

RETAIL MANAGEMENT AND THE U.B.C. BOOKSTORE

by

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ABSTRACT

A research project was undertaken to thoroughly examine the underlying difficulties in the retail operation of the U.B.C. Bookstore and to resolve the question of optimal store location.

Merchandising policy was examined and analyzed on the basis of data obtained from interviews with the store's management staff.

At the same time three possible store sites were evaluated by collecting data relevant to the operation of a distance decay simulation model which was used to estimate the value of the sites in terms of total sales.

The existing site was found to be the most suitable while the problems in retail management were diagnosed as more far-reaching than simply the function of space limitations.

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INTRODUCTION

The University of British Columbia Bookstore has been the focus of criticism and comment for a number of years. Students and Faculty have repeatedly experienced frustration while the Administration has been unable to authorize managements' requests for expansion as long as the store is unable to finance the repayment of debt which would be incurred by such a move.

An almost hopeless situation has slowly developed until all parties have now reached extremely tenuous positions. Their reactions have been to implement forceful solutions to specific problems in order to remedy the overall situation.

It will be the thesis of this study to show that appropriate resolution of the Bookstore dilemma lies in the objective evaluation of the fundamental elements which constitute retail management. The following report presents the major topics contained in merchandising policy and the determinants of store location. They have been identified, evaluated and criticized thereby providing a sound basis upon which recommendations for future action may be developed.

Chapter I has been prepared to acquaint the reader with the terminology of merchandising and location theory.

Chapter II expands upon the elements of merchandising by relating the theory to existing Bookstore operations. Each factor has been identified, discussed and criticized.

Chapter III reports the methodology and results of the investigation into customer behaviour. The findings of this research provide pertinent data for the analysis of Bookstore location.

Chapter IV draws upon the information concerning consumer behaviour and discusses the construction and operation of a model to simulate consumer patronage of the Bookstore at various locations. The results are then discussed and placed in perspective.

Finally, Chapter V summarizes the results of the research and makes recommendations for corrective action.

CHAPTER I

MERCHANDISING POLICY AND LOCATION

ANALYSIS: THE THEORY

The experience of retail managers and marketing analysts when brought together can provide valuable insight for the enterprising retail operation. The concepts drawn from the students of marketing theory and set out in this chapter are considered relevant to an analysis of the Bookstore. It should be noted however, that management of a retail operation remains largely an art and the theory is of use to the manager just as the paint and brushes are of use to the painter. The success lies in the talent of the artist.

PART I - MERCHANDISING¹

A. Store Layout

The objective of store layout is to optimize the relationships between customers, merchandise and employees. That is, to arrange these relationships in such a way that the maximum productivity from customer travel past merchandise at the least expenditure of employee effort will attain maximum sales volume.

¹For a more explicit discussion of Merchandising Theory, the reader is referred to Retailing: Concepts and Decisions, by R.E. Gist, John Wiley and Sons, New York, 1968, 521p.

1. Standards of space utilization

Layout is of primary importance during store renovations or initial construction. Basically it concerns itself with the problem of the size of merchandise zones and their relationship or proximity to one another.

The most realistic basis of resolution lies in the identification of the primary role of the store and the comparison of average sales volume per merchandise item per square foot to the overall area of selling space measured in square feet. A further point of reference, of secondary importance, is to consider the selling area by the cubic foot. In this manner the significance of merchandise volume and display can be incorporated into the consideration of space utilization.

Whatever standards are determined, they are only practical insofar as they reflect the store's unique experience. Such norms, for instance, may be influenced considerably by customer reaction to seasons.

2. Layout patterns

Effecting an appropriate layout of merchandise zones and aisles can serve to enhance sales. Consider those items which draw or pull customers to a store. In a bookstore it is the books; in a drugstore, the drugs, and so on. The departments handling these "pull" items can be considered to have

generative powers and their positioning can facilitate the movement of customers through other departments which are located enroute to the generative department.

This arrangement provides for impulse spending by the customer and causes a higher turnover of merchandise relative to space requirements.

A network of aisles must also be planned to accommodate traffic flow in proportion to customer volume. This may vary in accordance with seasonal influences. Essentially such a network should encourage traffic flow into all departments while enroute to merchandise with strong generative properties.

Finally, layout should maximize the generic similarity between products--that is, textbooks should be grouped with reference books and pocket books with magazines. This type of arrangement may tend to induce spending which is complimentary in nature as well as providing a valuable service to customer convenience.

3. Motion Study

The use of motion study techniques can also aid considerably in the resolution of a store layout problem. The measurement of traffic and traffic patterns assist in the identification of essential activities and suggest suitable

relocation. At the same time this data can help eliminate unnecessary elements and further enhance a more structured and generalized understanding of practical combinations of activities.

B. Merchandise Assortment Decisions

1. Market segmentation and merchandise assortment

Market segmentation refers to the extent to which the retail store constructs its appeal appropriately for the consumer through its assortment of merchandise. Such segmentation may be apparent from geographic factors--consider clothing stores in Canada versus Hawaii--or this aspect may be even more apparent within the general market for one class of goods. More explicitly, market segmentation highlights the differences in merchandise assortments in various retail outlets which, in effect, cater to different socio-economic sectors of society.

Having some appreciation for the relevance of market segmentation, concern must focus on those characteristics of merchandise which can be altered to achieve the desired effect. First, the number of brands and styles or the "depth" of a particular line of merchandise must be determined. At the Bookstore there is quite probably a multitude of brands of pens and pencils and an even greater multitude of styles of slide rules available; consequently discriminate purchasing is a necessity to prevent chaos.

The second aspect which provides for flexibility in merchandise assortment is the concept of "width." Width refers to the number of generic classes of goods available; that is, the extent to which the Bookstore is prepared to include additional items such as leisure reading and listening merchandise.

Third, flexibility is available through the characteristic of merchandise consistency--the extent to which the difference products are related or unrelated in use.

In fact, then, there exists a set on a continuum composed of the three alterable characteristics described above and therefore the merchandise assortment may be viewed as being shallow or deep, wide or narrow, consistent or inconsistent, or, in other words, some ideal combination of these factors which provides an appropriate mix for the specific market segment.

The notion of "bazaars" or "bargain specials" on a daily or weekly basis is one aspect of the assortment dilemma which attempts to resolve the needs of a highly diversified market while minimizing the aspect of product consistency.

C. Buying Decisions

Within this section the activity of utilizing proper procedures will be examined as it relates to the basic types of merchandise--staples and fashions.

The significance of sound buying procedures lies in the financial aspects of the store. Adequate control and investment in inventories should be achieved by this function.

1. Merchandise buying procedures

To begin with the merchandise may be envisioned as ranging along a continuum from highly staple items to highly fashion items. By definition, staple items are considered to be necessities, or items for which customers have little concern for style. They are purchased frequently and customers expect to find them in any store catering to specific needs, such as pencils in a stationery store, whereas fashion items reflect considerable style distinctiveness and may contribute to the customer's image of the store to a greater degree than staple items.

Each item on this continuum exhibits a characteristic sales pattern which may or may not be seasonal, and which may be fast or slow moving.

Diagrammatically then, one envisions a complex, three dimensional framework composed of staple or fashion items which sell fast or slow, with or without seasonal influences. It is to this framework that buying routines must be designed.

As is the case in all types of buying decisions, the determination of an economic order quantity (EOQ) is the first

step and can remain relatively standard once it is established. Essentially EOQ attempts to minimize the costs of acquiring, handling and storing of the items. In other words, it is set from the examination of procurement costs: buying, invoice handling, receiving, paying and administration, and carrying costs: loss of interest on inventory, storage and risk of inventory devaluation.

2. Buying Staples

Staple merchandise without seasonal influence allows for fairly standard and automatic procedures. Once the EOQ has been established, the store need only determine at what point re-order should take place. The re-order point can be set quite accurately from knowledge of the rate of sales for the item and the average length of time required for the supplier to fill the order. Insurance by adding a "cushion" to absorb instances where actual demand may exceed average demand or when supplier delivery times may become upset, can assist in maintaining saleable stock on the shelves while maintaining an economically sound composition of inventories.

The use of automatic procedures allows for a symmetrical ordering pattern; however, the pattern becomes quite asymmetrical when adjusted to staple items which are influenced by seasons.

In cases such as this, ordering is altered in both the optimum size of order (EOQ) or time span of re-ordering. The same procedure as described above is followed only written into the procedure are considerations which govern the order based on the time of year where various other optimum EOQ and re-order points have been determined.

3. Buying Fashions

The customer preferences which are largely dependent on the style distinctiveness of the merchandise make buying procedures considerably more cautious than those for staples. Most certainly overbuying leads to inventory that will never be sold; underbuying can cause situations which cannot be rectified and bad timing means a permanent loss of sales opportunities.

Furthermore, the buyer must assess thoroughly the characteristics of classification, style designation, price, line, size and colour. These factors coupled with the caution required to avoid inventory disruption makes fashion buying much more of an art than that required for staple purchases.

Scientific analysis has provided some tools which identify and describe the phenomenon of fashion cycles. One type of cycle seems to exist whereby it is accepted, then declines, and returns to acceptance again. In this case the

cycle is quite dependable and is of substantial value because of its predictive potential. The other main cycle simply finds considerable acceptance and then declines completely never to return. Such a fashion cycle is often referred to as a fad and is of relatively short duration, usually one season, while the full fashion cycle extends over a longer period of time and may be many years between peaks.

Textbook purchases by consumers are in the fashion category. They are in a highly acceptable position when prescribed by professors, but they decline completely when the instructors' preferences change.

It is usually more apparent which cycle actually applies to each fashion item and consequently a slight decline in the rate of sales can usually provide reasonable notice to the store of a change in strategy.

D. Store Organization Decisions

The resolution of the complex problems of having the right merchandise in the right place at the right time cannot be achieved without considering the human element in a retail operation.

The organization of the people factor is the single most important device by which the store implements its strategy and tactics to service its customers in an economic manner. Literature in this area is extremely broad and exhaustive.

Problems that people create for the manager are similarly broad and exhaustive as well as being exceedingly complex and frustrating.

The ramifications of managing people cannot begin to be explored fruitfully here but rather it is strongly suggested that the matter be underscored and noted for future study. What does bear mentioning is the fact that many of the organization's problems may have their origin in operational difficulties, particularly those operations which have strong growth patterns. Thus it seems quite necessary to carefully examine and utilize personnel in a manner which will meet the organization's objectives most effectively.

1. Requirements of Retail Organizations

To meet the fundamental purpose of a retail store, merchandise must be both available and presentable in order to serve the needs of the consumer. Thus the primary objective is to be sensitive to customer need and to make retail decisions accordingly. Secondly the store's organization must be flexible since it is rare that demand remains constant.

There is no straightforward route by which a sensitive and flexible organization may be built. The most realistic start lies in the preparation of written store policy and the designation of supervisory positions and responsibilities as well as subordinate positions and responsibilities.

2. Functional Organization in Retailing

Growth in size requires changes in the existing structural requirements of the store. Most notably changes become apparent in the areas of previous specialization and the overall division of labour.

In the formative stages of development the store requires two basic functions to be performed--that of store operation or matters of maintenance, supplies, personnel and bookkeeping; and that of merchandising or deciding what to buy and how it will be sold.

The first change that becomes necessary is for the addition of financial control. This function incorporates the accounting and budgeting needs of the store. The next change to occur would be the addition of a sales promotion function which would take place once the store reached a fairly large size. One other functional change may become necessary which would subdivide the merchandising function into buying and selling functions.

This pattern of development does not purport to be the only manner in which functional structure should evolve, it is rather a reasonably logical format to consider within the framework of the resolution of organizational difficulties.

E. Retail Promotion Decisions

Retail promotion activities are directed to achieve communication between seller and buyer and to meet competitive tactics from other retailers.

There are three main aspects of promotion to be mastered in order to foster effective communications. The first aspect is that of personal selling or customer contact. In the context of promotion, attributes of service provide for the establishment of store rapport which can quickly be communicated from consumer to prospective consumer throughout the trading area.

The second aspect of promotion is advertising. By definition this form of promotion suggests a cash outlay and identifies the retailer. It is probably the most widely used method of promotion and will be discussed further in this section.

The final relevant aspect is that of publicity which utilizes the same media of communication employed by advertising; however, its message is to publicize features of the store such as its location, name, etc. It is usually impersonal and makes no suggestion of cash outlay.

1. Character of Retail Promotion

Promotional efforts are able to make use of both the printed medium and the broadcast medium or some combination of both.

The printed medium has two basic applications; through regular publications such as magazines and newspapers or a more direct method of mailing specially printed material to prospective consumers. The latter method, although often quite costly, can focus more directly on specific markets and its effectiveness may more than offset its cost.

2. Amount and Timing of Advertisements

Advertising expenditures vary from store to store. The most realistic approach to this form of expenditure is to set some limit such as a fixed percentage of gross sales and adjust it to the level which provides the desired level of customer response.

Appropriate planning of each department helps generate the timing of the organization's promotional objectives. Furthermore, opportunities should be taken advantage of; for instance, a large scale national publicity programme offers the prime opportunity to advertise the similar article available at the retailer's operation.

F. Retail Pricing Decisions

For the retailer pricing decisions mean minimizing capital investment or acquisition costs while maintaining quality and ensuring a selling price which will be sufficient to cover selling expenses and provide for a reasonable rate of return on investment.

Acquisition costs is the term applied to the supplier's price, the transportation charges and the receiving expenses associated with obtaining the merchandise. Selling expenses refer to the remainder of charges encountered while arranging for the sale of the items and stock turnover is the ratio of merchandise movement through time to net sales. Return on investment may be considered as profit divided by investment.

The following discussion delves into methods and problems of retail pricing. It is first necessary to be acquainted with the concepts as described below.

To ensure that the selling price will cover expenses and profit objectives a markup which may be defined as a percentage of the acquisition cost or a percentage of the selling price, is applied. This markup is often referred to as the gross margin and is determined on "before tax" calculations. In retailing the markup usually refers to percentage of selling cost. A 30 percent markup on a \$10.00 book means that the book costs \$7.00 and the retailer has a \$3.00 margin out of which he has to pay for all his selling expenses and make a profit.

1. Pricing Practices and Policies

Each of the following basic techniques in pricing practices and policies must, by necessity, be tempered to reflect the positive results of marketing research.

Over time research has given strong support to the fundamental pricing rule: "...that, for profit maximization, retail markups should vary inversely with the price elasticity of demand."² The following quotation provides the experienced insight into the results of operation of stores which either adhere to this rule or ignore it:

High profit stores were competitive on readily identifiable items with high turnover rates...and took higher margins on less important merchandise. This produced relatively high average prices but at the same time gave the appearance of competitiveness. Stores with lower profits tended to be high-priced on items in heavy demand and lower on less visible merchandise.³

The first and most common technique available to assist the retailer is to apply a uniform percentage or gross margin to the acquisition cost or the proposed selling price. This method is relatively simple to use and ensures a contribution to the target profit total from each item sold. However, it tends to restrict flexibility in pricing and consequently reduces the number of favourable marketing strategies.

The second major method of setting prices is the dollar margin approach. This method does not facilitate an equitable contribution to profits since actual gross margins would vary from item to item. The rationale behind this method is to

²D.J. Dalrymple and D.L. Thompson, Retailing: An Economic View, The Free Press, New York, 1969, p.193.

³Ibid., p.193.

introduce more flexibility into the store's pricing strategy and it relies on a high turnover of stock to meet profit expectations.

