteristics.

With regard to atmosphere creation, the reasons why customers do not communicate with sales personnel regarding items not found could be explored. In this research a preliminary impression was obtained when one out of four respondents reported that they "usually do not ask such things" and many of the others indicated some dissatisfaction with the type of response to their inquiries. Surely, a major, sincere and concerted effort on the part of sales personnel in dealing with these situations would be a good start in the creation of the appropriate atmosphere. As seen above, the input that sales people can provide to a buyer as to the items understocked, is very important. Yet, when errors are made, at least the sales person can be effective in mitigating negative consequences of a stockout. Additionally, greater opportunities for customer feedback provide valuable input in the merchandise assortment decision in general.

Implications for Store Image

As fashion store images proved to be very strong and, therefore, can act as buffers to a deterioration of image resulting from negative shopping experiences, the emphasis in the literature on projecting the proper store image (see for example, Pessemier, 1980; King and Ring, 1980; Ring, 1979) becomes not only justifiable, but also very relevant. With the emphasis on retail store positioning through a clear image projection justified through this research, the importance of customer expectations as to the store's merchandise assortment and selection is underlined again.

Channel Role of the Retailer

In vendor relations it seems plausible that the more sophisticated retailer receives greater attention from the vendor. This could involve accuracy of order filling, pressure on order deadlines, as well as credit related matters. Showing greater and more accurate awareness of the impact of understocking whether caused by buyer or vendor error, certainly contributes to the impression of sophistication.

In addition, a retailer's response to inaccurately shipped orders, whether the result of vendor or carrier error, will likely be more "thought out". Deducting a percentage from the invoice, returning the shipment, or any other alternative, can be more realistically evaluated with an increased knowledge of the consequences of stockouts.

Limitations

Certain limitations have to be recognized for a realistic interpretation of the research results. As outlined before, the sample was not designed to be representative of the total population limiting the ability to make inferences beyond the population from which respondents were sampled. Yet, the implications as described above, do not suffer considerably in relevance.

Another constraint concerns the research methods used. Scenarios have been criticized before, yet the measures of reliability that were used supported the original reasons why this method was employed.

Issues related to the entire area of image measurement are certainly relevant here as well, even though the extent of the link to that area has been limited to the measurement of relevant changes in store

perceptions. However, the most relevant limitation of all seems to be the cross-sectional nature of this research. Miklas (1979) already suggested that a longitudinal approach to image measurement is definitely more relevant. Therefore, in this context, the absence of measurement over time of stockout responses and effects applies here, too. As a result, the following are suggestions for future research.

Suggestions for Future Research

In general it can be said that improvements on the limitations as mentioned are already suggestions for future measurement efforts in the area of stockouts, such as the need for a logitudinal approach to the measurement. However, there are some particular areas which require more research effort.

From a shopper's standpoint, the effect a shopper's mood has on a stockout response has not been conclusively shown. Yet it seems plausible that it plays a role not only in the response itself, but in the length of time she will remember the incident and thus the time she has to influence others. Also, her general perspective on the shopping activity can be considered important. A shopper who considers it a fun activity will not be as affected by an out-of-stock experience as a shopper who despises shopping. Should these indeed turn out to be important in the way a shopper responds to the stockout, even more importance is placed on the sales person's abilities to recognize these states of mind and to deal with them effectively. Along the same lines, the actual product category in question could be very relevant, too. The purchase of outer-, under-, or sleepwear also

affects the importance to the buyer as that influences her ability to wait or desire to shop elsewhere. These are other critical factors to realize in the merchandise assortment decision.

It is also interesting to learn the view of the retailer on the phenomenon of stockout, particularly in relation to the narrow and expanded version of the definition of such events. To learn these views also serves as an input in a broader study on the role of stockouts in channel relations. It could be hypothesized that when stockouts are frequently the result of inventory management errors, there will be an effect on the relationship with the supplier in terms of level of cooperation in advertising, meeting shipping/ordering deadlines, etc. On the other hand, if stockouts are due to strategic stockouts, suppliers may be more forced to rely on pull advertising to gain the retailer's willingness to provide exposure to the product. Furthermore, should stockouts be more often the result of supplier errors, the repercussions for those suppliers are readily apparent.

In total, however, it is certainly necessary to study the phenomenon of stockouts. By better understanding them we can not only deal with them better, but we can also begin to realize that they cannot and should not be treated as evils that cannot be completely avoided. There is a strategic role available for them in merchandise assortment planning and the relevant channel of distribution relations, not only in fashion retailing, but in any other fields where assortment decisions need to be made.

