Store Choice and Shopping Behavior: How Price Format Works

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Abstract

In this paper, we present a perceived shopping utility framework for analyzing the impact of retail price format on store choice, which in turn determines three key performance metrics: (1) number of shoppers, (2) number of trips, and (3) average spending per trip. Our approach is based on the premise that when choosing a store, consumers evaluate both the fixed and variable utilities of shopping. The fixed utility does not vary from trip to trip whereas the variable utility depends on the size and composition of the shopping list. We apply our model to summarize prior findings on store choice, analyze how retailers can improve their performance, and interpret the practices of leading retailers. Our framework can also accommodate situations when retailers face multiple segments who have different sensitivities to fixed and variable utilities. Finally, we discuss recent trends (e.g., online shopping) using our approach.

Keywords: Price Format, Perceived Shopping Utility, EDLP, HILO.

Price Format

Pricing is central to retail decision-making: "Nothing is more important in business than getting the pricing strategy right," (*Supermarket Business*, January 1993). Managers can use retail price formats to increase: (1) the number of shoppers at their stores, (2) the number of shopping trips to their stores, and (3) the spending during each trip to their stores.[1]

Managers can select a retail price format on a continuum anchored by EDLP (Every Day Low Price) at one end and HILO (Promotional Pricing) at the other (Hoch et al 1994; Hoch et al 1995; Shankar and Bolton 1999).[2] EDLP, relative to HILO, involves setting lower average prices and prices which have less variability (i.e., a smaller difference between the regular and promoted prices). In mass merchandising, Wal-Mart heavily promotes its EDLP price format through a low-price campaign slogan. This positioning strategy has helped Wal-Mart to outgrow other retail chains such as Sears and K-Mart and to become the world's largest retailer with over US $100 billion in revenue. In supermarket retailing, Lucky (California), Omni (Illinois), and Cub (Illinois) are positioned as the EDLP stores, while Safeway (California), Vons (California) and Jewel (Illinois) are positioned as HILO stores. Thus, both price formats exist in practice.

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[1] Besides price format, we study the effect of other variables, such as product quality and assortment that also influence store choice (e.g., Arnold et al 1983). An important contribution of our framework is that the effect of these non-price marketing variables is captured by their influence on consumer perceptions of the utility of shopping in a particular store (see sections 3 and 4).

[2] Ho et al (1998) provide a theoretical underpinning to explain why average prices and price variability should move together. They show that if one store charges a higher average price than its competitor for a particular item, it *should normatively* have a higher variability in the price for that item in order to be perceived as imposing equivalent utility on the consumer.

Even competing retailers located in close proximity may use dramatically different price formats. We examine the price of a basket of the 12 highest-selling items from 12 categories in five supermarkets in Chicago. The first two stores, which we denote E1 and E2, are from different chains and advertise themselves as EDLP stores. The third store, H1, is a HILO operator from another chain. The fourth and the fifth stores (HH1 and HH2) are higher tier HILO stores from a common chain. Figure 1 shows the average and standard deviation of basket prices calculated over a two-year period. First, the average basket prices are *lowest* in the two EDLP stores, E1 and E2. Second, the standard deviations of basket prices are *higher* in the HILO stores, H1, HH1 and HH2. In fact, an extensive analysis of prices for 3,000 stock keeping units (skus) indicates that low average prices and low standard deviations in prices seem to go hand-in-hand (Ho et al 1998). This does not imply shoppers *always* find higher prices at HILO stores. Because the standard deviation is higher, the actual price of the basket at the HILO stores is sometimes higher and sometimes lower than at the EDLP store.

[Figure 1 about here]

Price formats affect how people shop. Table 1 shows the number of shoppers, number of shopping trips and average spending per trip for 548 households shopping at the five supermarkets.[3] Stores E2 and H1 attract the most customers, 311 and 262 respectively. Store H1 generates 31,706 visits in a two-year period. This is almost 65% more than the second highest firm, E2. Store E1 and E2 have the highest average spending per trip of $32 and $39, respectively.

Thus, there is no dominant price format. In addition, these across-store differences could arise because the stores attract different types of clientele (consumer heterogeneity), or, because inherently similar types of shoppers happen to behave differently in different price formats (consumer adaptation.)