The dollar margin approach facilitates the setting of leader pricing strategies which draw traffic to the store. Leader prices are usually set at, or slightly above, the acquisition cost price, and are suitably applied to indicate recognized values for the consumers. Another common variation of this strategy is that of the loss leader pricing which deliberately sets prices below the acquisition cost.

To some extent the above two pricing methods can be affected by manufacturers' insistence on maintained prices. Although collusion is not sanctioned by law, manufacturers may endeavour to restrict supply to retailers whose pricing practices may destroy the manufacturers' quality image. As a result certain retail prices may be completely inflexible due to the tacit agreements made between the various parties connected through the distribution channel.

One other form of manufacturer intervention is through the use of "suggested" prices. To some extent this technique provides useful assistance to the retailer in his own price setting and clearly leaves him the opportunity to operate in accordance with market pressures. This method is apparent in a majority of retail prices today.

Psychological pricing methods intended to distort the consumer's perception of actual prices are frequent in many of today's marketing tactics. The most common forms are the taking of markdowns, usually made in one step, and the setting of prices ending in odd numbers or just below the next highest dollar. Although many of these forms cannot be demonstrated scientifically they are nevertheless in extensive use and bear close scrutiny when establishing pricing policy.

One final feature of pricing practice which is widely used is that of price lining. This practice attempts to minimize accounting frustrations and customer ambiguity by grouping items of different styles from different suppliers into distinct price categories. By this practice a retailer may have low, medium and high priced lines of merchandise.

Not all pricing practices are straightforward and simplistic. As mentioned in this discussion some techniques cause inflexibility or retard equal contributions to profits. Manufacturers' influence may restrict ease of movement and unfairly govern the direction of prices. There remains the problem of "conversion"--the procedure by which the selling price is converted from the acquisition cost. The manner by which this procedure is accomplished is subject to error and requires careful instruction and supervision of personnel.

2. Structural Dimensions of Price

The timing and convenience aspects of a price are the components which constitute the structural dimensions. This dimension has ramifications for both the retailer and consumer.

The structure quoted to the retailer may contain any number or combination of discounts designed to achieve certain objectives on the part of the supplier or manufacturer. The most common type of discount is the "cash discount" which acts as an incentive to pay promptly. The second form of discount is the "quantity discount" which is intended to encourage larger orders. Examination of quantity discounts may prove beneficial if unit costs can be reduced and transportation economies obtained. Quantity discounts may, however, only serve to increase the retailer's inventory. It is necessary to have procedures which allow for the analysis of the effects of such discounts.

The third discount form is the "promotional discount." This form of manufacturer support acts as compensation for promotional efforts by the retailer. The final standard discount is known as the "trade position discount" and is often offered when the retailer provides certain wholesaling services for the manufacturer.

Another aspect of structure which is significant to the retailer is the terms of shipping charges. Not only which

party is to pay the transportation costs but also which party is willing to handle the claims for damages, are factors which can be the source of considerable expense and the expenditure of extra time and effort. This dimension is frequently subject to heated negotiation, but generally is absorbed by the retailer.

For the consumer the structural dimensions quoted are often the final obstacle to be resolved before the decision to buy an item is made. To a great extent this source of frustration has been resolved through the use of retail credit.

Retail credit generally involves some degree of risk for the retailer due to bad debts, but experience has shown a number of useful benefits. In the first place the credit customer becomes more tied to a particular store. Furthermore, he is often less conscious of slight price differences and is even more susceptible to making impulse purchases.

The popularity of credit cards is a continually increasing phenomenon in the North American culture and its acceptance is due to shopping convenience and an increasing emphasis on a time preference as a result of impatience.

G. Management of Retail Services

1. Nature of Retail Services

There are three basic types of service that may be given to the final consumer. The first is known as "rented goods"

service which provides the consumer the use of an item but not the title of ownership. Examples of this type of service would include organizations providing items of furniture, television sets, or tools for rent for a pre-arranged period of time.

The second form of service is known as "owned goods" services. In this case the user owns the item and services are rendered generally to maintain the item. All forms of repair shops--automobile, television, etc.--are examples of this type of service.

The third basic type is that of "nongoods" services. This form, by definition, does not alter in any way, the physical nature of the products and is by far the most important area of service for the retail operation concerned explicitly with the distribution of merchandise to the consumer. Examples of this type of service include personal selling, credit, trade-in policies, mail and telephone orders, customer parking, etc.

2. The Role of Nongoods Services

The tactful application of certain nongoods services can become an effective means to eliminate or control competitors. However, it cannot become the excuse for unacceptable markups or it defeats its own purpose.

There exists as well, other justification for the use of nongoods services such as the extent to which they create lasting benefits in terms of goodwill or the opportunity for

creative distinctiveness which may enhance the store's outward image. The degree of market sensitivity to certain services may be extremely high and therefore become necessary for effective store operation. There may be services which are necessary complements for particular purchases such as the delivery of durable goods (refrigerators, stoves, etc.).

3. Personal Selling

Personal selling is an extremely controversial form of service both from the standpoint of the customer and the retailer.

For the retailer a personal selling service means a qualified and well trained staff. If they are too well trained then they may tend to move to more rewarding levels of sales and the retailer faces an expensive turnover and training problem.

What is desired is the achievement of an optimum mix of service to customer needs. In some retail outlets the level of service may be of a high order such as required in the purchase of durable products. In other organizations it may be almost entirely nonexistent, i.e., stores providing necessity items such as groceries.

Personal selling services which are misplaced or, in other words, inappropriate to the store's level (high class, low

class) impose the feeling of an obligation to buy on the part of the customer and may prove to be a negative device rather than a positive factor. Similarly, a self-service approach may be completely discouraging in stores where customers expect and are willing to pay for service and in stores merchandising technically complex products.

PART II - LOCATION⁴

Part I of this chapter was introduced by the discussion on store layout. The two remaining characteristics of retail spatial competition are the trading area and the store site within that area.

The question of location has historically been determined by the developer or retailers' hunch, but with the development of the study of marketing geography reliable tools have been created which help generate data relevant to practical decisions. The procedures designed have gained considerable acceptance by progressive retailers and are now used as a matter of course.

A. Importance of Retail Location

Observation of various retail locations over time quickly indicates the changes which take place within the

⁴A detailed discussion is available in Geography of Market Centers and Retail Distribution, by Brian J. L. Berry, Prentice-Hall Inc., Englewood Cliffs, N.J., 1967, 139pp.

store's market area. In a macroanalysis the normal trading area is in a constant state of flux as cities become more urbanized, traffic routes change and major building developments convert residential family dwellings into high rise apartment blocks. In effect this constant flux is a result of various socioeconomic, technical and cultural factors which continually interact to set the demand preferences of the prospective consumers.

The magnitude of these factors is far beyond the control of the private entrepreneur, consequently the onus is on the retailer to keep abreast of the changes. To do this, frequent analyses must be made of the composition and delineation of the trading area. The results of such study must be incorporated into the store's policies and plans.

1. Benefits from Trading Area Delineation

Initially, any analysis of this type should have as its objective the estimate of annual sales. This is an extremely important statistic for the planning and budgeting of future operations. Secondly, such studies can be designed to provide valuable data relating to consumer sub-groups and their preferences and demand trends. This information becomes an integral part of the design of a proper product and promotion mix. Finally, the analysis should provide insight into the existence of additional opportunities which require cultivation or,

conversely, the lack of such opportunities and the need to consider relocation.

B. Determination of the Trading Area

1. The Market Area for a Good

The underlying concepts essential to the analysis of a trading area are contained in basic economic theory. The following discussion employs the classical concepts involved in order to give the reader a fundamental acquaintance with the theory and to appreciate the significance of assumptions made later in its application to the analysis of the U.B.C. Bookstore.

In a given market area of uniform population density, there will exist certain relationships between the quantity demanded of a given product and the price at which it is offered. Variations in the price produce variations in the quantity demanded and the charting of these relationships show a set of loci which, when connected, form a downward-sloping curve known as the demand curve for the particular product under study. In essence the curve demonstrates that as the price for an item increases the quantity demanded will decrease and conversely, as the price decreases, the quantity demanded will increase.

However, within the market area there exists another factor which alters the fundamental relationship described above.

This factor suggests that there is a cost to the consumer for his time and travel to the store which must be added to the price requested for the product desired. Consequently, this relationship suggests that at a given price, the quantity demanded will decrease as the distance from the store increases, since the actual price is higher to the more distant customers. Hence the relationship between quantity demanded and distance may now be charted to show a cone shaped demand function. Variations in the basic store price for the item now result in a variety of spatial demand cones of varying heights and distances and again the pattern they create can be charted to show an aggregate demand curve for the product.

None of the relationships discussed thus far have been able to suggest the optimum price for the particular product. Once again classical theory provides the answer through the consideration of the retailer's costs. Briefly described, the theory suggests that the retailer must incur the costs of purchasing the item from the wholesaler or manufacturer, as well as the administrative and handling expenses associated with it. Part I described these costs as the acquisition costs and selling expenses.

As the quantity of items sold increases the retailer enjoys a per unit reduction in costs due to economies of scale which are brought about by better utilization of the same expenses--particularly the selling expenses. Consequently

this relationship when charted over the long-run shows a cost curve which downward-sloping to a certain point and then becomes upward-sloping as diseconomies due to factors such as space and personnel constraints set in.

When the long-run average cost curve for the retailer is plotted against the aggregate demand curve determined for the market area, the intersection of the two curves indicates the optimum price at which the product should be offered for sale since at any other price there would be unmet demands or an excess of supplies.

A similar procedure can then be carried out with each item of merchandise offered for sale by the retailer and in this manner the market area may be delineated since the optimum cone size for each item will differ in radius.

2. Mechanics of Application

The classical theory very nicely solves the problem of determining the trading area and the actual store site; however, its assumptions are based upon a perfectly uniform plain populated in a perfectly even density with each individual acting in a perfectly rational and predictable manner with complete and instant product information. This is not the case in real life and the process of implementing the classical procedure becomes impossible. Nevertheless, its basic concepts are quite valid and with interpretation they become a useful tool in the analysis of retail spatial characteristics.

The normal procedure for the analyst would be to spend his initial period of examination in "sizing-up" the general trading area. The purpose of this endeavour is to locate the various possible sites for a store and to relate these sites to potential buyers. Methods are available to project sales from buyers to sites at various locations. The result of these procedures provides information on the drawing power of the store and the degree of market penetration the store has in each area. Hence, one can then provide an estimate of sales potential for the retail operation.

In effect this procedure delineates the trading area for the store. By transforming the findings of the analysis into graphic representation, an isoline map of the trading area can be plotted to indicate how distance affects total store sales and how distance will also affect the market share of each area.

Summary and Conclusions

This chapter has been concerned with the theoretical concepts relevant to retail management. The extent to which the multitude of factors suggested are identified and dealt with by today's managers constitutes the level of efficient and effective store operation.

The subjects of merchandising and location analysis have been presented separately for the purposes of future

discussion; however, retail management is obliged to view the two features as one. In everyday operations the constantly changing variables of these topics are intertwined in a complex fashion with changes in one component having repercussions throughout the organization.

It should be noted that retail management is more than sales. It is the essential component of survival and growth.

Logical analysis coupled with practical decision rules offers the modern day manager the opportunity to ensure the future.

CHAPTER II

MERCHANDISING ACTIVITIES AT THE U.B.C. BOOKSTORE

The purpose of this chapter is to describe the existing operations of the Bookstore on the U.B.C. campus and compare the various activities to ideal store management suggested by the theory in Chapter I.

The information presented here is from a series of interviews with the Bookstore's management team as well as the author's observations of store operations.

A. An Overview

The Bookstore operates under the auspices of the University of British Columbia Administration Branch as an Ancilliary Service. Its purpose and objective is to provide a service to the 20,000 students and 10,000 faculty and staff on the campus through the procurement and distribution of merchandise pertinent to their specialized needs for books and supplies.

Store operations after rebates yielded \$2,133,167 in sales for the 1969-70 fiscal year. This sales total resulted from merchandising activities which include an eight month academic year and a six week academic summer session for students and a twelve month operating year for the administration services and the faculty.

The irregularity of academic and administration demands on the store's services are cyclic. Peaks of various magnitude occur for short periods throughout the year as students, faculty and administrative departments present their requests for particular merchandise.

Students descend on campus in September requiring texts and supplies for the winter session. To meet the demands of this sales peak, the Armouries is used to sell textbooks. In 1970-71, \$640,722 was realized from textbook sales during the three week Armoury sale period. This total represents 43.8 percent of the total sales volume from all book sales or 30.5 percent of total sales for the year.

All other sales are handled from the store itself. There are two minor peaks in January and July. Demands for stationery and supplies also tend to correspond with the textbook peaks although they are usually less pronounced and extend over longer time intervals.

B. Store Layout

Diagram I is a schematic representation of the 11,400 square foot main floor of the store. Customers enter through the front doors behind the cashiers (1) and proceed through a turnstyle entrance (2) after leaving their personal books and notes outside the main selling area.

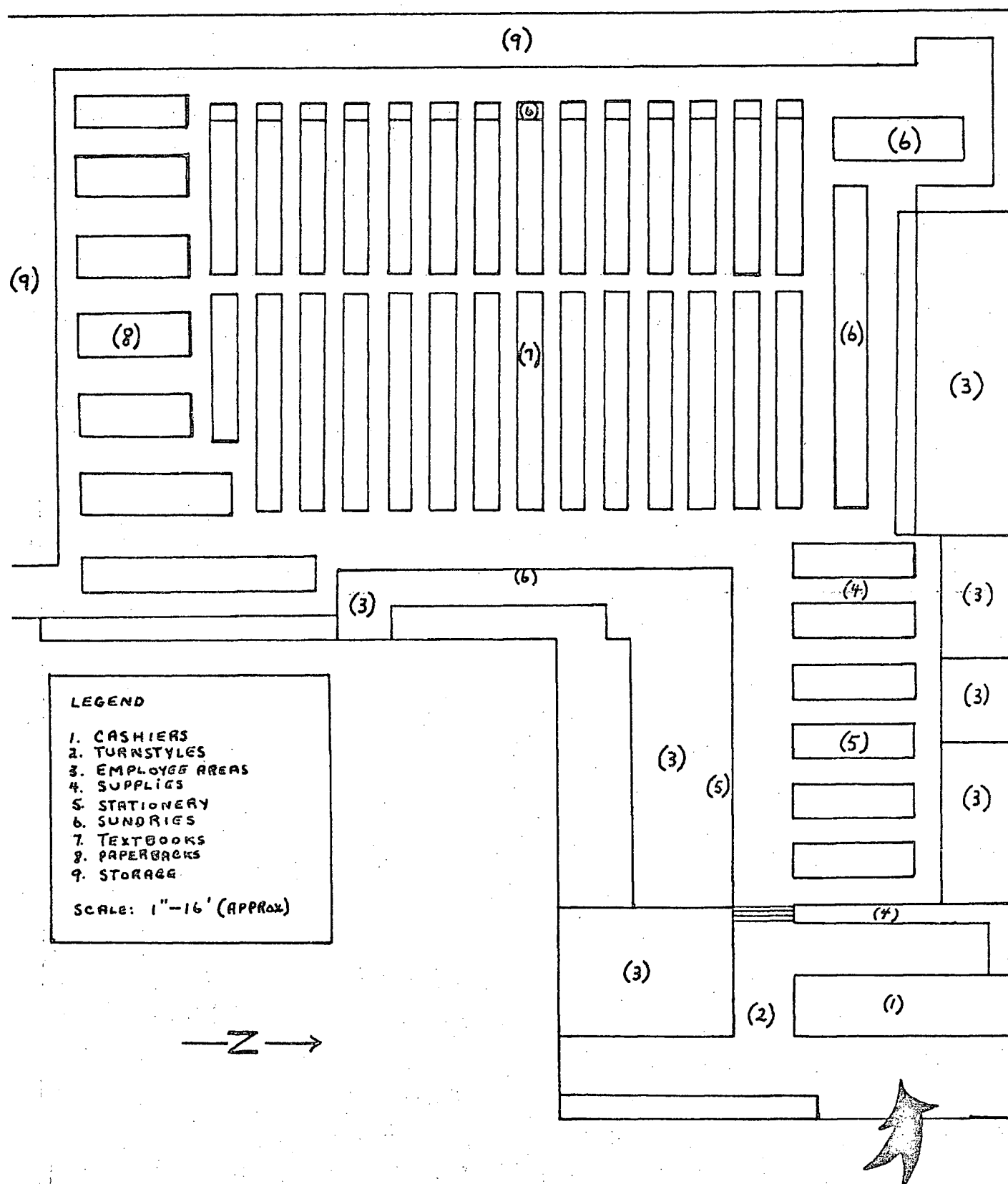


DIAGRAM 1
BOOKSTORE LAYOUT: SCHEMATIC

Adjacent to the turnstyle is a large Employee area (3) which serves to handle all textbook inquiries, orders and administration of textbook sales. On the other side of the store are the cashiers and opposite them is a wall displaying supplies (4).