APPENDICES

APPENDIX A

DEMOGRAPHICS OF STREETS' STORE LOCATIONS

	Overall Okla Cy	Down Town	Mayfair	Midwest City	North Park	Penn Square	Reding	Rockwell Plaza	Shepard Mall	Windsor Hills	Norman Store
Households	327,200	15,000	14,300	20,000	21,100	8,000	13,800	12,500	11,600	10,000	39,100
Age (Head of household)											
Under 35	38%	17%	27%	40%	27%	41%	39%	41%	26%	54%	44%
35-49	21	30	10	25	20	4	8	32	17	21	26
50 and over	41	53	63	35	53	55	53	27	57	25	30
Education											
Some H.S. or less	22	32	11	29	10	15	46	2	30	11	14
High School Grad.	27	36	31	39	22	17	32	15	26	19	15
Vocational or Trade	6	7	6	4	10	8	1	2	6	7	7
Attended College	22	12	16	19	21	26	13	31	17	37	27
College Graduate	23	13	36	9	37	34	8	50	21	26	37
Number in Household											
One	15	13	21	17	17	21	25	2	22	9	10
Two	32	26	41	38	39	55	28	40	35	37	26
Three	20	12	18	15	19	10	21	22	19	25	23
Four	19	21	13	14	17	8	14	29	16	19	27
Five	9	16	5	10	5	6	10	5	3	5	9
Six or More	5	12	2	6	3	*	2	2	5	5	5
Presence of Children											
No Children	53	47	72	59	66	76	59	42	66	47	45
Children under 6	29	29	17	28	21	16	30	31	27	40	34
Children 6-17	30	42	18	21	21	14	19	36	18	30	35
Occupation Groups											
Bus. and Prof.	20	13	30	11	24	31	4	34	16	40	27
Sal. and Semi-Prof.	27	21	34	24	48	31	24	49	19	20	31
Skilled Workers	38	37	22	51	23	15	44	17	42	23	30
Unskilled Workers	15	29	14	14	5	23	28	*	23	17	12

	Overall Okla Cy	Down Town	Mayfair	Midwest City	North Park	Penn Square	Reding	Rockwell Plaza	Shepard Mall	Windsor Hills	Norman Store
Income											
Under $9,999	25%	51%	21%	21%	21%	32%	48%	5%	32%	9%	17%
$10,000-$14,999	17	12	21	28	11	17	20	17	23	14	11
$15,000-$19,999	15	13	16	22	14	11	12	12	6	18	11
$20,000-$29,999	23	13	19	16	21	23	15	35	21	45	24
$30,000 and Over	20	11	23	13	33	17	5	31	18	14	37
Median (in dollars)	17,666	9,803	17,500	15,227	21,905	15,454	10,500	24,571	13,912	22,000	24,583
Store Size (sq. ft.)		n.a.	10,585	12,943	14,265	10,368	16,950	15,000	12,000	n.a.	11,730

Source: The Oklahoman and Times Continuing Consumer Audit of Metro Oklahoma City.

*Less than one percent.

APPENDIX B

COVER LETTER

APPENDIX B

COVER LETTER

Actual name and
addresses will be
typed individually
using word processing.

Dear "Ms. Customer":

You will probably respond to this mailing by saying: "Another one of those lists of questions they want me to answer." And you are right, we would like your input. As a matter of fact, your input is extremely vital in allowing Streets' to offer you, a valued customer, the best assortment of fashion goods possible.

In order to improve the store's merchandise offering, we drew a sample of our customers and your name came up along with 199 others. This, however, is the only time we will know about you as your response will be kept completely confidential. We must ask you therefore not to write your name or any identifying information on the questionnaire that is not asked for directly. After filling out the questionnaire completely, just put it in the self-addressed stamped envelope and drop it in the nearest mailbox.

We sincerely appreciate the time and effort you spent to assist us. We will do our best to use the results to your benefit by making Streets' a better place to shop. If you have any questions or other input to give, please do so by writing or calling me.

Thank you very much!

Sincerely,

G. P. van Nederpelt
Assistant Professor of Marketing
Oklahoma State University
Stillwater, OK 74078

APPENDIX C

SCENARIOS A AND B

APPENDIX C

SCENARIOS (A)

A I

Fashion Unlimited is a retail apparel outlet. It attracts younger women in particular. Atmosphere in the store is created by plush carpeting, piped-in music, etc. Several young and well-dressed sales people are usually immediately available. Merchandise is neatly displayed on mannequins, chrome racks and mirrored walls. The store has approximately 15,000 square feet and is located in a large shopping mall. The mall is located in a higher income part of town. The store is the only outlet under the Fashion Unlimited name in the central Oklahoma area. Occasionally, there is a commercial on prime time television, advertising the store and its merchandise.

A II (= A I +)

While shopping at Fashion Unlimited, you have decided to buy an item you like: a beautiful skirt. Now you are looking for something to go with it and in so doing you find a blouse that matches nicely. Fortunately, you find the blouse in your size.