[Table 1 about here]

The co-existence of both EDLP stores and HILO and the data just presented raise the following fundamental questions:

- How do retail price formats influence shopping behavior?
- How should a store manager evaluate and select an effective retail price format?

Based on prior research (e.g., Huff 1964; Craig et al 1984; Brown 1989; Mulhern and Leone 1990; Lumpkin and Burnett 1991; Ortmeyer et al 1991; Woodside and Trappey 1992; Hoch et al 1994; Lal and Rao 1997) and our recent extensive empirical work in the area of retail price format (e.g., Bell and Lattin 1998; Bell et al 1998; Ho et al 1998) we present a framework for answering these questions.

The paper is organized as follows. Section 2 introduces the notion of "perceived utility" of shopping. In section 3, we develop empirical propositions that summarize key findings from the literature. Section 4 investigates ways in which stores can increase either fixed or variable shopping utility. In section 5, we show how the framework can be applied when retailers face multiple segments of shoppers. Section 6

[3] On average, a customer makes 86.4 per year and shops every 4.2 days.

applies the framework to interpret online shopping practice. We summarize our contribution in section 7.

Perceived Shopping Utility

Our perceived shopping utility framework for explaining store choice rests on two premises. First, on each shopping occasion, a consumer chooses a store based on the perceived utility from that store (i.e., benefits minus costs). Second, a customer's perceived total utility associated with a shopping trip can be divided into **fixed** and **variable** components. We focus on perceived utility because prior research shows customers possess and utilize store image in making store choice (e.g., Finn and Louviere 1996). The perceived **fixed utility** does not vary from trip to trip and is not a function of the shopping list. On the other hand, the perceived **variable utility** changes from trip to trip because it depends on the size and composition of the shopping list.[4]

Figure 2 shows the relationship between the perceived shopping utility and store perform-ance. Perceived shopping utility determines store choice and this in turn affects the three performance metrics: (1) total number of customers, (2) total store visits, and (3) average spending per shopping trip. These metrics have received considerable attention in retailing (e.g., Malholtra 1986).

[Figure 2 about here]

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[4] The size and composition of the shopping list affects task definition, which has been shown to affect store choice e.g., Van Kenhove et al 1999).

Table 2 lists the key drivers of the fixed and variable utility of shopping in a store. Several of these drivers have also been identified in prior research (e.g., Malholtra 1983). The fixed benefits include the ease of shopping derived from habitual experience at a store (e.g., knowledge of store layout and product shelf location) and the value attached to service quality (e.g., parking space, cleanliness, friendliness, etc.). This habitual experience explains why most shoppers have a strong preference for their primary store (Wilson and Woodside 1991; Woodside and Trappy 1992). In addition, a large assortment facilitates "one-stop shopping" and eliminates consumers' need to make separate trips to other stores. Finally, as shown in Ho et al (1998), shoppers value purchase flexibility (i.e., the ability to buy more when the price is low and buy less when the price is high). On the other hand, the fixed costs are driven by the time and effort involved in reaching the store. A strength of our fixed utility framework is that it includes variables other than just store location. This approach can reduce the potential for misspecification error in model estimation (Rust and Donthu 1995).

The variable utility is the product of size of the basket and the unit variable utility. The unit variable benefits include value derived from loyalty rewards and store-specific price discounts. Furthermore, category-specific shopping experience is beneficial to the shopper. For example, Bell et al (1998) show that due to category-specific familiarity, a shopper may *perceive* a lower expected price for a product in a store, increasing its unit variable utility, even when another store may charge the same *actual* price for the product. The unit variable costs are determined by the expected prices, which are determined by the store's price format.

[Table 2 about here]

The effect of size of basket on variable and shopping utility can be analyzed as follows. Consider a situation in which a shopper chooses between stores A and B. Store A is perceived to have a higher fixed utility and a lower unit variable utility than store B. That is, the consumer has an overall preference for shopping in A (due to location, habitual experience, service, etc.), but considers that A has lower unit variable utility, on average, for any given size of shopping basket. Figure 3 depicts the shopping utility for Stores A and B.[5] The shopper will select store A if the basket size (i.e., the total quantity of the planned purchases across all categories on the shopping list before the store visit) is below a certain threshold,[6] and select store B otherwise. Thus, shoppers who shop at store A will tend to have a smaller basket size than those shoppers who shop at store B. Put differently, the average spending per trip at store A will be smaller than at store B.