The customer then moves up the main aisle, which has a four step rise, to the major merchandising area. On his left is another Employee area (3) which handles all stationery, supplies and sundry inquiries, orders and the administration of sales in these categories. In particular this area serves Engineering students who require additional assistance in their purchases of specialty paper and supplies.

Opposite the "Engineering counter" is the Stationery merchandising area (5) and behind that the Employee area (3) which includes the Accounting Office, the Assistant Manager and Manager's offices and another Clerical office. This bank of offices extends along the whole north side of the building past the Stationery area into another Supplies area (4) and a Sundry area (6).

This Sundry area is serviced by a second aisle while the main aisle turns to the left past the Engineering counter to another counter servicing another Sundry area (6). Branching to the right of the main aisle are a set of secondary aisles which allow the customer into the Textbook area (7). This is

the largest single department in the store and occupies the main area of selling space.

At the end of the main aisle is another Employee area which administers the paperback sales, the last main sales department (8) in the store, located adjacent to the Textbook area.

The outside wall of the Textbook and Paperback area allows for perimeter storage of books (9) and the display of special reference books.

This description of the store layout provides the image of the store which has generally prevailed for a number of years. Excluding small adjustments, the layout has been rather staid.

It seems reasonable to describe the Textbook area as a generative department for the store. If this is the case then customers are "pulled" past Supplies and Stationery areas, but not necessarily the Sundry areas. Sundry areas characteristically have higher turnover, higher profit margins and are purchased more on impulse than are Stationery and Supplies which are more of a staple requirement and therefore sensitive to price.

The Engineering counter is another example of a generator department in the store. Since customers must report to this counter for their specialized preferences it can easily

be located anywhere in the store without affecting its sales. In its present location it requires a large amount of prime selling space which could be converted to more profitable sales merchandise such as the impulse goods mentioned above.

The present store layout does not seem to give recognition to consumer buying patterns that have been shown to exist. Impulse items, for instance, must be seen to be purchased. Records--introduced this year--pocket novels and posters, all typical impulse items, are presently located at the back of the store. Since their quantity and the selection available does not rank them as generators of traffic, they are inaccessible to the average customer. Similarly sweat-shirts and student "type" clothing--also impulse items--are inaccessibly located behind a counter; hence, their sales are dependent upon a personal selling service.

Floor space utilization comparisons have been shown to highlight the relative value of departmental relationships. Although such calculations are not now presently made, the following analysis indicates how additional insight may be gained and effective layout decisions made.

Diagram I represents the allocation of the 11,400 square feet of the main floor. In the 1968-69 operating year this space provided sales of approximately \$1,297,800 or \$113.84 per square foot after deductions for the Armouries sale of textbooks (\$640,000) and Departmental Supplies (\$220,000).

The actual selling space after the deduction of the Employee areas and Storage space is 6,475 square feet. Of this space 4,825 square feet is provided for textbook merchandise which yielded \$885,250 in sales or \$183.47 per square foot. The remaining 2,650 square feet allocated to Stationery, Supplies and Sundries provided sales of \$412,600 or \$155.69 per square foot.

When storage space is included in the calculations, the relationship is significantly altered. Stationery, Supplies and Sundries now provide \$632,600 in sales from 4,900 square feet of space of \$129.10 per square foot while Textbooks require 11,375 square feet of floor space to sell \$885,250 or \$77.82 per square foot. The overall store's production becomes \$70.92 per square foot on \$1,517,800 in sales.

This type of assessment enables closer scrutiny of floor space utilization; however, these calculations are based on a yearly analysis causing the peaks and troughs of normal operations to be levelled. A more appropriate basis provides insight which justifies the expansion and contraction in departments commensurate with their varying contributions to sales.

Table I and Chart I describe this monthly analysis for the period from April 1970 to February 1971. The magnitude of the September-October peak dwarfs the peaks of July and

TABLE I
MONTHLY FLOOR SPACE UTILIZATION IN SALES
PER SQUARE FOOT
(APRIL - FEBRUARY 1970-71)

Month	Category	Actual Sales \$	Net Monthly Sales Per Square Foot \$	Gross Monthly Sales Per Square Foot \$
Apr.	Texts	26,797	5.55	2.35
	Non-Texts	14,912	5.63	
	Departments	769		3.20
May	Texts	29,755	6.17	2.62
	Non-Texts	9,271	3.54	
	Departments	3,114		2.54
June	Texts	25,253	5.23	2.22
	Non-Texts	14,384	5.42	
	Departments	13,754		5.74
July	Texts	70,914	14.70	6.23
	Non-Texts	22,363	8.44	
	Departments	8,138		6.22
Aug.	Texts	38,629	8.00	3.39
	Non-Texts	27,477	10.37	
	Departments	23,181		10.34
Sept.	Texts	752,562	34.48*	26.53
	Non-Texts	104,083	39.28	
	Departments	15,181		22.29
Oct.	Texts	527,700	109.36	46.48
	Non-Texts	49,915	18.79	
	Departments	4,825		11.17
Nov.	Texts	91,119	18.88	8.01
	Non-Texts	31,146	11.75	
	Departments	9,956		8.38

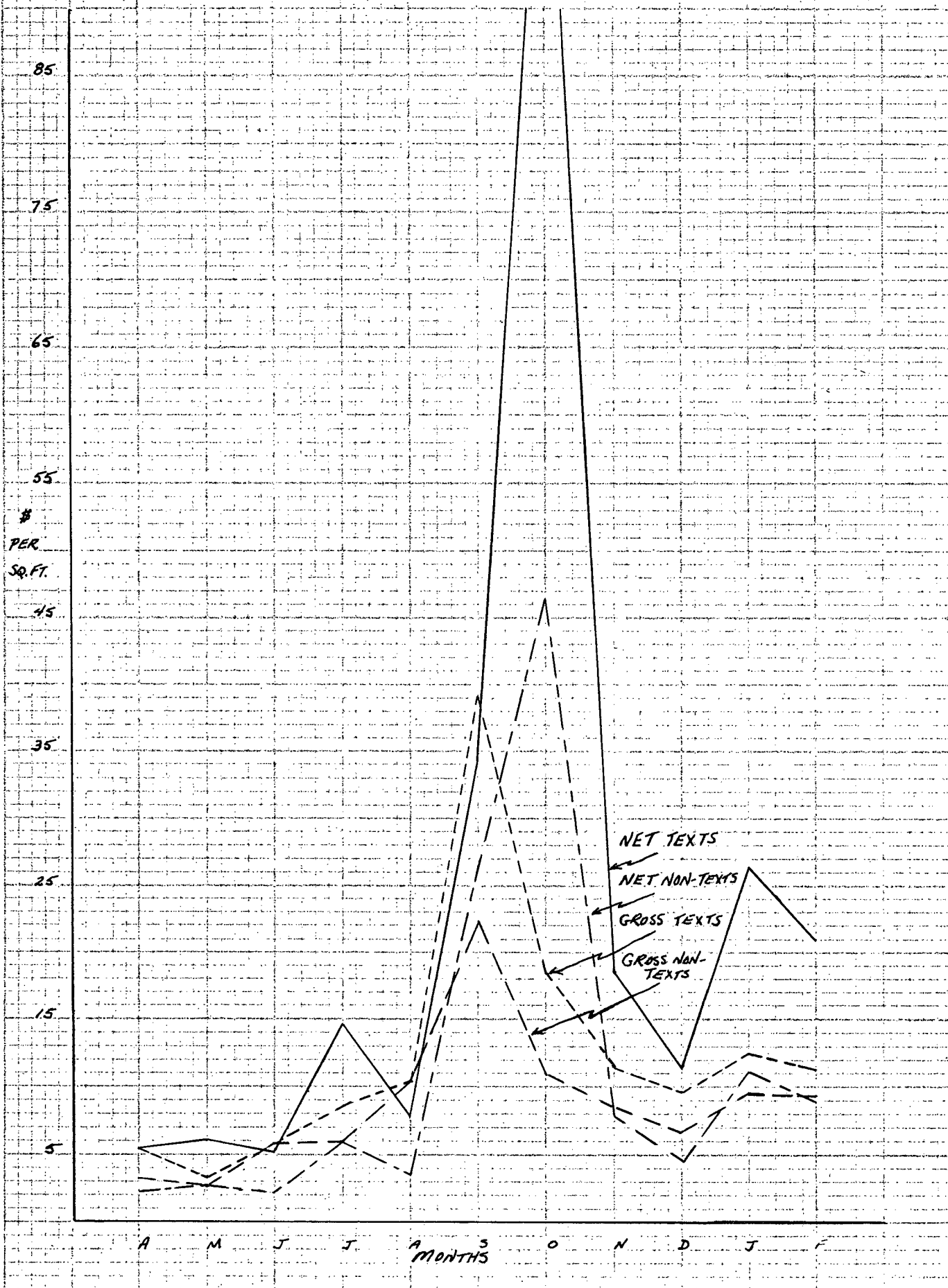
(Cont'd.)

TABLE I Continued

Month	Category	Actual Sales \$	Net Monthly Sales Per Square Foot \$	Gross Monthly Sales Per Square Foot \$
Dec.	Texts	55,079	11.41	4.85
	Non-Texts	26,075	9.84	
	Departments	7,051		6.76
Jan.	Texts	128,223	26.58	11.72
	Non-Texts	33,585	12.67	
	Departments	14,697		9.85
Feb.	Texts	102,065	21.15	9.06
	Non-Texts	29,687	11.20	
	Departments	16,334		9.39

*Includes \$640,722 from Armoury of 17,000 sq. ft.

CHART I
MONTHLY FLOOR SPACE UTILIZATION IN SALES PER SQUARE FOOT



January, but Chart I provides some appreciation for the degree of activity in each month and suggests time periods in which merchandising emphasis may be placed in different departments.

For instance, if, during a peak period, the store can realize \$26.58 per square foot from textbooks then merchandise consolidation may facilitate similar sales in a trough period and the additional space can be used to investigate the potential of other, more profitable markets, such as the Christmas gift market during October-November-December.

C. Merchandise Assortment

Proper selection of merchandise is an integral component of retail management. The role of this function has a direct bearing on sales, hence its importance cannot be emphasized enough.

The appropriateness of the selection of merchandise to the needs of the market segment which the store intends to serve is essentially a function of the factors of depth and width. Depth is determined by the number of brands or style available in a particular class of merchandise and width is indicated by the number of classes of merchandise available.

The discussion in this section is concerned with the methods by which the Bookstore manages its assortment of merchandise and how it attempts to maintain its selection at a level consistent with the needs of students and faculty.

The Bookstore's merchandise assortment can be grouped into five broad categories which, for the purposes of this report, can be defined as:

Textbooks - both hard and soft cover books prescribed by Professors as course requirements.

Other Books - reference books and pocket novels.

Stationery - paper materials for academic uses such as notes and reports.

Supplies - pens, pencils, paints, binders, folders, etc.

Sundries - student compatible items not necessarily for academic use. Items such as greeting cards, sweatshirts, study lamps, etc., are included here.

These five categories are treated somewhat differently by the store for accounting and control purposes. They use four categories labelled: Textbooks, Paperbacks, Used books and Stationery. Future discussions will make use of the five categories discussed above.

Within each of the categories mentioned, there are a number of classes and within each class a number of brands and styles, all of which are subject to review by employees making the buying decisions.

Merchandise assortment in the Textbook category is prescribed by Professors and is relatively fixed from the standpoint of appropriateness. The remaining categories, however,

are not constrained in the manner of textbooks. Instead the employees performing the buying activity--of which there are a large number--tend to examine the stock card to determine the re-order quantity of the item.

The effect of this procedure is to perpetuate the merchandising of an item without considering its sales performance over time. Consequently, poor buying decisions are perpetuated year after year instead of being critically examined and changed. There is also no concept of economic order quantity, the effect of which is large and growing inventories of unsaleable merchandise.

By the same token new merchandise which is selected, often at the suggestion of a supplier, does not become involved in a process of experimentation to test their appropriateness. Furthermore the existence of relatively redundant merchandise has saturated the available sales space and new items are indirectly discouraged.

The whole process, particularly for the categories of Other Books, Stationery, Supplies and Sundries, requires the creation of procedures which can provide turnover statistics on a periodic basis so that items in demand by the Bookstore users are kept in stock and poor buying decisions are corrected so that new types of merchandise may be experimented with. In other words when turnover ratios are compared to predetermined ratios, the ability to decide whether to continue or discontinue

an item becomes operational. At the present time the lack of a useful accounting system defies intelligent decision-making.

The management of assortment through the manipulation of depth and width factors is not presently made use of, and negligible change occurs. Turnover analysis would enable management to identify "dead" stock and remove it and then to experiment with new classes or styles depending on their information sources or intuition without running the risk of over-buying and distorting inventories.

D. Buying Decisions

The preceding section suggested that appropriate merchandise assortment is dependent upon procedures designed to illustrate the sales performance of a particular item or merchandise class. Similarly sound buying decisions are dependent upon procedures which consider the sales pattern of the merchandise. Where sales are cyclic or seasonal, quantities purchased should be indicative of estimated sales. When these sales differ from actual sales, discrepancies in quantities of stock occur and management is required to take steps to eliminate overstock and understock positions.

Buying decisions are closely related to the control of inventories. Nearly every item in the Bookstore is influenced by cyclic sales patterns. The most outstanding example is that of textbooks which gain immediate acceptance and then

decline rapidly. Good buying decisions in this category are dependent on correct timing and order quantities.

Once a book is specified as a course requirement it is in urgent demand. But if timing has become disrupted and the books are not available, students begin to improvise and the demand for the item falls off. Similarly an over-purchase of a textbook cannot be remedied by a sale of overstock--except for limited quantities--and in both cases inventory problems arise.

In the case of over buying, most textbooks can be returned to the distributor, at some discounted rate, within a certain time period, therefore the opportunity for management to restructure inventories is immediately available. However, since there is always the possibility that the book may be designed in the following year as a requirement, management presently argues that it is tempted to retain the books rather than absorb the expenses of the discount and return freight charges. In fact, though it is doubtful that anyone, with the existing control systems is capable of analyzing the point at which the cost of returning the book is less than keeping it. Consequently, most purchases remain in stock in the vain hope of future sales.