A III (= A I +)

While shopping at Fashion Unlimited, you have decided to buy an item you like: a beautiful skirt. Now you are looking for something to go with it and in so doing you find a blouse that would match nicely. However, after looking for awhile you cannot find your size.

SCENARIOS (B)

B I

Fashion Unlimited is a retail apparel store, where generally women with children seem to shop. Even though there are tile floors, they seem to be comfortable places at which to shop. Sales people can usually be found hanging around the check-out counter. There are few displays with merchandise hung on long racks and folded on tables. Each of the several stores with the same name in the area, has about 10,000 square feet of selling space. Some of the stores are located in closed-in malls, whereas others are in open malls and some are standing by themselves. The stores can be found in all different areas of the city. Advertising is done in the local newspaper and at least every Wednesday there is a full page ad.

B II (= B I +)

While shopping at Fashion Unlimited, you have decided to buy an item you like: a beautiful skirt. Now you are looking for something to go with it and in so doing you find a blouse that matches nicely. Fortunately, you find the blouse in your size.

B III (= B I +)

While shopping at Fashion Unlimited, you have decided to buy an item you like: a beautiful skirt. Now you are looking for something to go with it and in so doing you find a blouse that would match nicely. However, after looking for awhile you cannot find your size.

APPENDIX D

COPY OF THE QUESTIONNAIRE

APPENDIX D

COPY OF THE QUESTIONNAIRE

The first set of questions pertains to a hypothetical store. The purpose of asking you to answer these questions is for us to learn more about shopping for fashion goods in general. So for the next set of questions, it is important that you imagine yourself to be in the following situation:

Fashion Unlimited is a retail apparel outlet. It attracts younger women in particular. Atmosphere in the store is created by plush carpeting, piped-in music, etc. Several young and well-dressed sales people are usually immediately available. Merchandise is neatly displayed on mannequins, chrome racks and mirrored walls. The store has approximately 15,000 square feet and is located in a large shopping mall. The mall is located in a higher income part of town. The store is the only outlet under the Fashion Unlimited name in the central Oklahoma area. Occasionally, there is a commercial on prime time television, advertising the store and its merchandise.

1. **The following question is designed to measure your opinion of the store. An example has been provided to show how the rating is done. By placing an "X" in one of the spaces for <u>each</u> scale you can show the direction (favorable-unfavorable) and the intensity of your feelings toward the retail store. For example, suppose you feel that the store is neither "good" nor "bad", i.e. "neutral", you would indicate this by placing an "X" in the middle space:**

The retail store is:

good /_____/_____/__ X __/_____/_____/ bad

If you feel that the retail store is extremely "good", you would mark the scale:

good /__ X __/_____/_____/_____/_____/ bad

However, should you feel that the store is extremely "bad", you would mark the scale:

good /_____/_____/_____/_____/__ X __/ bad

Please, mark each of the following scales describing your opinion of Fashion Unlimited:

high fashion /_____/_____/_____/_____/_____/ low fashion (7-13)

low priced /_____/_____/_____/_____/_____/ high priced

wide assortment /_____/_____/_____/_____/_____/ narrow assortment

discourteous sales people /_____/_____/_____/_____/_____/ courteous sales people

will have what I want /_____/_____/_____/_____/_____/ will not have what I want

bad refund policy /_____/_____/_____/_____/_____/ good refund policy

good merchandise return policy /_____/_____/_____/_____/_____/ bad merchandise return policy

2. **Please, indicate in percentages how likely you are to shop at a store like this:** (14)

_____ less than 25%
_____ 26 - 50%
_____ 51 - 75%
_____ 76 - 100%

For the next set of questions it is important that you think of your favorite Streets' store. At this time the accuracy of your answers becomes even more important so that store management can become more responsive to your fashion needs. We appreciate your efforts so far and hope you will continue to give us valuable assistance for just a little bit longer.

What is the location of this store in Oklahoma City: _____ (5-6)

3. The following question is designed to measure your opinion of Streets': (7-13)

high fashion /_____/_____/_____/_____/_____/ low fashion

low priced /_____/_____/_____/_____/_____/ high priced

wide assortment /_____/_____/_____/_____/_____/ narrow assortment

discourteous sales people /_____/_____/_____/_____/_____/ courteous sales people

always has what I need /_____/_____/_____/_____/_____/ never has what I need

bad refund policy /_____/_____/_____/_____/_____/ good refund policy

good merchandise return policy /_____/_____/_____/_____/_____/ bad merchandise return policy

4. For what reason did you first shop at Streets': (14)

_____ friends recommended the store
_____ the ads made me curious
_____ was in the mall anyway when I saw the store
_____ other, please describe _____

Please, think back to the last time that you were not able to find what you were looking for in this store.