[Figure 3 about here]

This fixed and variable utility trade-off is implicit in other studies, but has not been explicitly articulated (see for example, Lumpkin and Burnett 1991). In this sense, our framework adds to the literature in its ability to summarize and integrate findings from many studies.

The framework is also powerful in describing and predicting store choice. We used the perceived shopping utility model to predict store choice using data from over 500 households across 5 stores for a 2-year period. The results suggest that all the drivers listed in Table 2 are statistically

[5] Note that the vertical axis represents the total cost of shopping and the horizontal axis the size of shopping basket.

significant in describing store choice. The model is able to predict correctly (out-of-sample) 83 times out of 100 (a random choice model will predict correctly 20 out of 100 times). Interestingly, a model that accounts for only customer location and store-specific service quality predicts correctly only 54 times out of 100. The high rate of success provides face validity for our approach. In the next section, we show how the framework leads to empirical propositions that are supported both in our data and in the results of other research.

Empirical Propositions

Our framework and the results of the prior research lead to four testable propositions, which we discuss in turn.

> Proposition 1: *Fixed utility increases with habitual shopping experience and store-specific service quality and assortment, and decreases with time and distance involved in reaching the store*.

The importance of individual drivers of fixed utility have been studied previously. In the retail site location literature customer location is central to the decision of where to position a retail site (e.g., Huff, 1964; Craig et al, 1984; Brown, 1989). Similarly, habitual shopping experience has been shown to positively influence top-of-mind associations, which facilitate store memory retrieval (Thelan and Woodside 1984). Different shoppers may place different emphasis on fixed utility. US shoppers, relative to their UK counterparts, pay more attention to fixed utility. Specifically, they value habitual

[6] Note that the threshold denotes the size of shopping basket at which stores A and B impose the *same* expected cost of shopping on the consumer. It is essentially a "breakeven" point, from the perspective of the shopper.

experience and the time involved in shopping highly (Langehr and Rinne 1987). However, the relative importance of these drivers on store choice has not been studied.

Using our framework, we quantify the relative importance of each driver. Our results indicate that store-specific habitual experience is the most important driver of fixed utility followed by customer location. Both drivers account for 60% of the explained variation in store choice. Store-specific differences (e.g., in service quality) account for 6% of the explained variation.

Proposition 2: *Unit variable utility increases with store-specific price discounts and category purchase experience and decreases with the expected price of items on the shopping list.*

Previous research has focused on the effect of store-specific price discounts and the expected prices on consumer spending. For instance, Mulhern and Leone (1990) observed a change in price format from EDLP to HILO and found an increase in overall spending. This suggests that customers are not elastic to variable utility and are driven by fixed utility. Hoch et al (1994) found a similar result – shoppers are inelastic to changes in category prices (which is part of unit variable utility in our framework). We find that price image is an important component of unit variable utility, although the overall effect of variable utility is small, albeit statistically significant. However, this result may depend on shopping context. For instance, apparel shoppers rank "value for money" (i.e., unit variable utility) as the most critical driver of store choice (*Chain Store Age*, October 1996).

In addition, our results suggest that beside expected prices and store-specific discounts, price image is also driven by store-specific habitual category experience. Interestingly, category-specific

habitual experience at a store increases the unit variable utility for that store. This may explain why some retail chains heavily promote key categories.