Under buying on a particular item is equally frustrating since demand is not met and the store's major objective of providing a service to the university community is similarly

unfulfilled. Where the book must be re-ordered, the delivery time may be of such length that the demand evaporates and an overstock position results once the books arrive. Again the analysis of air freighting such items against potential sales losses is not made.

A more specific example of a fashion cycle can be illustrated with the case of assignment folders. This merchandise is used extensively by students and is a staple item except for a yearly preference for colour. One year it is blue and the next red, while manufacturers continue to fill orders with assorted colours. As a result a build up of unmovable stock occurs each year. The basic problem here is that management should be restructuring their inventory by cutting prices to move colours in less demand or they should be demanding a specific colour from a manufacturer and making him deliver.

Constant surveillance of inventories is not carried out and the buying process continues almost independent of the need to recognize inventory management. Distorted inventories have been built up almost in spite of themselves and this situation has reached alarmingly uneconomical proportions.

At the present time, merchandise is received at the store, priced and then stored in "open stock" in the basement. When it is required in the main sales area any employee withdraws the required stock and moves it upstairs.

The unlimited access to the storage area and the almost chaotic condition which results from open stock storage yields the situation where no one really knows what is available and where it is located. There is no formal inventory control whatsoever other than a running balance of what has been purchased and what is left at the year end when a stock count is taken.

The open stocking of merchandise causes inventory shrinkage and further requires temperature controls much in excess of normal requirements for a warehouse. It is very difficult, therefore, to fathom how realistic decisions can ever be made concerning book returns and clearance sales.

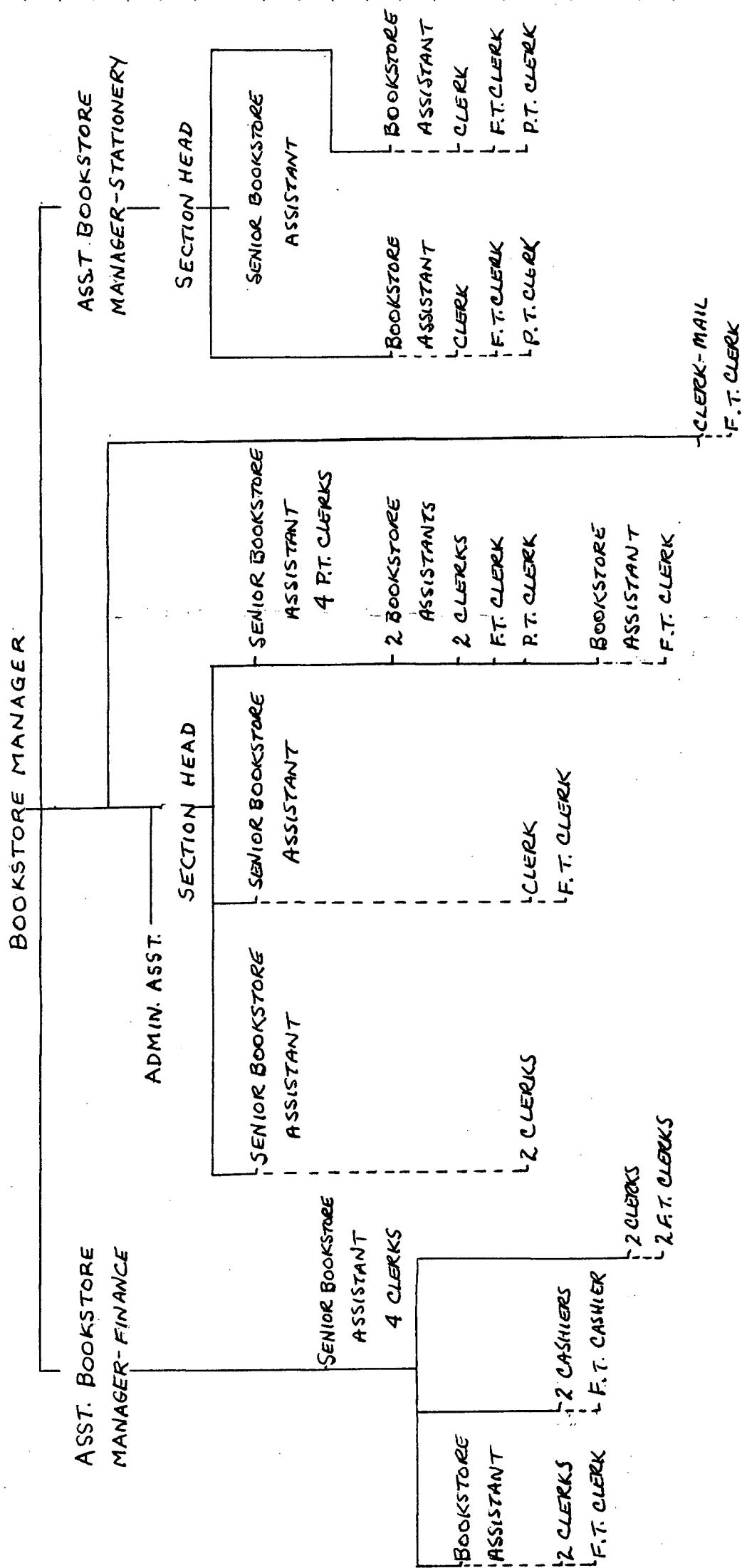
At the time of writing plans have been set up to eliviate some of the textbook ordering problems. Providing these new procedures are coupled with realistic accounting and control procedures for the continuous management of inventories they should offer a base for evaluating merchandising activities.

E. Store Organization

Diagram II, U.B.C. Bookstore Organization Chart, is the unofficial representation of the existing store hierarchy. Unfortunately an official chart is nonexistent as is a policy manual.

The chart identifies the functional areas of Merchandising which is further divided into two sections, Textbooks

DIAGRAM II
U.B.C. BOOKSTORE ORGANIZATION CHART



and Stationery, Supplies and Sundries. The other functional area is that of Control or Finance and Store Administration.

Both the Textbook and Stationery, Supplies and Sundries sections are staffed with their own personnel responsible for the operations of purchasing, receiving, shelf maintenance and shipping. Within the Textbook section the division of labour is further divided into hard cover and soft cover book merchandise.

As a result there is a total of five employees directly concerned with purchasing decisions, three with receiving, two with shipping. As the workload increases, additional staff are assigned to provide assistance in each area as required.

The control function is directed by an Assistant Manager and aside from the responsibility of store operations she is also responsible for the reconciliation of accounts payable and the reconciliation of daily sales transactions and monthly sales figures.

To this extent the control function is totally reliant upon the cleared invoices from the receivers and purchasers. However, any number of employees may be involved with a particular order, from receiving to storage to stocking shelves to sales. In spite of this, the only form of merchandise control is based on the initial receiving check and the clearance of the invoice. There is no other means of accounting

for inventory balances other than the yearly inventory count held in March.

Similarly difficulties arise in the accounting and management of daily receipts. The three front cash registers are cleared on a daily basis but the cash register at the Engineering counter follows no set schedule. At the same time it is operated by as many as five people in one day.

Problems with cash control were realized when the author requested daily transaction counts and total sales. With the existing undisciplined system, such information was not available as a matter of course.

Excluding the Manager, his two Assistants and the Administrative Assistant, all other employees are members of C.U.P.E., the union certified to represent them in collective bargaining.

There are thirty-eight full time employees and an additional fifteen full time hourly and part time hourly employees in the store. The part time hourly employees are students and usually work two or three hours per day.

Organizational flexibility is the essential objective in the store's ongoing operations. The various peaks and troughs in the selling cycles have made it necessary to define employee's duties and responsibilities in broad terms. As a result seven positions have been identified through the use of

job descriptions. These positions, as shown in Diagram II, are: Section Head, Senior Bookstore Assistant, Bookstore Assistant, Clerk, Cashier, Full time hourly Clerk and Part time hourly Clerk. Within each position various duties have been defined with respect to responsibility and authority as they relate to supervision, shipping, receiving, accounting, pricing, etc.

As the workload increases, or shifts, the nature of each job changes as emphasis shifts from one element to another. Additional flexibility is obtained through the union contract which provides for the temporary reclassification of an employee during specific periods.

One highly unfavourable factor considerably limits an otherwise highly flexible organization. This is the constraint resulting from the work day which is 7 1/4 hours between 8:30 a.m. and 5:00 p.m. Monday to Friday. This limitation means simply that any work performed at times other than those specified is to be paid at the rate of double time. Such a rate is often attributed to work in excess of an eight hour day or forty hour week but in this case it means that a part time Hourly Clerk-- a student--cannot work his two or three hour shift in the evening stocking shelves unless he is paid double time.

Of even more interest is that the Janitor, supplied by Physical Plant, also works 7 1/4 hours between 8:30 a.m. and 5:00 p.m. Monday to Friday.

The idealism of flexibility achieved through contract negotiation and effective design of job descriptions has interesting ramifications for store operations in a behavioural sense. What has tended to occur is that each employee in each defined position identifies with the task that he considers to have the highest relative status for him. (And because he does this on an intermittent basis his proficiency is questionable). Consequently if he is expected to function as a Shipper-Receiver during a short period of the year he is reluctant to return to the more menial task of maintaining the store's merchandise appearance or, essentially, stocking shelves. In effect, then, the store finds that its formal definition is soundly constructed and flexible but the informal system is highly rigid. The present store appearance coupled with an apparent casual indifference by employees reflects this phenomenon to a high degree. Stock is never straightened, dusted, re-arranged or made otherwise presentable. It appears that management is unaware that its duties are to direct personnel to perform these necessary tasks.

F. Pricing Policies

The Bookstore uses two standard forms of pricing. For the textbook category they use the manufacturers list price. The books are sold by the manufacturer or distributor at 20 per cent off list and hence, marked up a standard 20 percent.

This pricing policy is a constraint to the Bookstore's operation since the standard markup used currently contributes a negligible amount to profit. This is due to a number of factors arising from the acquisition costs which include freight charges from eastern Canada and selling costs which include inventory, storage, movement and restorage as well as employee expenses through handling, pricing and returning merchandise.

The other method of pricing in use is that of relying on the manufacturer's suggested price. This strategy is applied almost unilaterally to the remaining categories of Other Books, Stationery, Supplies, and Sundries.

There is, unfortunately very little latitude for diversified pricing policies by management. Not only are they restricted to using list prices for Textbooks but also they must remain relatively competitive with all their other merchandise. Furthermore the Provincial Government's edict that ancilliary services on the campus must be self-supporting. This factor is contained in the University Policy:

Four of the services--the Bookstore, Campus and Residence Food Services, and Housing Services broke even in keeping with the University Policy of operating such services on a self-supporting basis.⁵

Although "self-supporting" does not necessarily mean "break even" this regulation coupled with the constraints of

⁵U.B.C. Reports, October 1, 1970, p.10.

pricing seems to have the effect of removing much of the efficient, aggressive merchandising behaviour usually associated with the profit motive.

If one is to believe operating statements issued by the University, prices should be raised since the Bookstore is not really self-supporting. However, the data available are not reliable and it would be hazardous to proceed with a financial analysis of the operations without justification of certain overhead charges. Since this is not available no further analysis will be made.

G. Services

Service is the Bookstore's main purpose on the campus and over its operating experience a number of services have developed.

The first is the use of discounts. All students purchase Textbooks, Stationery and Supplies merchandise without the inconvenience of the five percent sales tax normally demanded by the provincial government. Furthermore the Bookstore redeems five percent of all student expenditures at the end of the school year if sales receipts are presented.

Faculty discounts are somewhat more lucrative amounting to a ten percent reduction in the Textbook category at the time of sale. In conjunction with this discount service the Faculty is allowed to make a deferred payment. This is a form of credit

and involves separate billing procedures on the part of the store's employees.

The third discount is provided to the Departments which request stationery supplies during the year. This discount is more nebulous than that provided to students and Faculty since the Departmental purchases are sold at a 20 percent markup on selling price. Most of the merchandise sells to the students at the manufacturers' suggested price where the normal markups are between 25 and 35 percent, consequently the effective discount is somewhat vague.

The additional service of packaging and shipping are also provided to the Departments in conjunction with a service vehicle supplied by the Physical Plant Department.

Each form of discount mentioned above has been criticized vigorously in the past and all are currently being discussed as to their effectiveness. The Bookstore management provided the following explanations: the student discount of five percent resulted from other University Bookstore's actions. Their intent was to encourage students to make complete use of the store's facilities by offering a rebate on purchases. The experience was not too successful and most stores have since deleted this service. For the U.B.C. Bookstore the rebates have not been shown to be effective and at the same time the cost of this service has climbed from \$50,000 in 1966-67 to an expected \$60,000 in 1970-71.

The rationale for the Faculty discount is derived from the fact that manufacturers give Faculty a ten percent discount if they order directly from the manufacturers. By providing this service, the Bookstore must also absorb the freight, handling and notifying expenses which arise from the Faculty member's special order.

The Departmental discounts were formerly considered a wholesale-retail relationship and the invoiced merchandise was provided at cost. Although the relationship is that of a wholesaler, the store now acknowledges that a 20 percent markup is necessary to provide some coverage of their overhead expenses caused by this service.

In describing the discount services other store services were also mentioned such as delivery of departmental supplies, Faculty credit and special orders. Special ordering of specific books required by Faculty or Students is the major positive service provided by the Store. Depending on the urgency of the customer's request such orders can be requested by return air freight and notification of its arrival is sent to the individual as soon as possible. Another service similar to special ordering is that of mail orders from the community at large. Requests that cannot be filled from existing stocks become special orders. This service is particular of use to Alumni and correspondence of extension course students.

The final major service that of accepting Used Books which have been requested for courses the following year. The Store will buy back the book (in reasonable condition) at 65 percent of its original cost and resell it at 81 percent of its original cost.

The debate concerning services will constantly arise, and should be discussed as a matter of course since the needs of the trading area will change over time and the appropriateness of services should be re-assessed. For instance the minimum "wholesale" markup necessary for Departmental accounts is 20 percent. Similarly all Textbooks are marked up 20 percent but after rebates the effective markup is only 15 percent for students and 10 percent for faculty. In essence these discounts represent an unearned "gift" since there is no rationale available to justify their existence particularly in terms of their financial disadvantages.

H. Promotion

The U.B.C. Bookstore operates from a monopoly position on the campus. For this reason the need for promotional activities has not been as necessary as that required by other retail operations.

The general practice has been to set aside a minimal budget mainly for the purposes of publicity and the subsequent goodwill that can be achieved by supporting student sponsored publications.

However, when considering the role of store services, discussed in Section G, the opportunity to promote the existing services such as special ordering may actually have the effect of substantially reducing the overhead costs associated with the service. Similarly a more aggressive approach to advertising would support the testing of new service programs. For instance, a program to promote "new arrivals" should include a direct mailing list to faculty members and graduate students--perhaps even alumni. In this manner the experimenting with new services could be thoroughly examined.

Promotional efforts have been shown to be an effective tool for retail operations. In spite of the monopolistic market situation, benefits can still be gained through appropriate application of promotional techniques to the reduction of overhead costs and the introduction of new merchandise and services.

I. Summary and Conclusions

The U.B.C. Bookstore has continued to operate in an increasingly demanding and diversified market with the same procedures developed some years ago. Although some small adjustments are constantly being made, the methods have fallen behind the levels appropriate for effective retail operations.

Store layout is staid. It does not change to reflect the various peaks and troughs in the selling cycles for different merchandise.