5. What <u>in particular</u> was it that you could not find? (Choose one) (15)

_____ my brand
_____ my size
_____ my style
_____ my color
_____ other, please specify _____

6. How did you feel then? (16)

_____ very annoyed
_____ somewhat annoyed
_____ only mildly annoyed
_____ not at all annoyed

7. For what reason did you initially go to the store? (17)

_____ to look specifically for the item that turned out to be unavailable
_____ to look for several items
_____ just to look around
_____ to window shop with a friend/relative
_____ other (please describe) _____

8. Did you speak to a sales person about the problem? (18)

_____ yes (if, yes, please go to question 10)
_____ no

9. What was your most important reason for not speaking to a sales person? (19)
(Choose only one)

_____ I usually do not ask such things
_____ they would only give me some poor excuse
_____ there was no one available
_____ I did not have time to ask
_____ it was not important enough to me to ask
_____ other, please describe _____

10. What did you actually do when you learned that what you wanted was unavailable? (20)
(Choose only one)

_____ bought another brand of what I was looking for
_____ bought another size of what I was looking for
_____ bought another style of what I was looking for
_____ bought another color of what I was looking for
_____ bought something entirely different
_____ left and bought what I was looking for somewhere else, but I still shop at Streets'
_____ left without buying anything and I doubt if I'll shop there again
_____ other (please describe) _____

11. How many times has it happened to you that you could not find what you were looking for in Streets': (21)

_____ never
_____ rarely
_____ occasionally
_____ frequently
_____ very frequently

12. Did your opinion of Streets' change because of that experience of not finding what you were looking for: (22)

_____ yes
_____ no
_____ no, but it will if it happens again

13. People react differently when things like this happen to them. Before you decided what to do in this situation, please indicate how important each of the following was to you: (23-30)

	very important	important	neutral	not important	not at all important
the reason why I went shopping	/	/	/	/	/
the helpfulness of the sales people	/	/	/	/	/
the number of times that this situation has occurred before	/	/	/	/	/
the way I felt at the time	/	/	/	/	/
whether I was alone or with others	/	/	/	/	/
how badly I wanted what I was looking for	/	/	/	/	/
how much time I had to shop	/	/	/	/	/

other, please describe _____

14. Suppose you leave the above store without buying. You are very annoyed, because you have had several similar experiences in this store. How important would each of the following be in bringing you back to shop there again: (31-40)

	very important	important	neutral	not important	not at all important
a special sale	/	/	/	/	/
a friend's/relative's suggestion	/	/	/	/	/
the convenient location	/	/	/	/	/
the reputation/image of the store	/	/	/	/	/
your desire to shop around anyway	/	/	/	/	/
possession of a credit card issued by that store	/	/	/	/	/
the manager contacting you personally	/	/	/	/	/
shopping with a friend/relative	/	/	/	/	/
I would be so annoyed that I would not go back	/	/	/	/	/

other _____

15. The following have been identified as possible actions a retailer could take in cases such as these. Please indicate your preference as to each one of the actions the store could take in this case: (41-47)

	very much preferred	preferred	neutral	not preferred	not at all preferred
give me a reason that makes sense to me	/	/	/	/	/
call me when the item is in	/	/	/	/	/
tell me how long it will be before another item is in	/	/	/	/	/
show me an acceptable alternative	/	/	/	/	/
tell me where I might be able to find what I want	/	/	/	/	/
check with another Streets' store	/	/	/	/	/

other, please describe _____

To allow us to process the information, please answer the following questions. Your answers will only be used for statistical purposes and complete anonymity is assured.

16. Your age is: (48)

_____ under 18
_____ 18 - 24
_____ 25 - 34
_____ 35 - 44
_____ 45 - 54
_____ 55 - 65
_____ over 65

17. Are you currently employed? (49)

_____ no
_____ part-time
_____ full time
_____ temporarily off work
_____ do not need to work

18. Your level of education is: (50)

_____ did not finish high school
_____ finished high school
_____ went to college, have not graduated
_____ received an undergraduate degree
_____ received graduate training
_____ other, please describe _____

19. In order to shop at the Streets' store where this experience happened how long does it usually take you to get there? (51)

_____ 0 - 5 minutes
_____ 6 - 10 minutes
_____ 11 - 15 minutes
_____ 16 - 20 minutes
_____ 21 - 25 minutes
_____ 26 - 30 minutes
_____ more than 30 minutes

20. How long have you lived in the Oklahoma City area? (52)

_____ less than 1 year
_____ 1 - 3 years
_____ 3 - 5 years
_____ 5 - 10 years
_____ more than 10 years

21. What is your marital status? (53)

_____ single
_____ married
_____ divorced
_____ widowed

22. How many children under twelve live at home? (54)

_____ none
_____ one
_____ 2 - 3
_____ more than 3

23. Your combined family income per year is approximately: (55)

_____ less than 10,000
_____ 10,001 - 20,000
_____ 20,001 - 30,000
_____ 30,001 - 40,000
_____ 40,001 - 50,000
_____ 50,001 - 75,000
_____ more than 75,000

THANK YOU VERY MUCH FOR YOUR COOPERATION!