Proposition 3: *Fixed and unit variable utilities vary across price formats. HILO stores have higher fixed and lower variable utilities.*

There are two reasons why we see HILO stores offering higher fixed utility. As noted by Lal and Rao (1997), EDLP and HILO are not only pricing formats, but also positioning strategies. HILO stores usually provide relatively higher service levels, which translate to higher fixed utilities of shopping from a customer's viewpoint. Second, the greater degree of price fluctuation at the HILO store provides consumers with some flexibility in their shopping plans. Specifically, price fluctuation gives consumers the opportunity to stock up when the price is low, and to defer purchases in instances where the price is high. Ho et al (1998) developed a theory and provided empirical evidence for the notion that this purchase flexibility creates an "option value" for consumers. They show how this option value results in fixed cost reduction, which increases the fixed utility of shopping. The underlying logic is that the purchase flexibility conferred by variable pricing leads economically rational consumers to visit HILO stores more often than EDLP stores.[7]

We utilize a logit choice model to estimate the fixed and unit variable utilities for each of the five stores, and these values are reproduced in Table 3.[8] In Table 3, we normalize fixed and unit variable utility with respect to the store that has the lowest value (E1 for fixed utility and HH1 for unit variable

[7] This implies that consumers tend to make more trips to HILO stores than EDLP stores. Our empirical analysis in Table 1 confirms this implication. Specifically, store H1 captures more shopping trips than stores E1 and E2.

[8] The advantage of using the logit model in store choice has been discussed in Meyer and Eagle (1982).

utility). Clearly, retail price formats have a significant impact on the perceived fixed and unit variable utilities of shopping: HILO stores have a higher fixed utility, but a lower unit variable utility, than EDLP stores do. Hence, Proposition 3 is supported in the data.

[Figure 3 about here]

Proposition 4: *Basket sizes vary across price formats. They are larger for EDLP stores and smaller for HILO stores.*

Figure 3 suggests that a store with low fixed utility but high unit variable utility will attract shopping trips with larger baskets. Proposition 3 suggests that EDLP stores have lower fixed but higher unit variable utility. Consequently, they should attract larger baskets. Table 1 supports this observation. It shows that the average spending per trip across the three HILO stores is $19.03; across the two EDLP stores it is $35.53. On average, shoppers spend almost twice as much at EDLP stores. In addition, the shoppers also purchase larger quantities (or numbers of items) at the EDLP stores (Ho et al 1998). This is consistent with our findings that EDLP stores have lower fixed but higher variable utility. Therefore the perceived total utility is higher for EDLP stores for larger baskets.

This notion of different types of shopping trips defined by basket sizes is not new. Kahn and Schmittlein (1989; 1992) report that consumers take two kinds of shopping trip: major and fill-in. They also show that the type of shopping trip is related to the sensitivity to marketing variables (e.g., consumers are more apt to use coupons on major trips and they are more responsive to price promotions on fill-in trips). Combining these findings with Ho et al (1998) one can infer that consumers

are more likely to use coupons at EDLP stores (where their baskets are larger) and are more likely to respond to deals in the HILO stores.

The framework can also be used to interpret how firms enhance their competitive positions by making improvements with respect to fixed and/or unit variable utility. We discuss this in the next section.

Enhancing Perceived Shopping Utility

Under our framework, there are two ways to improve the overall perceived utility: increase fixed utility, or increase unit variable utility. An increase in fixed or unit variable utility of shopping has a direct impact on store performance (in terms of the number of customers who visit the store, number of shopping visits and average expenditure per trip). To elaborate, let us consider the case (shown in Figure 4a) in which the store with the lower perceived fixed utility (store B) makes an improvement so that the fixed utility is now higher. Prior to the change, store attracts consumers with basket sizes above the original threshold. Note that the effect of increasing fixed utility is to *lower* the threshold quantity (basket size). Store B now captures *additional* customers whose basket size is between the new threshold and the original threshold. Thus, store B makes inroads into the class of shoppers who buy smaller basket sizes per store visit.[9]

[Figure 4a about here]

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[9] Technically speaking, it allows store B to capture more "small basket trips." This could mean that either store B attracts these types of trips from existing customers, or, it attracts new customers, or both.
(cont. on next page)

There are several recent examples of retailers who have implemented strategies to increase customer-perceived fixed utility of shopping. CompUSA opened a new concept store in Chicago featuring an open and spacious design that is "divided into several departments, each one with its own image and ambiance," to make it "easy to shop" for the consumer (Wilson 1998). Home Depot also delivers a strategy to increase perceived fixed utility: its new "neighborhood hardware store concepts" focus on the provision of customer information (Discount Store News, 1998; Johnson 1998). Walgreens also emphasizes this strategy through a vigorous program of expansion. It has opened over 900 stores and remodeled more than 500 in the past few years, each time focusing on larger stores and improved assortment (Reda 1998). A smaller scale example is that of Nordstrom who have developed up-scale cafes with the hope of attracting and retaining a larger customer base and improving the overall "experience" of shopping (Strass 1998). Finally, the Canadian retailer Agora has recently implemented a "freshness concept" designed to appeal to consumers who value convenience and typically purchase smaller basket sizes (Marketscan 1998). Each of these activities impact perceived fixed utilities of shopping by improving access to the store, product assortment, overall shopping experience, and in-store product information.