A merchandise assortment has evolved to reflect student and faculty needs. Five departments can be identified as Textbooks, Other Books, Stationery, Supplies and Sundries. The Textbook assortment is totally reliant upon Faculty designations of required course material while all other categories are filled on supplier's advise, tempered by the store's sales experience with the item.

Textbooks sales are from a monopoly position in the market and provided timing and quantities are accurate, little remains to interfere with their sale. The other departments however, are considerably less assured of sales and purchasing errors result in overstock situations which are difficult to rectify.

The consequence of factors such as poor timing, inappropriate quantities, and the procurement of redundant merchandise has caused a steady increase in inventories over the years. As a stop-gap means of rectifying this problem, buying decisions have become defensive rather than market oriented to the demand of the users. Reliance has been placed increasingly on items which are known to sell and as a result of manufacturer's product differentiation these items have expanded in depth while the overall assortment has been reduced in width.

This situation retards the examination and development of other potential markets for student compatible merchandise.

Pricing procedures allow little for latitude and to a great extent they are dictated by organizations external to the store itself rather than on the basis of the ideal response to supply and demand conditions in the trading area. The operation must ensure that it remains self-supporting and is obliged to rely on markups to the manufacturer's suggested price to realize an effective contribution to operating expenses.

The store's formal organization can be considered to have "grown-like-Topsy." The extent to which the functional definition is effective is questionable, however, the unionized employees are adequately grouped by broad job descriptions and, on paper, the basis for a flexible organization has been established. An informal organization characterized by a casual indifference also exists, which functions simply to negate a considerable amount of the effectiveness thought to have been achieved.

The services offered by the store range from highly appropriate to highly questionable. In the first place, discounts should be offset by considerable increases in sales. The 5 percent student allowance and 10 percent faculty allowance cannot be shown to be useful by this criteria and it might be suggested that students and faculty are relatively indifferent to this form of inducement.

Special ordering, mail orders and Faculty credit, on the other hand are effective services and procedures should be examined to maintain their cost to the store at the minimum possible level commensurate with a high degree of service.

Promotional efforts are virtually non-existent yet, ample opportunity to develop new markets, and test new services and merchandise require sound promotional efforts if the areas in question are to be evaluated thoroughly.

The extent to which the topics dealt with in this chapter, are currently handled raises serious question about the technical and administrative depth of the management team.

CHAPTER III

CONSUMER BEHAVIOUR ANALYSIS

This chapter reports the method of collecting and analyzing information about the people who patronize the Bookstore. The objective of this research was to clarify existing notions presently held by the Bookstore management about its customers as well as to provide information relevant to the study of proposed store locations.

The following study of consumer behaviour was carried out in conjunction with one phase of the data collecting procedure concerned with site evaluation which will be discussed in detail in Chapter IV.

A. Data Collection

A composite questionnaire (Exhibit I) was prepared to record the actions of the store's customers as well as to gather the data pertinent to the location analysis. Of particular interest to this phase of the study was data on the purpose of the customer's trip, the result of it and their expenditure characteristics.

The questionnaire was administered to the customers during the first week of January, known as a peak sales period.

EXHIBIT I

BOOKSTORE SURVEY QUESTIONNAIRE

1. Survey number
2. Day
3. Hour
4. What Faculty are you registered in?
5. What building did you come from just prior to the Bookstore?
6. What building are you going to now?
7. Did you stop at the Coffee Shop?
8. What was the purpose of your trip?
 - a) Texts
 - b) Other Books
 - c) Supplies
 - d) Sundry
 - e) Browse
9. What items did you purchase?
 - a) Texts
 - b) Other Books
 - c) Supplies
 - d) Sundry
10. How much did you spend?
11. Was there anything you could not find?
12. How much do you spend at the Bookstore per year?

and the last week of January, considered to be a period of normal operations.

The survey lasted for three full days of the week and each respondent was personally interviewed by students employed to administer the questionnaire. During Survey 1, 1768 customers were interviewed and 1272 customers were interviewed during Survey 2.

From two to three interviewers questioned people leaving the Bookstore as rapidly as they could. This is a standard in-store interviewing sampling technique which has been shown to be a random procedure and very effective for obtaining the type of information desired in this survey.

B. Data Analysis

Each of 3040 questionnaires were coded and keypunched so that the data could be analyzed on the U.B.C. 360/67 computer.

Initially the MVTAB library program was used to cross-tabulate the variables under study. This procedure provided data in the form of frequency distributions which could then be used to make generalizations to the total population.

Of more interest was the strength and dependence of one variable on another. The TRIP library program produced a correlation matrix (Table II) which provided the basis for forming a series of assumptions concerning consumer behaviour.

C. Describing Consumer Behaviour

From the data a set of seven hypotheses were suggested:

1. Customers are usually enroute to a point other than from where they originated when they stop at the Bookstore-

The relationship identified here suggests that while specific trips are made to the store--more often during peak sales periods--this is not the main method by which customers go to the store. Instead they use the store because it is convenient and their presence there is of secondary importance to their overall intention of moving from one point on the campus to another.

2. Customers shop at the Bookstore for a specific item -

There is very little cross-over to the purchase of merchandise which was not specified as the purpose of their trip to the Bookstore. Table II shows the significant positive correlation between the purpose for a trip and the result of it while a negative correlation exists between the purpose of the trip and the purchase of other merchandise.

3. Customers experience more difficulty obtaining Textbooks than any other type of merchandise.-

A positive relationship between customers seeking an item in this category and not finding it was observed, whereas more success is apparent with the other categories of merchandise.

4. Customers who buy textbooks are less inclined to supplement their purchases with Stationery items than they are with purchases of Other Books and Sundries.
5. There was no apparent relationship between expenditures at the Bookstore and origin, destination and distance.
6. The adjoining coffee shop is a generator for browsing and casual shopping but not for Textbooks and Supplies.
7. People who come to buy Textbooks spend more per visit than those who come to buy other types of merchandise.

D. Limitations of the Study

One obvious limitation to this study is the fact that customers were interviewed as they were leaving the store, thus inaccurate answers may have been given to questions regarding the purpose of their trips since their response may have been influenced by the result of their shopping.

It can reasonably be assumed however, that the respondent was indifferent to the survey and therefore would be inclined to give valid answers.

E. Summary and Conclusions

The opportunity to interview consumers for the purpose of gathering information on buying behaviour became available during the data collection procedure for determining an optimal site for the Bookstore.

A composite questionnaire was prepared to obtain information on the purpose of the customer's trip to the store, the result of it and how much they spent.

These questions were administered by interviewers to a total of 3040 people selected at random during two survey periods in the month of January which resembled peak sales activity and normal sales activity.

The U.B.C. computer was used to cross-tabulate the variables under examination and to produce a correlation matrix which could be used to identify relationships among the variables.

The analysis suggested seven hypotheses concerning consumer behaviour as follows:

1. Customers are usually enroute to a point other than from where they originated when they stop at the Bookstore.
2. Customers shop at the Bookstore for a specific item.
3. Customers experience more difficulty obtaining Textbooks than any other type of merchandise.
4. Customers who buy Textbooks are less inclined to supplement their purchases with Stationery items than they are with purchases of Other Books and Sundries.
5. There was no apparent relationship between expenditures at the Bookstore and origin, destination and distance.

6. The adjoining coffee shop is a generator for browsing and casual shopping but not for Textbooks and Supplies.
7. People who come to buy Textbooks spend more per visit than those who come to buy other types of merchandise.

CHAPTER IV

BOOKSTORE SITE EVALUATION

The purpose of this chapter is to describe the procedures used in collecting and analyzing data pertinent to measuring the relative difference among possible Bookstore locations.

The study focuses on techniques which attempt to provide estimates of Bookstore revenue at each of three locations:

- the existing site
- the SUB location--proposed by the Physical Plant Planning Department, and
- the Ponderosa--proposed by the Bookstore Committee.

Decisions based on estimates of Bookstore revenue provide a much more substantial basis for the planning and development of the Bookstore's future than the types of decisions generated by an analysis concerned with minimizing capital expenditures. In fact an analysis of capital expenses should be the second step in a program for expansion once the revenue potential of various sites has been determined. The two are not separable but must be analyzed together.

A. The Trading Area

1. Physical Description

The University of British Columbia is located on the tip of the Point Grey Peninsula in Vancouver, B.C. Its location is approximately seven miles from the center of Vancouver and one mile from the city limits.

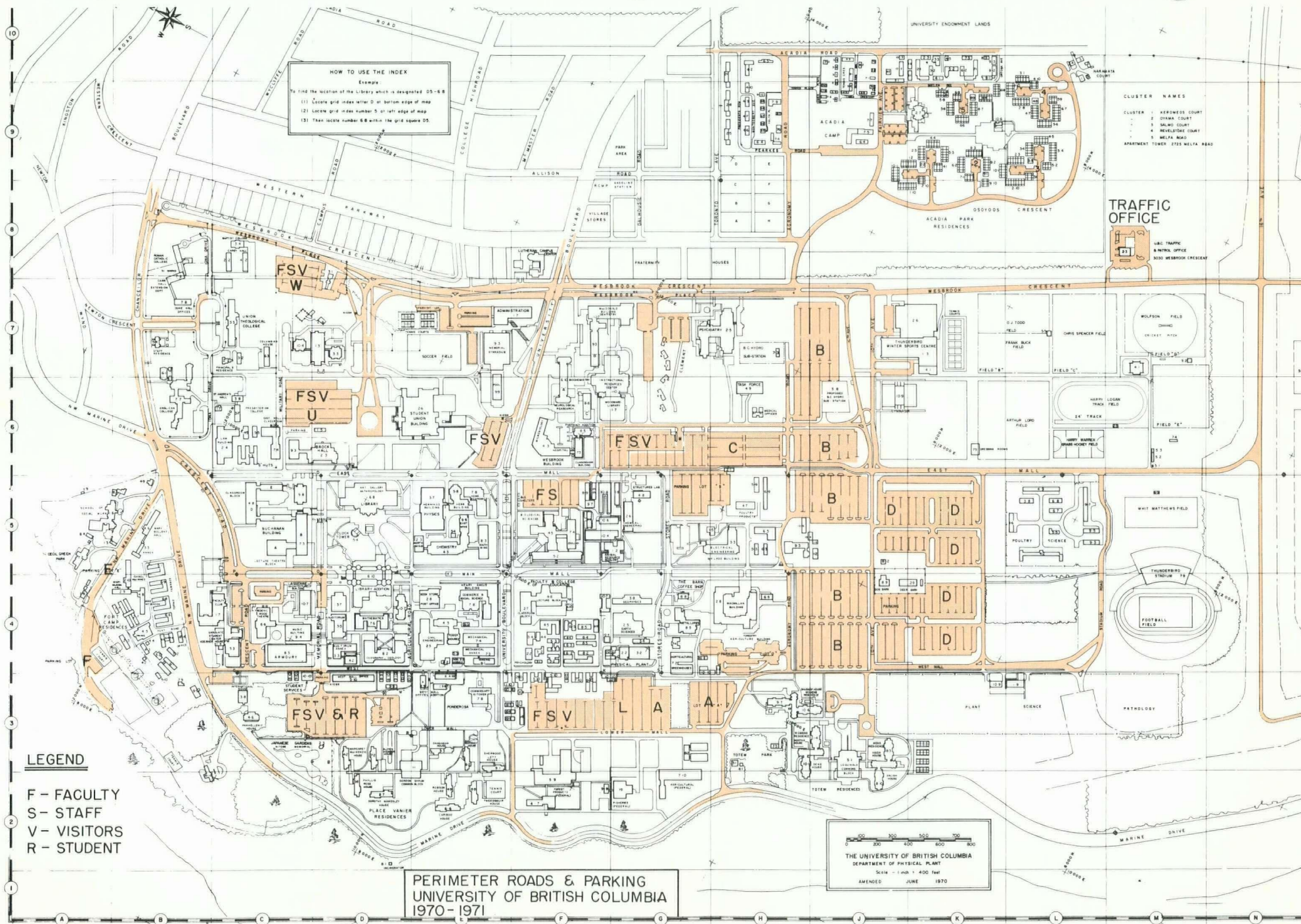
Its separation from the city of Vancouver is accentuated by a relatively undeveloped strip of land, approximately one mile in depth, known as the Endowment Lands. Between the Endowment Lands and the actual campus a small residential community has been developed which also emphasizes the exclusion of the University from Vancouver.

The actual size of the campus is approximately eight by four city blocks and the academic core is a four by three block area located in one corner of this rectangle (Diagram III).

The campus operates much as a small city and provides its own police and fire protection as well as maintenance and service needs.

The student enrollment, faculty and staff on the campus number close to thirty thousand people during the eight month winter session and occupy the campus facilities for nine hours a day five days per week.

Diagram III



For the most part students remain in the area of campus set aside for their particular faculty and only move from these buildings during periods when no classes have been scheduled and they need to use the Library or other service locations on campus such as SUB or the Bookstore.

The majority of academic buildings are multi-storied structures situated quite spaciouly on the campus. The remaining are considered temporary "huts" and are packed quite densely in certain areas. Their use is mainly for student study, research and office space.

The three sites considered in this study were the present Bookstore, located approximately one half block from the main Library, which is considered to be the center of academic activity on the campus; the SUB location, which is one block to the east of the existing site and close to the main Library; and the Ponderosa which is one block west and one block south of the existing site.

2. Socio-Economic Information

Students constitute the vast majority of sales for the Bookstore. At the present time information concerning the contributions of Faculty and Staff are not available, consequently the emphasis here will be concerned with socio-economic factors relevant to the student population within the trading area.

The students were surveyed by questionnaire in 1969 in a study designed to provide additional insight into student attitudes towards university and society.

The research⁶ conducted by Drs. Moore and Mitchell of the Faculty of Commerce, also provided additional insight into the socio-economic characteristics of the student body.

Their data led them to describe the typical student as middle-class, educated in the public school system, and as having been raised in urban areas of British Columbia. The student contributes to his costs of education through summer employment and many of them have part time jobs. Their extra-curricular activities are related to campus sports and clubs but not necessarily politics. Furthermore their major interests are related to their University education and vocational plans.

Of the sources of financing relied upon by the students, Dr. Mitchell reported:

Almost two-thirds of the students in our survey say they receive some assistance from their parents in financing their education. More than 82 percent have summer jobs and over 42 percent worked part time during the school year. Of those who worked during the summer, one in four had net earnings of less than \$500, slightly more than 25 percent earned between \$500 and \$1,000, another quarter earned between \$1,000 and \$1,500 and surprisingly the remaining 25 percent earned better than \$1,500 during the summer.⁷

⁶U.B.C. Reports, Vol. 16, No. 4, January 29, 1970.

⁷Ibid., p.8.

B. Analyzing the Trading Area

The relative seclusion of the campus and its spacious layout along with the information that suggests students have limited funds available for expenditures on their educational and vocational interest, suggested that a distance decay model was an appropriate tool for simulating the spending behaviour of the Bookstore customers.

The concept suggested here, reasons that by replicating the present consumer behaviour with respect to the existing site, the practicality of other sites could be assessed by altering the variable of distance.

1. Data Collection

The first step was to select a group of buildings on the campus which would be representative of the whole and could reasonably account for the location of the thirty thousand people at the University during the winter session. Thirty-five locations were finally selected to accomplish this purpose (see Table III).

(a) calculation of the distance factor

From each of the selected buildings the time distance, in seconds, was measured by walking known traffic patterns to each of the locations suggested as potential Bookstore sites (Table III).