APPENDIX E

DEMOGRAPHICS OF THE SAMPLE

	Overall Sample	Down Town	Mayfair	Midwest City	North Park	Penn Square	Reding	Shepard Mall	Windsor Hills	Rock-well
Age										
Under 25	6%	10%	0%	8%	0%	25%	3%	7%	6%	0%
25-34	25	35	25	17	32	17	24	28	22	50
35-44	23	24	8	21	32	17	25	17	22	25
45-54	17	17	25	17	21	8	19	10	11	0
55 and over	30	14	42	38	16	33	29	38	39	25
Current employment										
No employment	34	7	26	50	42	25	39	34	29	0
Employed	66	93	74	50	58	75	61	65	71	100
Level of education										
High school or less	33	38	42	25	32	17	40	31	28	25
College	53	44	41	71	42	75	48	48	67	75
Graduate training	15	17	17	4	26	8	12	21	6	0
Distance from store										
0-5 minutes	22	57	17	24	16	17	7	7	44	25
6-10 minutes	30	25	17	32	26	33	37	32	17	50
11-15 minutes	29	11	42	36	32	33	33	36	22	25
16-20 minutes	14	0	17	8	11	17	20	19	11	0
More than 20 minutes	6	7	8	0	16	0	3	6	6	0
Length of time in OKC										
< 10 years	17	28	8	28	33	8	4	20	22	25
> 10 years	82	71	92	72	68	92	96	81	78	75
Marital status										
Single	34	61	33	12	27	42	24	52	17	75
Married	67	39	67	88	74	58	76	48	83	25

	Overall Sample	Down Town	Mayfair	Midwest City	North Park	Penn Square	Reding	Shepard Mall	Windsor Hills	Rock-well
Children under 12										
None	70%	79%	83%	76%	63%	83%	71%	65%	56%	25%
Yes	30	21	17	24	37	17	29	36	45	75
Yearly Family Income										
Less than 10,000	4	0	17	0	5	8	3	4	0	0
10,001-30,000	46	63	33	34	31	42	49	68	33	67
30,001-50,000	36	22	41	48	26	33	39	25	50	0
More than 50,000	15	15	8	17	37	17	9	4	17	33
Number of Respondents	264	29	14	27	21	13	81	33	19	4

BIBLIOGRAPHY

BIBLIOGRAPHY

Alderson, Wroe, Market Behavior and Executive Action, Homewood, Ill., Richard D. Irwin, 1957.

Alpert, Mark I., "Unresolved Issues in Identification of Determinant Attributes," in Advances in Consumer Research, Vol. VII, Jerry C. Olson, ed., Ann Arbor, Michigan, 1980.

Ammer, Dean S., Materials Management, Homewood, Ill., Richard D. Irwin, Inc., 1974.

Andreasen, Alan R., "A Taxonomy of Consumer Satisfaction/Dissatisfaction Measures," in Conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction, H. Keith Hunt, ed., Cambridge, Mass., Marketing Science Institute, 1978.

Arnold, Stephen J., Sylvia Ma, and Douglas J. Tigert, "A Comparative Analysis of Determinant Attributes in Retail Store Selection," in Advances in Consumer Research, Vol. V, H. Keith Hunt, ed., Ann Arbor, Michigan, 1978.

Arons, Leon, "Does Television Viewing Influence Store Image and Shopping Frequency?" Journal of Retailing, Vol. 37, Fall 1961.

Ballou, Ronald H., Business Logistics Management, Englewood Cliffs, N.J., Prentice-Hall, Inc., 1973.

Bell, Quentin, On Human Finery, London, The Hogarth Press, Ltd., 1947.

Bellenger, Danny N., Wilbur W. Stanton, and Earle Steinberg, "The Congruence of Store Image and Self Image as it Relates to Store Loyalty," Journal of Retailing, Vol. 52, Spring 1976.

Bellenger, Danny N., Dan H. Robertson, Barnett A. Greenberg, "Shopping Center Patronage Motives," Journal of Retailing, Vol. 53, Summer 1977.

Bellenger, Danny N. and Pradeep K. Korgaonkar, "Profiling the Recreational Shopper," Journal of Retailing, Vol. 56, Fall 1980.

Bennion, Marcus L., Jr., "An Investigation of Wholesale Buyer Reaction to Manufacturer Customer Service Failures in the Grocery Channel," Ph.D. dissertation, Michigan State University, 1980.