The grocery retail industry also contains examples of "winners" who have focused on innovative ways to increase fixed utility. Two recent recipients of the Chain Store Age "Retailer of the Year" award are Busch's Marketplace (MI) and Harris Teeter (GA). Both firms have employed innovative layout (signage, multi-level stores) to improve the customer shopping experience and facilitate ease of search and purchase (Chain Store Age, Feb. 1998). Vons, a traditional chain retailer focused on fixed

utility improvement to achieve a dramatic turnaround. The core of the strategy was a micro-marketing program designed to target consumers and link their purchase patterns to observable characteristics (Progressive Grocer, Oct. 1994; Oct. 1996).

Now consider that the store with the lower unit variable utility (store A) makes an improvement. Suppose the *unit variable utility* of shopping at store A is increased, elevating the *slope* of the total utility curve for shopping. The effect of this change is to move the threshold quantity for store selection to the right. Figure 4b shows that store A now captures additional customers whose basket size is between the original threshold and the new threshold.

[Figure 4b about here]

A notable example of a firm who has moved to aggressively increase unit variable utility is Costco. The 1997 Discount Merchandiser "Retailer of the Year," Costco focuses on selling only 3000-4000 fast-moving skus at vastly reduced prices. The result has been a 47% increase in net revenue in 1998 (Johnson 1997; Scally 1999). In a further effort to increase consumer-perceived unit variable utility, Costco is launching an ambitious program to expand private labels (Scally 1999). A different example of success in increasing unit variable utility is that of Safeway. The carefully targeted Safeway Savings Program has delivered dramatic increases in stores sales as loyal customers are rewarded through selective discounts and thereby encouraged to devote a larger fraction of their total expenditure to Safeway (Hughes 1999).

Our framework can also be used to simulate the effects on performance metrics that result from a change in price format. Specifically, we use our model to study the impact of a change in prices for all

categories on total revenue. Note that total revenue is the product of the three performance metrics (see Figure 2). We implement the study by first calibrating the store choice model on the data. As indicated above, this model has good descriptive and predictive abilities. Second, we assume that the choice process of consumers does not change: they continue to select stores by trading off fixed and unit variable utilities of shopping. Given this, any change in the prices, will affect the consumers' perceived unit variable utility of shopping.

In our simulation experiment, we increase the prices for all categories at a store by 10% while keeping the prices of the other four stores unchanged. We repeat this experiment for each of the 5 stores. When raising the prices at a store, we *decrease* the perceived unit variable utilities associated with that store. Table 4 summarizes our simulation results.

[Table 4 about here]

Consider what happens when we raise the prices (decrease unit variable utility) by 10% at store HH1. Store HH1 is a HILO store that has high fixed utility and low unit variable utility, and increasing the prices will further decrease the variable utility. As such, store HH1 sees a 10% decrease in trips per customer. However, as store HH1 increases the prices, the average customer spending per trip is also increased by 2% because the prices are higher. Consequently, the overall grocery spending decreases by only 7.4%. Therefore, increasing prices at HILO stores might be profitable.

Furthermore, as shown in Table 4, increasing the prices by 10% at an EDLP store tends to have a smaller negative impact on revenue, which makes this even more profitable. The importance of the example is that it shows, directionally, how store traffic and expenditure interact, and how this differs

by overall price format. The finding that volumes are less than proportionally responsive to price was also found in the extensive experiments conducted by Hoch et al (1994). The overall profitability of any such change will, naturally, depend upon marginal costs and the underlying cost-efficiencies of a given store. The retailer's cost structure and pricing decisions will also be a function of trade deals from manufacturers and inventory management (e.g., Dreze and Bell 1999).