TABLE III

BUILDINGS, DENSITIES AND TIME DISTANCES

<u>Building</u>	Average Density Mon-Fri <u>8:30-4:30</u>	Major Campus Buildings to Potential Bookstore Sites (Time-Distance in Seconds)		
		<u>Bookstore</u>	<u>Ponderosa</u>	<u>SUB</u>
F. Wood Theatre	400	212	336	294
Lassere Building	300	135	305	240
Music Building	56	173	291	322
Auditorium	1000	159	269	309
Geology Building	637	160	167	360
Math Building	800	108	241	309
Math Annex	200	14	184	222
Civil Engineering	582	38	170	239
Mech Engineering	68	109	64	320
H. Angus Building	1600	53	134	250
Education Building	1297	137	155	271
Metal Engineering	134	392	410	526
Elec Engineering	185	453	471	581
H.R. MacMillan Bldg.	472	432	450	560
Ponderosa	100	208	1	363
Bookstore	600	1	208	201
SUB	4800	201	363	1
Law Huts	360	383	591	520
East Mall Annex	350	318	526	185
Buchanan Building	4200	175	383	215
Brock Hall	600	248	456	115
Library	4800	133	341	130
Hennings Building	1000	122	330	101
Hebb and Home Econ.	1100	201	269	85
Chemistry Building	1500	102	155	212
Rehab Nursing	62	310	361	315
Chem Engineering	76	310	361	315
Bio Science Old Bldg.	566	181	211	243
Bio Science New Bldg.	310	137	176	250
Cunningham Building	130	362	392	215
Medical Block A.C.	217	436	466	224
Medical Dentistry	450	499	520	276
Wesbrook Building	500	285	316	159
Memorial Gym	1197	389	410	96
Hut B8	105	182	221	295

(b) calculation of building population densities

The population densities were determined through the use of the Department of Academic Planning's report on "Space Inventory of Buildings" which indicated the total number of seats for each academic building; and the Department of System Service's report, "Building Utilization" which indicated the percent usage per hour. These sources of data did not provide information about nonlecture building capacities and populations. Consequently estimates for the Auditorium, SUB, the Library and the Bookstore were obtained from the Architect's study on the new Library. Estimates of density for other locations were obtained through interviews with Administrative personnel concerned with the areas of campus in question (Table III).

(c) consumer origin and destination data

The composite questionnaire, which was discussed in Chapter III was prepared for the examination of variables pertinent to both the attributes of consumer behaviour and location analysis. Of particular interest for the study of site evaluation were the responses to the questions concerning the origins and destinations of the store customers.

2. Data Analysis

(a) determining the market penetration statistic

MVTAB was used to produce a bivariate table showing the frequency distribution of textbook customers and non-textbook customers by their origins (Table IV).

TABLE IV
BIVARIATE FREQUENCY DISTRIBUTION OF TEXTBOOK
AND NON-TEXTBOOK CUSTOMERS BY BUILDINGS
OF ORIGIN

Building of Origin	Textbook Customers		Non-Textbook Customers		Aggregate Distribution of Customers	
	Surv.1	Surv.2	Surv.1	Surv.2	Surv.1	Surv.2
Auditorium	138	85	70	91	228	176
Education	76	50	82	63	158	113
Geology	34	16	32	24	66	40
Math Annex	1	1	4	3	5	4
Math	20	17	24	23	44	40
Bio.Sciences	24	6	16	22	40	28
Chem. Eng.	5	0	5	5	10	5
Hut B-8	0	0	1	2	1	2
Library	78	53	62	76	140	129
Ponderosa	11	7	8	8	19	15
Civil Eng.	26	16	42	45	68	61
Bookstore	15	3	23	12	38	15
Angus	117	65	78	77	195	142
Mech. Eng.	4	0	6	1	10	1
Brock	21	6	12	13	33	19
East Mall Nx.	9	5	5	2	14	7
SUB	100	54	57	51	157	105
Buchanan	121	80	54	62	175	142
Law Huts	43	13	10	10	53	23
Chemistry	18	5	42	31	60	36
Hebb & H.Econ.	12	7	20	24	32	31
Hennings	9	8	12	12	21	20
Med. Blocks	3	1	3	2	6	3
Mem. Gym.	6	4	4	10	10	14
Wesbrook	35	11	16	4	51	15
Elect. Eng.	5	1	3	2	8	8
MacMillan	15	3	15	16	30	19
Metal Eng.	1	0	3	3	4	3
F.W.Theatre	6	4	9	3	15	7
Lassiere	20	6	12	13	32	19
Music	8	5	9	10	17	15
Cunningham	18	12	10	8	28	20
Total	999	544	769	728	1768	1272

From this information the percentage market penetration of the Bookstore at each of the predetermined buildings was calculated from the following formula:

$$P_i = \frac{c \left[\left(\frac{n_i}{32} \times 100 \right) \cdot t \right]}{\sum_{i=1}^{32} n_i D_i} \times 100$$

where:

P_i = market penetration at Building i ,

n_i = number of respondents from Building i ,

$\sum n_i$ = sum of all respondents from all 32 buildings
($i=1,2,3,\dots,32$),

t = total number of store transactions during
the survey period,

D_i = population density at Building i , and

c = a constant required to adjust the data to a
common base (i.e. to give results in terms of
daily measures. In this case $c = 1/3$).

The degree of overall penetration was determined for each building for both Survey 1 and 2. Similarly the statistic for textbook and non-textbook market penetrations were also obtained for both surveys (Table V).

(b) measuring the effect of distance on market penetration

In order to obtain an estimate of the relationship between market penetration and distance, the statistics

TABLE V

PERCENT MARKET PENETRATION FOR THE BOOKSTORE

AT ORIGIN OF CUSTOMERS

Building	Den- sity	Percent Penetration					
		Aggregate		Textbooks		Stationery Supplies & Sundry	
		Survey	Survey	Survey	Survey	Survey	Survey
		1	2	1	2	1	2
Auditorium	1000	47.3	22.6	28.6	10.9	18.7	11.9
Education	1297	25.0	11.0	12.0	4.8	13.0	6.4
Geology	637	21.0	8.0	11.0	3.1	10.2	4.7
Math Annex	200	6.0	2.5	1.0	0.5	4.5	0.5
Math	800	11.4	6.2	5.1	2.6	6.2	3.6
Bio.Sciences	876	9.6	4.1	5.7	0.9	3.8	3.2
Chem.Eng.	138	16.0	4.3	8.0	0.0	8.0	4.3
Hut B-8	105	3.9	2.9	0.0	0.0	3.8	2.8
Library	4800	4.8	3.4	3.3	1.4	2.7	2.0
Ponderosa	100	40.0	20.0	23.0	9.0	17.0	11.0
Civil Eng.	582	24.0	12.9	9.3	3.4	15.1	9.6
Bookstore	600	13.3	3.3	5.3	0.7	8.0	2.7
Angus	1600	25.0	11.3	15.0	5.2	10.0	6.2
Mech. Eng.	68	32.4	3.0	13.2	0.0	19.1	3.0
Brock	600	11.5	4.0	7.3	1.3	4.1	2.7
East Mall Nx.	350	8.3	3.0	5.4	2.0	2.8	0.9
SUB	4800	6.9	2.9	4.3	1.4	2.5	1.4
Buchanan	4200	8.6	4.5	6.0	2.5	2.6	2.0
Law Huts	360	30.6	8.1	2.2	4.4	5.8	3.6
Chemistry	1500	8.2	3.0	2.5	0.4	5.8	2.7
Hebb & H.Econ.	1100	6.0	3.5	2.3	0.8	3.7	2.7
Hennings	1000	4.4	2.6	1.9	1.0	2.5	1.6
Med.Blocks	667	3.3	2.7	1.9	0.7	1.3	1.9
Mem. Gym	1197	8.9	1.6	6.1	1.2	2.8	0.4
Wesbrook	500	11.6	5.2	7.4	3.2	4.3	2.0
Elect. Eng.	185	9.7	1.6	5.9	0.5	3.7	1.1
MacMillan	472	6.8	5.1	3.4	0.8	3.4	4.2
Metal.Eng.	134	5.2	2.2	1.5	0.0	3.7	2.3
F.W.Theatre	400	8.2	2.5	3.3	1.5	5.0	1.0
Lassiere	330	20.0	7.2	12.4	2.4	7.9	4.8
Music	56	66.0	34.0	30.4	10.7	35.7	23.2
Cunningham	130	8.4	2.3	4.6	0.8	3.8	1.5

generated in (a) above, were matched to the distance data gathered when measuring walking time from each building to the Bookstore.

By using TRIP, a regression routine, the relationship between penetration and distance was estimated such that:

$$Y = a + bX$$

where:

Y = estimated percentage of market penetration

a = Y-intercept of the regressive line

b = slope of the regression line, and

X = distance in seconds.

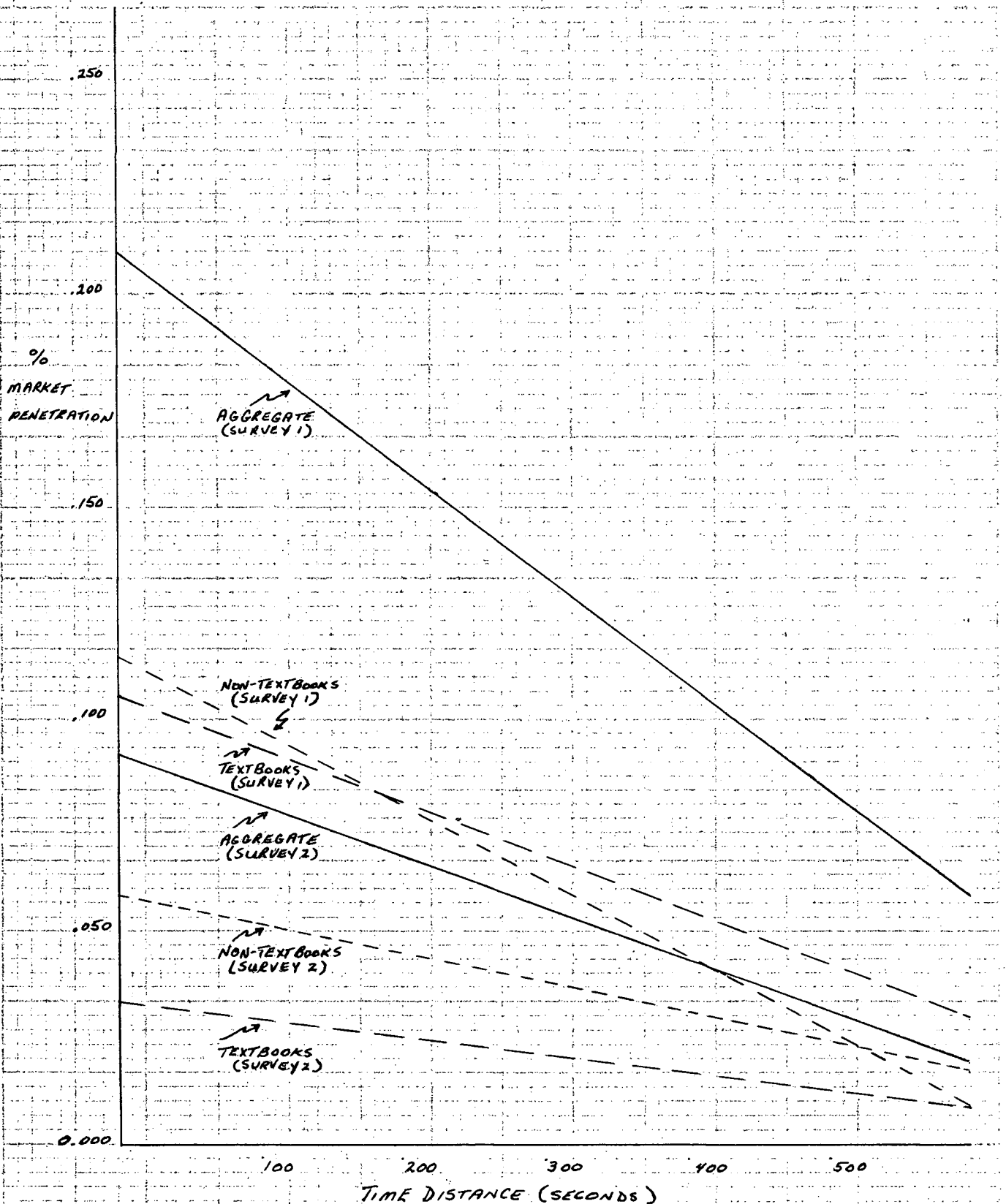
Chart II depicts the effect of distance on market penetration in the aggregate for both Survey 1 and Survey 2 as well as for textbook and non-textbook markets.⁸

(c) simulating the effect of Bookstore location on total sales

A simulation model was constructed to approximate the real life situation presently existing with respect to the Bookstore. Elements of building density, time, distance, market penetration and total store sales were brought together. In addition, two major assumptions were made in its design:

⁸In addition to the $Y = a + bX$ equation two other equations were estimated, $Y = a + b \log X$ and $\log Y = a + b \log X$. Neither equation predicted as well as the non-log form by a factor of about four.

DISTANCE DECAY ON MARKET PENETRATION



1. that the regression line representing the aggregate average between market penetration and distance would be a more accurate representation of the store's yearly operations and
2. Hypothesis 5. There was no apparent relationship between expenditures at the Bookstore and origin, destination and distance.

The model utilized the following procedures in its calculations:

1. The corresponding time distance for each of the three proposed locations were added to the data in computer storage.
2. From this data file the respondents from each of the thirty-five buildings were identified and grouped accordingly.
3. From the aggregate average regression line, $Y=a+bX$ the percent market penetration was determined for each location.
4. The penetration statistic was applied to the known building density to determine the actual number of possible customers from that building buying at the Bookstore.
5. Finally a constant expenditure figure was determined by the process of calibration and multiplied by the customer count, obtained in procedure 4, to produce a total sales figure.

The calibration process was simply a method of substituting different values for the constant expenditure figure until the result of the simulated sales total matched the present Bookstore sales total for the present site.

6. The distance components for each campus site to the two proposed store locations were calculated using the calibration sales value.

The results of the simulation procedure are presented in Table VI.

The simulation procedure gives support to the intuitive feeling that a SUB site would be similar to the present site for a Bookstore. The Ponderosa site is clearly inferior because it is located away from the major concentration of customers.

The Bookstore Sub-Committee, which studied the problem associated with a new store, recommended that the Ponderosa site would be the most suitable from the standpoint of minimizing capital costs.⁹

Given the prospective developed in this study, such a move would be disastrous. The estimated potential loss to total sales would be about \$300,000. This is approximately 50 percent of the total non-textbook sales per year. The loss in gross margin would be over \$60,000 (\$300,000 at over 20 percent average markup).

Consumers utilize the store because it is convenient, that is it is enroute to their destination. Sales of textbooks are relatively inelastic consequently the loss of sales due to an inconvenient location would occur in the merchandise which normally has the highest markup.

⁹J.E. Phillips et al, Report of Bookstore Sub-Committee concerning a new store, Unpublished, 1970.