Berry, Leonard L., "Determinants of Department Store Image," Journal of Retailing, Vol. 45, Fall 1969.

Bonk, Roger S., "Bank Cards: Addition or Erosion?" Stores, 5, November 1975.

Bowersox, Donald J., Logistical Management, 1st and 2nd ed., New York, MacMillan Co., 1974, 1978.

Bowersox, Donald J., Edward W. Smykay, and Bernard J. La Londe, Physical Distribution Management, New York, MacMillan Co., 1968.

Burgin, T. A., "Back Ordering in Inventory Control," Operational Research Quarterly, Vol. 21, December 1970.

"Businesses Aim for Stricter Controls as Slump Exposes Inventory Bulge," The Wall Street Journal, August 15, 1980, p. 17.

Carrekar, James, "Data Processing in Retailing," Speech given at Oklahoma State University New Technology Workshop, Stillwater, Oklahoma, February 1983.

Chang, Yu Sang, "Reorder Point Models with Non-Decreasing Stockout Costs," Journal of Industrial Engineering, Vol. 18, June 1967.

Chang, Yu Sang and Powell Niland, "A Model for Measuring Stockout Depletion Costs," Operations Research, Vol. 15, May-June 1967.

Charlton, P. and A. S. C. Ehrenberg, "An Experiment in Brand Choice," Journal of Marketing Research, Vol. 13, May 1976.

Coyle, John J. and Edward J. Bardi, The Management of Business Logistics, 2nd ed., St. Paul, Minnesota, West Publishing Co., 1980.

Dalrymple, Douglas J. and Donald L. Thompson, Retailing: An Economic View, New York, The Free Press, 1969.

Davidson, William R., Alton F. Doody, and Daniel J. Sweeney, Retailing Management, 4th ed., New York, The Ronald Press Co., 1975.

Doyle, Peter and Ian Fenwick, "How Store Image Affects Shopping Habits in Grocery Chains," Journal of Retailing, Vol. 50, Winter 1974-75.

Engel, James F., David R. Kollat, and Roger D. Blackwell, Consumer Behavior, 2nd ed., New York, Holt, Rinehart, and Winston, 1974.

Fisk, George R., "A Conceptual Model for Studying Consumer Image," Journal of Retailing, Vol. 45, Spring 1969.

Fornell, Claes, Consumer Input for Marketing Decisions: A Study of Corporate Departments for Consumer Affairs, New York, Praeger Publishing, 1976.

Frings, Gini Stephens, Fashion, from Concept to Consumer, Englewood Cliffs, N.J., Prentice-Hall, Inc., 1982.

Greenwood, Kathryn L. and Mary F. Murphy, Fashion Innovation and Marketing, Englewood Cliffs, N.J., Prentice-Hall, Inc., 1978.

Hansen, Robert A. and Terry Deutscher, "An Empirical Investigation of Attribute Importance in Retail Store Selection," Journal of Retailing, Vol. 53, Winter 1977-1978.

Harling, Edwin L., "The Theory of Merchandise Control," The Buyer's Manual, National Retail Merchants Association, 1965.

Herndon, Booton, Satisfaction Guaranteed: An Unconventional Report to Today's Consumers, New York, McGraw-Hill, 1972.

Heskett, James L., Nicholas A. Glaskowsky, and Robert M. Ive, Business Logistics, 2nd ed., New York, Ronald Press, Inc., 1973.

Hirschman, Albert O., Exit, Voice, and Loyalty--Response to Decline in Firms, Organizations and States, Cambridge, Harvard University Press, 1970.

Hirschman, Elizabeth C., Barnett Greenberg, and Dan H. Robertson, "(The) Inter-Market Reliability of Retail Image Research: An Empirical Examination," Journal of Retailing, Vol. 54, Spring 1978.

Hirschman, Elizabeth C., Barnett Greenberg, and Dan H. Robertson, "Differences in Consumer Purchase Behavior by Credit Card Payment System," Journal of Consumer Research, Vol. 6, June 1979.

Hisrich, Robert D., Ronald J. Dornoff, and Jerome B. Kernan, "Perceived Risk in Store Selection," Journal of Marketing Research, Vol. 9, November 1972.

Hollander, Stanley C., "The American Retailer--Subservient to the Public?" Journal of Retailing, Vol. 34, Fall 1958.

Ingram, Charles, Jr., Earl H. Brown, and Wendell Earle, "Out-of-Stocks in Supermarkets," Research Highlights in Food Distribution, Vol. 4, Spring 1969.

James, Don L., Bruce J. Walker and Michael J. Etzel, Retailing Today, New York, Harcourt, Brace, Jovanovich, Inc., 1972.

Johnson, James C. and Donald F. Wood, Contemporary Physical Distribution and Logistics, 2nd ed., Tulsa, Oklahoma, PennWell Publishing Co., 1982.