So far we have implicitly assumed that consumers are homogenous and belong to the same segment. In the next section we discuss how the framework can be used to help the firm faced with serving multiple heterogeneous segments.

Market Segmentation

Figure 5 provides a map for classifying different types of stores according to the shoppers' perception of fixed and variable costs of shopping at those stores.

[Figure 5 about here]

As depicted in Figure 5, a store with high fixed and unit variable utilities of shopping is clearly a "winner" and a store with low fixed and unit variable utilities of shopping is a "loser." In addition, recall from Figures 3 and 4a-4b that shoppers who shop at a store that has low fixed utility but high unit variable utility tend to have a larger basket size per trip. Thus, this type of store competes on volume. On the other hand, shoppers who shop at a store that has high fixed utility but low unit variable utility tend to have a smaller basket size. Clearly, this type of store is more apt to compete on service. In this case, as long as the market is not homogeneous (in terms of customers' sensitivity toward fixed and unit variable

utilities), some segments of the market would prefer the volume-based stores while the remaining segments prefer the service-based stores. As such, there is no dominant retail pricing strategy when the market is heterogeneous.[10]

When the market consists of multiple segments, the relative competitive position of a store may vary from segment to segment. Hence, selecting an effective retail strategy becomes more complex because different market segments have different perceptions of the fixed and variable utilities associated with the store. For example, one segment may be more sensitive to the travel distance (a part of fixed utility) and another to the retail prices (a component of unit variable utility). Lumpkin et al (1985) show that shoppers of different age groups have different sensitivities to fixed and variable utility; Lumpkin et al (1994) find that department store shoppers are more concerned with fixed utility and discount store shoppers with variable utility. Dash (1976) shows that customers who are knowledgeable about durable products care more about assortment and hence the fixed utility.

To see how a store can be perceived differently by different segments, consider a hypothetical situation that has three stores serving a consumer market that is comprised of two segments. Households in segment 1 have no children and buy private labels, while households in segment 2 have children and do not care for private labels. The characteristics of the stores and the customers' perception of the stores are given in Table 5.

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[10] While there is no dominate retail pricing strategy, the store positioning map depicted in Figure 4 can be helpful in determining effective retail strategies for improving store performance. First, consider a volume-based store (i.e., one that has low fixed utility but high unit variable utility). To become a winner, this store needs to focus on increasing the shopper's fixed utility. On the other hand, for a service-based store to become a winner, it needs to focus on increasing the shopper's unit variable utility. (A loser needs to increase both.) It is possible for a store to develop pricing and retail strategies for increasing both fixed and unit variable utilities. For instance, HILO Pricing used together with Private Labels strategies (Dhar and Hoch 1997) could increase fixed utility (via HILO pricing) and variable utility (via Private Labels).

[Table 5 about here]

By examining the characteristics of the market segments and stores in Table 5, the manager can construct *segment-specific* positioning maps. These maps take into account a given segment's assessment of the fixed and variable utilities in different stores and are depicted in Figure 6.

[Figure 6 about here]

The key insight from Figure 6 is that the *same* store can be viewed quite differently by different segments of customers. In addition, notice that stores B and C focus on serving segments 1 and 2, respectively, while store A serves both segments. In this case, stores B and C can be thought of as adopting a "focus" strategy while store A adopts a more "diverse" strategy. Thus, Figure 6 illustrates that a good knowledge of segment preferences and clever segmentation strategies can allow a store (e.g., store A in the example) to be "different things to different people" simultaneously.

To investigate how retailers deal with multiple segments in practice, we conduct a new analysis of our data that allows for two (potentially different) groups of shoppers. Approximately one third of the shoppers care primarily about *variable* utility, while remaining two-thirds care more about *fixed* utility. Figure 7 depicts the estimated fixed and variable utilities of the two segments, for the five stores.

[Figure 7 about here]

Observe from Figure 7 that store H1 is perceived as having relatively high unit variable utility by segment 1 and as having relatively high fixed utility by segment 2. By applying the concepts discussed in conjunction with Figure 6, store H1 is perceived as a volume-based store by segment 1 and as a service-based store by segment 2. In addition, store H1 appeals to both segments 1 and 2, while stores E1, E2, and HH2 appeal to segment 1 only and store HH1 appeals to segment 2 only. Therefore, just like store A in Figure 6, store H1 can be thought of adopting a "diversified strategy."