TABLE VI

BOOKSTORE EVALUATION SIMULATION

Building	Average Density Mon-Fri 8:30-4:30	Estimated Sales From Major Campus Buildings \$		
		Bookstore	Ponderosa	SUB
F.Wood Theatre	400	17,467	14,058	15,213
Lassiere Building	300	14,688	11,183	12,337
Music Building	56	2,595	2,141	2,018
Auditorium	1000	47,312	39,751	37,002
Geology Building	637	30,092	29,787	21,337
Math Building	800	40,654	33,341	29,601
Math Annex	200	11,455	9,118	8,596
Civil Engineering	582	32,376	27,025	24,335
Mech. Engineering	68	3,450	3,661	2,464
H.Angus Building	1600	87,357	78,449	65,692
Education Building	1299	63,325	61,720	51,379
Metal Engineering	154	4,193	4,028	2,959
Elec. Engineering	185	5,014	4,785	3,386
H.R. MacMillan Bldg.	472	13,474	12,890	9,321
Ponderosa	100	4,428	5,817	3,329
Bookstore	600	34,903	26,366	26,655
SUB	4800	213,243	159,795	279,228
Law Huts	360	11,489	6,342	8,099
East Ma-1 Annex	350	12,734	7,730	15,933
Buchanan Building	4200	194,093	134,046	182,546
Brock Hall	600	24,717	16,138	30,202
Hennings Building	1000	49,855	35,558	51,299
Library	6650	326,512	231,438	327,883
Hebb and Home Econ.	1100	48,868	43,726	57,638
Chemistry Building	1500	76,845	71,381	65,504
Rehab. Nursing	62	2,281	2,072	2,268
Chem. Engineering	76	2,806	2,540	2,780
Bio.Science Old Bldg.	566	25,922	24,755	23,510
Bio.Science New Bldg.	310	15,135	14,304	12,727
Cunningham Bldg.	130	4,336	4,068	5,650
Medical Block A&C	217	6,135	5,687	9,297
Medical Dentistry	450	10,774	9,846	17,671
Wesbrook Bldg.	500	19,291	18,260	23,656
Memorial Gym.	1197	37,709	35,241	61,816
Hut B-8	105	4,801	4,520	3,986
Total Annual Sales		1,500,350	1,191,650	1,497,327

A conservative average markup on this type of merchandise is 25 percent or \$75,000 per year and this sum represents the loss in contributions to selling expenses, overhead and funded debit--the latter would arise from the financing necessary to provide for the renovations to the Ponderosa building.

The SUB location can be considered to be at least as good as the present location. The implications of this result suggest that any site in a direct line between the present Bookstore and the SUB would be suitable.

Further support for this statement is evident in Diagram IV¹⁰ which shows the major traffic flow on campus to be between the SUB and the Library. Presumably the SUB and Library act as terminal generators (a department store at one end and a supermarket at the other) in a shopping center and locating between them or in close proximity is a good location.

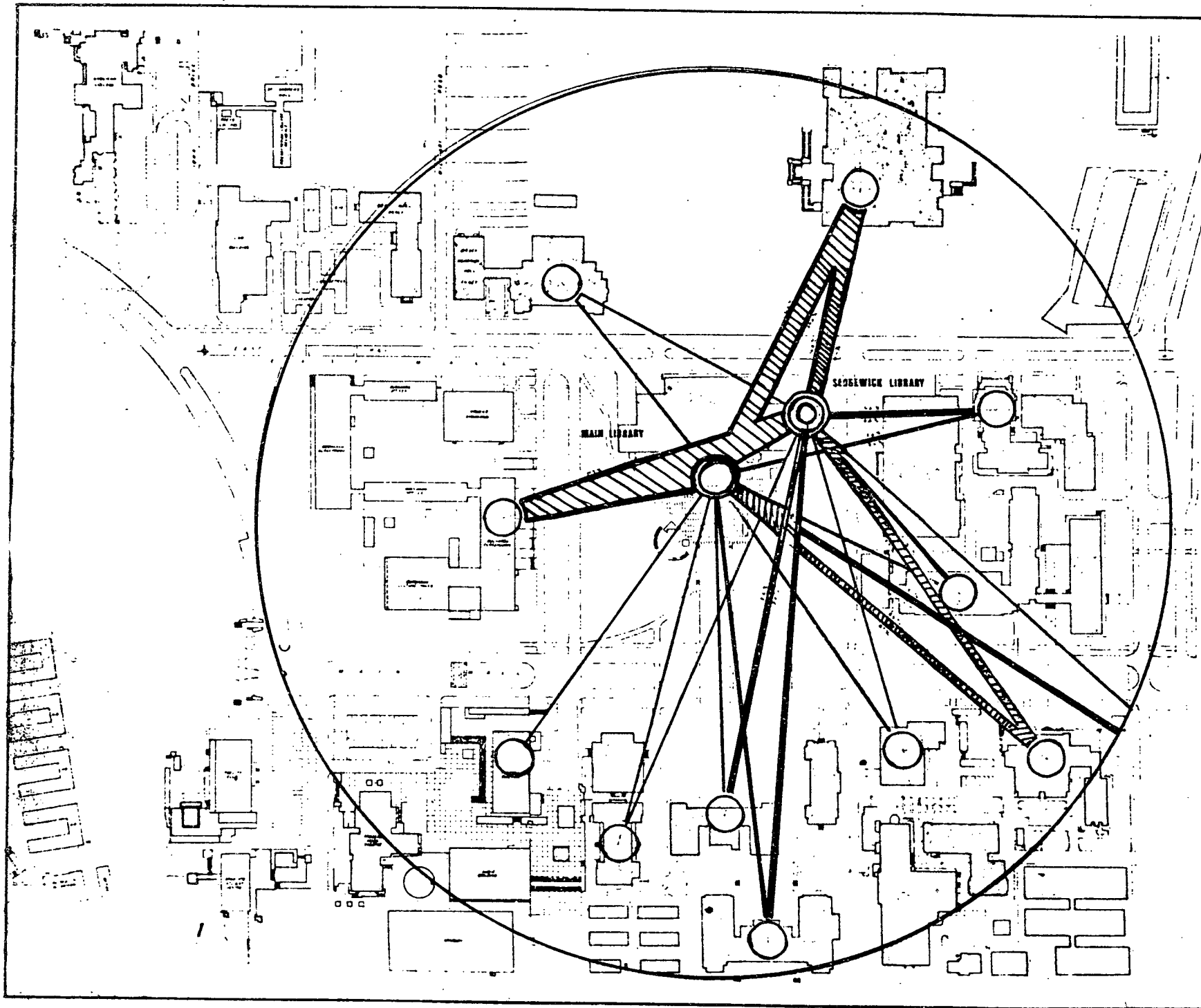
(i) limitations of the model

The simulation model was forced to assume that the effect of a large construction project for the library extension did not reduce the normal activities of patrons from north and east of the Bookstore.

The construction project completely disrupted known traffic routes for the north side of the campus. This situation

¹⁰Architects study: Buchanan/Library Extensions, Unpublished, 1969.

DIAGRAM IV



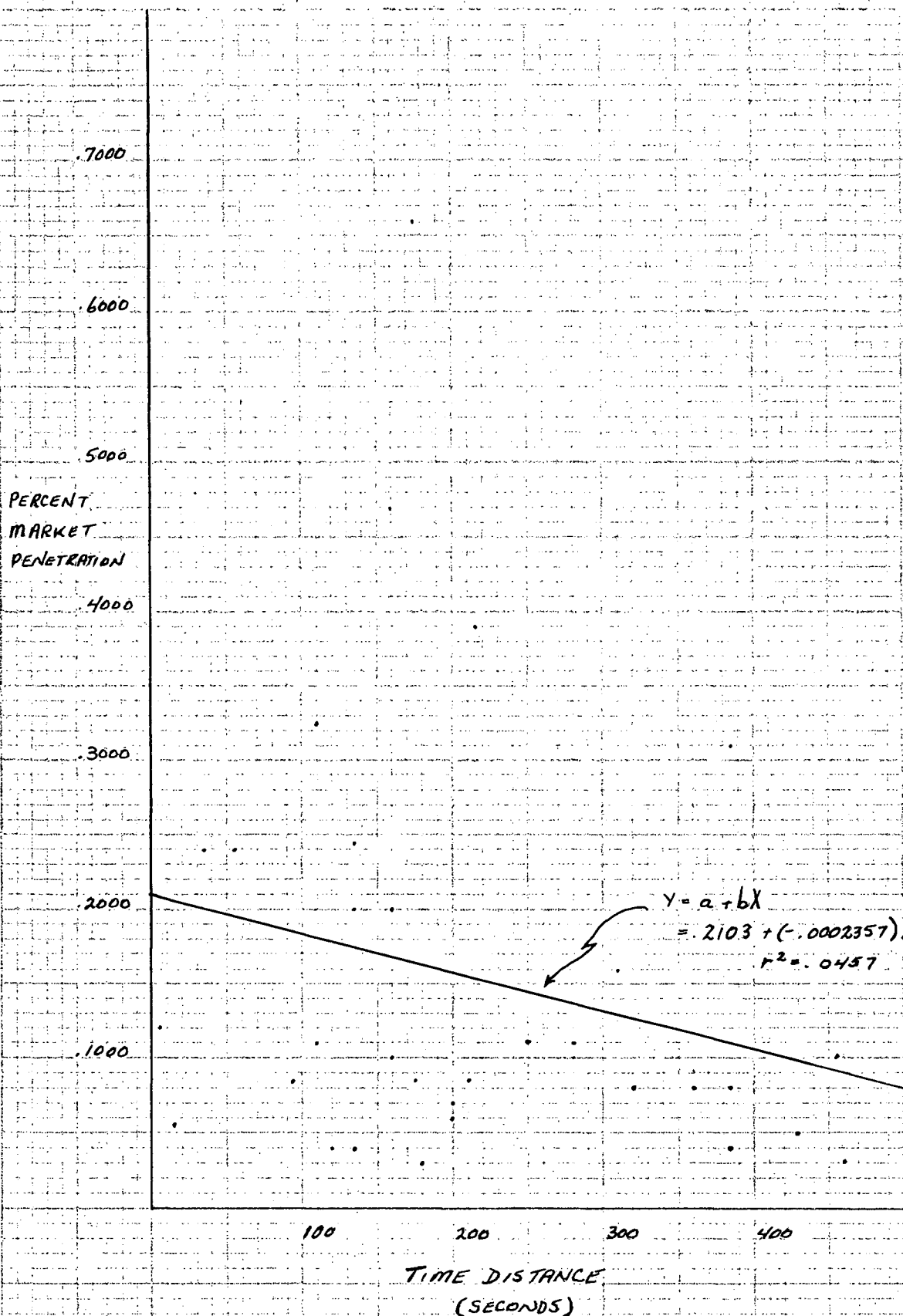
BUCHANAN / LIBRARY
EXTENSIONS-GENERAL
UNIVERSITY SPACE
SITING

implied that travel time, and therefore time distance, to the store would be greater than those measurements used in the simulation model and consequently the market penetration statistic used is an understatement of the actual penetration.

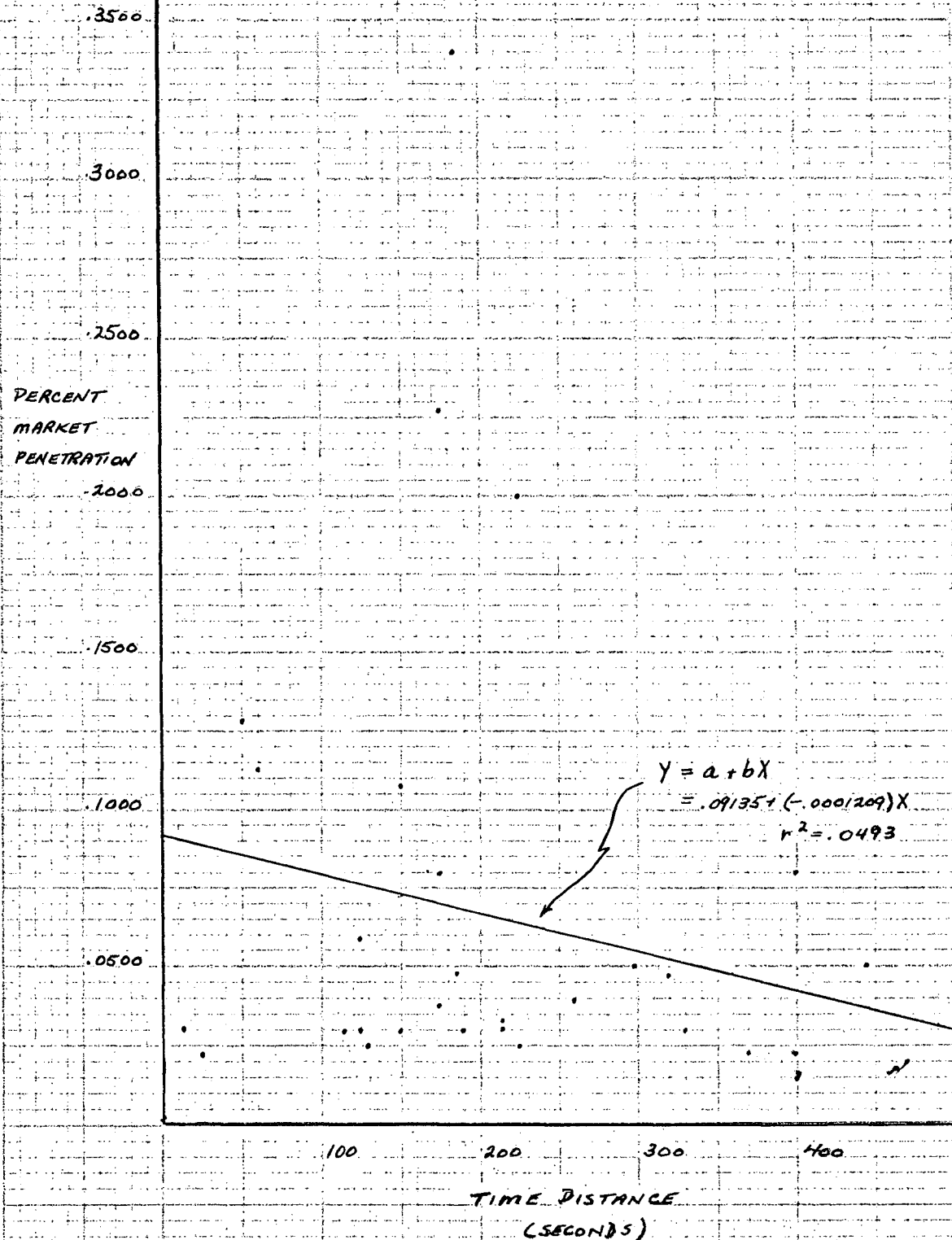
The result of this type of error would be to underestimate the number of potential customers at each of the locations in the north end of the campus and similarly underestimate the actual sales contributions from these locations.

Since the effect of the increased distance on normal consumer behaviours had only been in existence for approximately one month, it was reasoned that the additional factor of distance would be almost negligible at the time of the study. Therefore the final results would be more representative of the real life situation than the estimates that would have been achieved by adjusting for the increased distances.

Secondly there was variability in the data. In certain areas of the campus market penetration was particularly strong. Scatter diagrams shown in Charts III and IV indicate what is meant by this point. In particular, calculations for the Law Huts, Auditorium and Music Building are quite high. There are a number of possible reasons that may account for this variability. Fundamental problems which occurred in the determination of building densities would be reflected in the calculation of the market penetration statistic. In cases where the density was underestimated the penetration would be quite

MARKET PENETRATION SCATTER DIAGRAM
(SURVEY 1)

MARKET PENETRATION SCATTER DIAGRAM (SURVEY 2)



high while the converse would be true for buildings where densities were overstated.

Another point may be that certain faculties are required to make constant and extensive use of the Bookstore. For these faculties distance and therefore Bookstore location is not as relevant as for other faculties.

As a result of the possible density error and peculiar consumer behaviour in certain areas, the predictability of market penetration is not particularly strong. However the results obtained do give a much better idea of the probable effects to be expected from moving the store to one of the two proposed locations than have previous studies.