Kelly, R. and R. Stephenson, "The Semantic Differential: An Information Source for Designing Retail Patronage Appeals," Journal of Marketing, October 1967.

King, Charles W., "Fashion Adoption: A Rebuttal to the Trickle-Down Theory," Proceedings of the Winter Conference, American Marketing Association, New York, December 1963, pp. 108-125.

King, Charles W., "The Innovator in the Fashion Adoption Process," Proceedings of the Winter Conference, American Marketing Association, New York, December 1964, pp. 324-339.

King, Charles W. and Lawrence J. Ring, "Market Positioning Across Retail Fashion Institutions: A Comparative Analysis of Store Types," Journal of Retailing, Vol. 56, Spring 1980.

Kinnear, Thomas C. and James R. Taylor, Marketing Research: An Applied Approach, New York, McGraw-Hill, Inc., 1979.

Kotler, Philip, Marketing Management: Analysis, Planning and Control, 4th ed., Englewood Cliffs, N.J., Prentice-Hall, Inc., 1980.

Kunkel, John H. and Leonard L. Berry, "A Behavioral Conception of Retail Image," Journal of Marketing, Vol. 32, October 1968.

La Londe, Bernard J. and Douglas M. Lambert, "Inventory Carrying Costs: Significance, Components, Means, Functions," International Journal of Physical Distribution, Vol. 6, No. 1, 1976.

La Londe, Bernard J. and Paul H. Zinszer, Customer Service: Meaning and Measurement, Chicago, National Council of Physical Distribution Management, 1977.

Lambert, Douglas M., The Development of an Inventory Costing Methodology, Chicago, National Council of Physical Distribution Management, 1976.

Laver, James, The Concise History of Costume and Fashion, New York, Harry N. Abrams, Inc., 1969.

Lesser, Jack A., "The Impact of In-Store Decisions on Shopper Patronage Processes," for The Retail Patronage Theory Workshop, Robert F. Lusch and William R. Darden, eds., Lake Placid, New York, 1981.

Lessig, V. Parker, "Consumer Store Images and Store Loyalties," Journal of Marketing, Vol. 37, October 1973.

Lindquist, Jay D., "Meaning of Image," Journal of Retailing, Vol. 50. Winter 1974-1975.

Lusch, Robert F., Management of Retail Enterprises, Boston, Kent Publishing Co., 1982.

Magee, John F., Physical Distribution Systems, New York, McGraw-Hill Co., 1967.

Marcus, Burton H., "Image Variation and the Multi-Unit Retail Establishment," Journal of Retailing, Summer 1972.

Marks, Ronald B., "Operationalizing the Concept of Store Image," Journal of Retailing, Vol. 52, Fall 1976.

Martineau, Pierre, "The Personality of a Retail Store," Harvard Business Review, Vol. 36, January-February 1958.

Martineau, Pierre, "Social Classes and Spending Behavior," Journal of Marketing, Vol. 23, October 1958.

Mason, J. Barry and J. B. Wilkinson, "Supermarket Product Unavailability and the Consumer Response," in Consumer Satisfaction, Dissatisfaction and Compliant Behavior, Ralph L. Day, ed., Bloomington, Indiana University, 1977.

Mason, J. Barry and Morris L. Mayer, Modern Retailing: Theory and Practice, Dallas, Texas, Business Publications, Inc., 1978.

May, Eleanor G., "Image Evaluation of a Department Store," Marketing Science Institute, Cambridge, Mass., 1971.

May, Eleanor G., "Practical Applications of Rent Retail Image Research," Journal of Retailing, Vol. 50, Winter 1974-75.

Miklas, George, "Measuring Customer Response to Stockouts," International Journal of Physical Distribution and Materials Management, Vol. 9, No. 5, 1979.

Miller, John A., "Studying Satisfaction, Modifying Models, Eliciting Expectations, Posing Problems, and Making Meaningful Measurements," in Conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction, H. Keith Hunt, ed., Cambridge, Mass., Marketing Science Institute, 1978.

Morrell, A. J. H., ed., "Problems of Stocks and Storage," Monograph, No. 4, ICI 1967, p. 7.

Nelleman, David O., "Profit Improvement Through Inventory Management," Proceedings of the 13th Annual Conference of the National Council of Physical Distribution Management, October 1975.

Nystrom, Paul H., The Economics of Fashion, New York, The Ronald Press, 1928.

Nystrom, Paul H., Fashion Merchandising, New York, The Ronald Press, 1932.

Oliver, Richard L., "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions," Journal of Marketing Research, November 1980.

Oliver, Richard L., "Measurement and Evaluation of Satisfaction Processes in Retail Settings," Journal of Retailing, Vol. 57, Fall 1981.