A third limitation of the model was its scope of evaluation. Other possible sites were not assessed at this time. It seems doubtful though that locations not within the area between the Bookstore and SUB would be desirable.

C. Summary and Conclusions

The purpose of this chapter was to report the methodology used in the evaluation of the three potential Bookstore sites on the campus at U.B.C.,

The results of this research were used to compare the relative value of the sales potential of the sites.

Initially, building densities and time distance were determined. A consumer survey of customer origin and destination was then carried out. From the data collected a frequency distribution of customer to building of origin was obtained and the percent market penetration of the Bookstore at each building was calculated from this information.

Regression analysis of market penetration provided a basic numeric relationship from which the percent penetration could be determined at all buildings on the campus.

A simulation model relating time-distance and sales produced an estimate of sales at the two proposed locations to compare with sales at the present site.

The results show that the SUB site is as good as the present site for a Bookstore. The Ponderosa location would be clearly inferior as total sales would decline by about \$300,000. Most of this decline would be merchandise that has higher mark-ups since textbook sales will be relatively insensitive to location.

The existence of a major traffic flow past the Library to the SUB was noted. This factor, in conjunction with the results of the simulation, suggest that any site between these two major buildings or in close proximity would serve to maximize potential sales as well as customer satisfaction with Bookstore services.

The results of the study also suggest that the re-direction of the store's objectives to include only the merchandising of textbooks would have the advantage of minimizing the effect of location. Since the demand for textbooks is relatively inelastic, consumers would be indifferent to the distance factor and the element of inconvenience of greater distance to the Ponderosa.

This type of decision however would have the decided disadvantage of requiring all overhead and selling expenses to be absorbed by the standard 20 percent markup taken on textbooks. It is doubtful that such an operation would break even.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The controversy surrounding the operations of the Bookstore on the University of British Columbia campus and the question of the store's relocation provided the impetus for the research project reported here.

It was felt that a thorough evaluation of all aspects of store operations was necessary before major "stop-gap" measures were taken which may tend to frustrate the resolution of other problem areas.

From this focus a research program was developed which would incorporate the basic theory of retail management into an analysis of the store's merchandising policies and the determination of optimal store locations.

The purpose of this chapter is to review the results of the research and illustrate how the conclusions drawn may be utilized in the development of a program for the store to achieve a higher standard of service to the faculty and students while retaining a financially self-sufficient position.

A. Merchandising Policy

Efficient merchandising policy is not simply the maximization of sales or a periodic check of the financial:

Balance Sheet. Instead it is the identification and their administration based on a complete understanding of the fundamental concepts involved.

The experience of other retailers and the result of academic research provide the theory of retail management which, by its unique nature, is both an art and a science.

From the theory seven topics were selected to form the basis of the investigation into merchandising policies. A series of interviews with the management team and periods of store observation were the research techniques used to analyze each of the components. The results are reported below:

1. Store Layout

The theory suggests that procedures which reflect the relative value of space are the fundamental prerequisites, for developing an appreciation of the variable of store layout.

Evaluations which identify the relative contribution to total sales, by department or merchandise class, can be used to enhance departmental arrangements. By locating departments with generative or "pull" capabilities, in the relatively inaccessible areas of the store, a network of aisles can be created in a manner which presents impulse, high profit items to customers enroute to these major departments.

When this topic was analyzed the following observations were made:

- management is very concerned over the lack of selling space but they are uncertain as to how they would utilize additional space if it became available.

- the present store layout is rigid. It remains unchanged from year to year and sales peak to sales peak.

- the basement of the store provides the warehouse and wholesale functions which require a considerable amount of non-profit space and could be as effective if they were located away from the retail operation.

- the main floor of the store is broken up with offices and storage space which account for twenty-five percent of the floor space. Their locations are near the front of the store which is the prime area for the merchandising of high profit, high turnover, impulse merchandise.

- the general appearance of the store is staid, dull, congested and disorganized.

- the major generator department--Textbooks--is serviced by a series of secondary aisles which are too narrow for the passage of two customers.

- the Engineering counter--also a generator department--is located in such a manner that no other merchandise is exposed to the customer.

- Sundry or impulse items are displayed in the back of the store or where they require personal selling.

In conclusion, the results of this analysis suggests that there is more than ample space available at the present site to service customers. The layout should be aesthetically pleasing and flexible. Offices should be streamlined and relocated away from the main selling area. Finally procedures should be developed to aid in the arrangement and location of merchandise.

2. Merchandise Assortment

Survival of a retail operation is dependent upon sales. To achieve this the selection of an assortment of merchandise must be appropriate to the needs of the store's clientele and consistent with the store's objective and purpose.

It is important therefore to develop procedures which report the sales performance of every item in the store. The most suitable procedure is the measurement of sales over a specified time period known as turnover. In this manner the number of different brands and styles or the depth of an item can be determined and similarly the appropriateness of different classes of the width of the assortment can be obtained.

By establishing target turnover figures, dead or redundant merchandise can be identified and cleared thereby providing the necessary space for the experimenting with new lines. Furthermore it ensures the continued management of

capital investment in profitable merchandise and reduces the risk of accumulating large inventories of non-saleable stock.

The analysis revealed:

- there are five major categories of merchandise at the Bookstore--Textbooks, Other Books, Stationery, Supplies and Sundries.

- the merchandising of textbooks is from a monopoly position and the assortment is completely predictable.

- normal competitive pressures and consumer preferences exist for all other categories of merchandise.

- turnover analysis is not made use of on a realistic basis. The necessary accounting systems for providing the volume of merchandise on display or in storage are non-existent, therefore turnover can only be considered on an annual basis when an inventory count is made.

- an aggressive merchandising approach is not apparent and many redundant lines are renewed causing inventories to rise uneconomically.

From these observations it can be concluded that the methods used in the annual selection of textbooks are not applicable to the merchandise needs of the other major categories. These categories provide a greater contribution to profits per item than textbooks; therefore, useful procedures should be established to achieve a better sales record commensurate with providing a service to its clientele.

3. Buying Decisions

Once an item has been selected the buying decision, involving an investment of capital, is required. It is important, therefore, to predict the sales pattern the merchandise may take and order appropriate quantities.

In an ongoing operations the buying decision is linked closely with the management of inventories since discrepancies causing overstock or understock positions must be rectified in order to maintain an economic working capital position while meeting the needs of the consumer.

The analysis indicated that:

- all categories of merchandise are subject to a predictable sales pattern.

- the total yearly requirements for an item are purchased at one time in the majority of cases causing uneconomic inventory positions.

- information on inventory balances is not obtained as a matter of course. Instead, reliance is placed on periodic counts in order to discover overstock or out-of-stock positions.

- inventory balances have reached alarmingly uneconomic proportions. This is due largely to textbook supplies which fail to be returned to the manufacturer when their selling cycle is complete.

- rigid controls on purchasing practices do not exist in the form of written policy. As a result the process lacks uniformity and consistency.

The buying of merchandise for the Bookstore is a large job involving many people and considerable time and effort. To ensure sound financial planning and constructive effort the creation of functional guidance and procedures are required which would have the effect of centralizing the buying decision process and thereby ensuring the control of inventory balances and their management.

4. Store Organization

Store organization is a broad and complex topic in retail management. It is, however, a necessary component for the implementation of the store's strategies and objectives.

There are two aspects of organization which must be dealt with. One is that of the functional definition of personnel and the other is the arrangement of these personnel into superior-subordinate relationships which can be coordinated effectively to accomplish the necessary tasks.

The following criticism was made of the Bookstore's organization:-

- there is no formal organization chart showing the functional divisions and reporting relationships. There is,

however, an organizational hierarchy which exists in everyone's mind.

- the merchandising function is divided into two parallel units. One deals with Textbooks and Other Books and the other deals with Stationery, Supplies and Sundries. Each unit has its own shipping, receiving, stocking and buying personnel. This arrangement requires more staff than normally needed.

- there are thirty-eight regular staff and fifteen fulltime and part time employees in the store--it is difficult to justify the need for more than thirty employees during normal operations.

- the control function is concerned with store maintenance and the accounting activities involved in accounts receivable and payable, as well as cash and bank reconciliations. It does not rely on formal written procedures to ensure security. This lack of direction allows one cash register to be operated by as many as five employees during the day and it is not normally cleared on a daily basis. Furthermore, information such as the number of daily transactions is not available as a matter of course and employees are allowed to cash personal cheques through the cashiers.

- the control function is not involved at all with the provision of information pertinent to inventory management. The unlimited access to storage facilities by employees makes the establishment of procedures to produce the information impossible.

- job analysis has been used to create seven broad job descriptions for the unionized employees. In a formal sense this provides for a flexible organization which is necessary due to the cyclic pattern of sales; however, the employees have created their own informal system which allows them to perform tasks of relatively higher status than their normal position requires. Over time they have become casually indifferent to such menial tasks as maintaining store appearance. Unfortunately management seems unaware of its responsibility to direct and organize employee efforts.

- there is no programme to train personnel to increase their abilities. Innate capability is available to improve management but no system has been devised to upgrade employee capabilities and managerial skills.

- wages are intolerably low.

5. Pricing Policies

In theory, pricing policies involve the acquisition of merchandise at the lowest possible cost and by "marking up" the price realizing a contribution to selling expenses and profit.

There are numerous strategies used in setting a markup. It may be a percentage of the cost price or the selling price or a fixed dollar amount. However, in many cases the opportunity to set prices may not be available to the retailer.

Manufacturer's often insist on certain prices to retain their quality image and in other cases they suggest prices which they feel are realistic.

The Bookstore uses the following strategies in their pricing policies:

- Textbooks are sold at the manufacturer's list price which is a twenty percent markup on the selling price.

- Departmental supplies are sold at a twenty percent markup on the selling price.

- all other merchandise is sold at the manufacturer's suggested prices which range from twenty to forty percent markups on the selling price.

- the present accounting system does not recognize many of the overhead charges which are absorbed by other service facilities. Consequently an analysis to identify actual selling expenses is not available.

- flexible pricing strategies are not used by the Bookstore and with the present accounting systems the opportunity to adjust prices realistically does not exist.

Procedures which would identify the actual selling expenses incurred by each line of merchandise should be developed in order that management efforts can be focused on specific areas and expenses reduced. This type of approach should make the present pricing policies more profitable.

6. Retail Services

Retail services in an operation such as the Bookstore may be grouped into two categories. One category includes services which are expected by the customer and are therefore a necessary part of the operation. For services of this nature the onus is on management to maintain the unit costs at a minimum while providing quality service.

The other category includes services which are offered to the customer as an inducement to make greater use of the store and consequently increase sales. These forms of service require that unit costs be minimized while benefits produced are maximized.

The following services are offered by the Bookstore:

(a) required services

special ordering of books.

management of the Use Book market.

accepting the return of unnecessary textbooks.

(undamaged)

packaging and delivery of departmental supplies

(b) promotional services

five percent student rebate

ten percent faculty discount.

faculty deferred payment system

wholesaler for departments

mail-order service to the general public.

The findings of the research indicate that for many of the required services, the existing systems should be revised from the standpoint of reducing storage and handling expenses. The promotional services lacked the support of financial analysis and on this basis were difficult to justify their continued existence.

7. Promotion

In the majority of retail operations the management of this factor is of critical importance. Its central purpose is to sustain the operation's competitive position or advantage.

The Bookstore's situation differs from the norm since the major portion of their sales result from the monopoly position they have in the textbook market.

Since their apparent need for promotion is negligible their current budget for this item is only \$2,000 and its expenditure is mainly in the form of publicity through student, faculty and administrative publications. Unfortunately the opportunity to promote new products and services is not made use of and customers are generally unaware of the Bookstore's activities and new merchandise offerings.

B. Optimal Site Determination

The second phase of the research project was concerned with the evaluation of three sites--the present store location,

the site of the Ponderosa Cafeteria, and near the Student Union Building--all of which had been suggested for future expansion of the store.

The central objective in this study was to collect the data necessary to evaluate alternative sites.

A distance decay model was chosen to replicate consumer behaviour and provide results in terms of estimated total sales.

The first step was to select a group of campus buildings which would be representative of the trading area for the store. Then the average hourly building densities were determined such that the thirty-five buildings represented the 30,000 campus population.

The time-distance in seconds from each building to each of the proposed locations were then measured by walking known traffic routes.

Finally a composite questionnaire was developed to obtain data on the origin and destination of customers as well as their behaviour patterns concerning the store. The questionnaire was administered in a random manner to a total of 3,040 customers during the first week, a peak sales period, and the last week, a normal sales period, of January.

The 360/67 computer's TRIP library program was then used to correlate the variables examined and produce a statistical correlation matrix from which a set of six hypotheses concerning consumer behaviour were drawn:

1. Customers are usually enroute to a point other than from where they originated when they stop at the Bookstore.
2. Customers shop at the Bookstore for a specific item.
3. Customers experience more difficulty obtaining Textbooks than any other type of merchandise.
4. Customers who buy Textbooks are less inclined to supplement their purchases with Stationery items than they are with purchases of Other Books and Sundries.
5. There was no apparent relationship between expenditures at the Bookstore and origin, destination and distance.
6. The adjoining coffee shop is a generator for browsing and casual shopping but not for Textbooks and Supplies.
7. People who come to buy Textbooks spend more per visit than those who come to buy other types of merchandise.

At the same time the MVTAB program was used to cross tabulate the variables. The bivariate frequency distribution of Textbook and Non-Textbook customers to buildings of origin was used to determine the percentage of market penetration the Bookstore has at each building.

The TRIP regression routine was then used to relate the percentage of market penetration to distance.

At this point all the data was brought together to develop the simulation model. Basically the procedures used involved the calculation of the percent market penetration at each building relative to its distance from the store. This statistic was then applied against the building's density figure to determine the actual number of customers patronizing the Bookstore. Finally the customer count from all thirty-five buildings was totalled and multiplied by a constant sales figure which was calibrated to fit the sales total from the simulation model to the total sales of the present Bookstore.

The last step was to use the variable of distance to estimate the potential sales at the proposed SUB and Ponderosa sites.

The results indicated that the SUB alternative was about equal to the present site but that the Ponderosa site was clearly inferior as a Bookstore site. That the difference between the present site and the Student Union Building was negligible is realistic when one considers that the major traffic flow on campus is between the Library and SUB.

The simulation model estimated a drop in total sales of approximately \$300,000, which is almost fifty percent of the total non-textbook sales per year, if the Bookstore were moved to the Ponderosa.

C. Recommendations

On the basis of the research findings, it is apparent that many of the fundamental management factors must be improved in order to align Bookstore operations with the objective of providing a service to the students and faculty.

The results recommend that the following action be taken:

1. Do not relocate the store.
2. Reduce inventories.
3. Undertake an expansion program at the existing site--the present structure can support a second floor. Concentrate initially on improving store layout by relocating offices to the basement area and creating a more flexible approach to the display of merchandise.
4. Restrict access to the warehouse and set up procedures to provide a check on inventory control. Consider relocating the warehouse and converting that space to selling merchandise.
5. Restructure the administrative organization to provide more definite functional responsibilities and a first line of supervision.
6. Study the wage structure with the objective of raising wages to a level which will attract and retain a higher quality of personnel.
7. Immediately supplement the existing staff with technical and administrative skills not now existent in the organization.
8. Provide for the development of an accounting and information system which will allow timely control of operations as well as providing information for making sound decisions.

9. Establish reliable policies and procedures for effective application and management of customer based merchandising programmes.

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