Oliver, Richard L. and Gerald Linda, "Effect of Satisfaction and Its Antecedents on Consumer Preference and Intention," in Advance in Consumer Research, Kent B. Monroe, ed., Ann Arbor, Michigan, ACR, 1981.

"Out of Stock Study," Parts I, II, and III, Progressive Grocer, November and December, 1968, January 1969.

Oxenfeldt, Alfred R., "Developing a Favorable Price-Quality Image," Journal of Retailing, Vol. 50, Winter 1974-1975.

Pessemier, Edgar A., "Store Image and Positioning," Journal of Retailing, Vol. 56, Spring 1980.

Prasad, V. Kanti, "Socioeconomic Product Risk and Patronage Preferences of Retail Shoppers," Journal of Marketing, Vol. 38, July 1975.

Prasad, V. Kanti, "Store Perceptions and Multi-Store Food Shopping," The Southern Journal of Business, November 1972.

Rachman, David J., Retail Strategy and Structure, 2nd ed., Englewood Cliffs, N.J., Prentice-Hall, Inc., 1975.

Rich, Stuart U. and Bernard D. Portis, "The 'Imageries' of Department Stores," Journal of Marketing, Vol. 28, April 1964.

Ring, Lawrence, "Retail Positioning: A Multiple Discriminant Analysis Approach," Journal of Retailing, Vol. 55, Spring 1979.

Sasieni, Maurice W., "Double Queues and Impatient Customers with an Application to Inventory Theory," Operations Research, Vol. 9, November-December 1969.

Schary, Philip B. and Boris W. Becker, "The Impact of Stock-Out on Market Share: Temporal Effects," Journal of Business Logistics, Vol. 1, No. 1, 1978.

Schary, Philip B. and Martin Christopher, "The Anatomy of a Stock-Out," Journal of Retailing, Vol. 55, No. 2, Summer 1979.

Schiffman, Leon G., Joseph F. Dash, and William R. Dillon, "The Contribution of Store-Image Characteristics to Store-Type Choice," Journal of Retailing, Vol. 53, Summer 1977.

Shycon, Harvey M. and Christopher R. Sprague, "Put a Price Tag on Your Customer Service Levels," Harvard Business Review, Vol. 23, July-August 1975.

Speh, Thomas and Michael Hutt, "Consumer Reactions to Stockouts: Dimensions and Directions for Future Research," in Proceedings of Educator's Conference of the National Council of Physical Distribution Management, R. G. House, ed., 1978.

Stephenson, Kelly P., "Identifying Determinants of Retail Patronage," Journal of Marketing, July 1969.

Stern, Louis W. and Adel I. El-Ansary, Marketing Channels, Englewood Cliffs, N.J., Prentice-Hall, Inc., 1977.

Swartz, Benjamin L., "Optimal Inventory Policies in Perturbed Demand Models," Management Science, Vol. 16, April 1970.

Swartz, Benjamin L., "A New Approach to Stockout Penalties," Management Science, Vol. 12, August 1966.

Tigert, Douglas J. and Stephen J. Arnold, "Comparative Analysis of Determinants of Patronage," in Proceedings of the Retail Patronage Theory Workshop, Robert F. Lusch and William R. Darden, eds., Lake Placid, New York, 1981.

Troxell, Mary D. and Elaine Stone, Fashion Merchandising, 3rd ed., New York, McGraw-Hill Co., 1981.

Upton, Graham J. G., The Analysis of Cross-Tabulated Data, Chichester, England, Wiley and Sons, 1978.

Venner, Gary S., "Information Requirements for a Retail Inventory Control System," Retail Control, November 1979.

Walter, Clyde K., "An Empirical Analysis of Two Stockout Models," Ph.D. dissertation, Ohio State University, 1971.

Walter, Clyde K. and John R. Grabner, "Stockout Cost Models: Empirical Tests in a Retailing Situation," Journal of Marketing, Vol. 39, July 1975.

Walter, Clyde K and Bernard J. La Londe, "Development and Test of Two Stockout Cost Models," International Journal of Physical Distribution, Vol. 5, No. 3, 1975.

Wingate, John W. and Joseph S. Friedlander, The Management of Retail Buying, 2nd ed., Englewood Cliffs, N.J., Prentice-Hall, Inc., 1978.

Wingate, John W., Elmer O. Schaller and F. Leonard Miller, Retail Merchandise Management, Englewood Cliffs, N.J., Prentice-Hall, Inc., 1972.

Wingate, John W., "What's Wrong with the Planning of Stock Assortments," New York Retailer, October 1959.

Zinszer, Paul H. and Jack A. Lesser, "An Empirical Evaluation of the Role of Stockout on Shopper Patronage Processes," for American Association Educators Conference, 1980.