This diversified strategy allows many retailers (beyond those in our immediate data set) to become "winners." One such example is that of Ann Taylor, whose sales declined in the early 1990's after an impressive run in the 1980's (Wilson 1995). In 1992, CEO Sally Kasaks moved aggressively to reduce prices 10-15% across the board (increase unit variable utility) and improve assortment and reorient the stores toward "one-stop shopping" (increase fixed utility). Another classic example is that of Dollar Tree, who sells all products for one dollar. The challenge in this case was to increase fixed utility and encourage more consumers to shop there: This was accomplished via investments in brand name merchandise, expansion to include consumables and the opening of new stores (via construction and acquisition). The result has been recent annual growth of more than 20% (Howell 1999; Transportation and Distribution 1999).

Canadian super retailer, Loblaws pursues a diversified strategy by retaining and developing private labels (to increase unit variable utility), and simultaneously undertaking capital investments to expand store sizes, services and product selection (Marketscan 1998). Finally, we note with interest that as a class of retailer, the mass merchandizing segment has as a whole moved from an initial position of strength with respect to unit variable utility to a segment position that continues to erode conventional supermarket and drug store shares by improving their merchandising and expanding variety (Crnkovich

1999). For instance, Carrefour, a French super retailer, expanded its service from mass merchandizing to car rental and travel services.

Online Shopping

Our framework can also be used to analyze online shopping. Under our framework, the value proposition of on-line shopping is that shoppers who derive very low fixed utility from conventional shopping can do better by shopping over the Internet. This would apply to shoppers who perceive traditional shopping as costly (perhaps in terms of time) and who get little benefit from the in-store service and shopping experience.

While no player has yet to demonstrate a fully convincing and profitable business model, several on-line ordering and home delivery companies have been created to offer this service. In considering three brief examples, our goal is simply to relate their observed practice to our framework. Peapod does the shopping for time-conscious consumers at supermarkets such as Jewel (Chicago), Safeway (San Francisco and San Jose), and Stop & Shop (Boston). Peapod grossed almost $70 million in 1996 (Hammel, 1997). Interestingly, companies like Peapod often offer two different kinds of pricing schemes (that correspond nicely to our notions of fixed and unit variable utilities of shopping). One pricing scheme charges each ordered item on the shopping list at a slightly higher price (i.e., it decreases the unit variable utility while greatly increasing the fixed utility by removing the need for a visit to a physical store). Another scheme charges a fixed fee for the shopping service and does not increase the price of the ordered product (i.e., it replaces the fixed cost with a fixed fee and does not change the unit variable utility).

Streamline expands the basic on-line grocery shopping by providing additional value-added services, including video rental and return, photo finishing, dry cleaning, and postal service. This enables a shopper to "one-stop shop" and thereby eliminate setup costs incurred during separate trips to the video rental store and post office (Liebeck, 1997). NetGrocer offers a tiered scheme by charging a flat rate delivery cost for the first 10 pounds of merchandise and a fee per additional 10 pounds thereafter (Liebeck, 1997). The future success of these on-line organizations depends on their ability to increase both the shoppers' fixed and unit variable utility of shopping vis-à-vis their off-line competitors.

Summary

This paper presents a comprehensive way of thinking about how customers view the shopping process. The utility-based framework is developed and presented from an extensive analysis of the behavior of real shoppers. One attractive feature of the framework is its parsimony: we show how other research can be interpreted within the overall setup and how one can study many aspects of retail strategy with this unified approach. Several recent examples of successful retail practice were interpreted with respect to the model. It is our hope that retail practitioners and strategists can use our framework to develop a richer understanding of the following important retailing issues: (1) the shopping utility evaluation and response sensitivities of different consumer segments, (2) how consumer segments perceive and respond to different retail price formats, (3) the relative competitive position of a store in different segments, and (4) the likely impact of a change in retail strategy on the fixed and variable shopping cost perceptions of different consumer groups.

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Figure 1. Mean and Standard Deviation of the Basket Prices

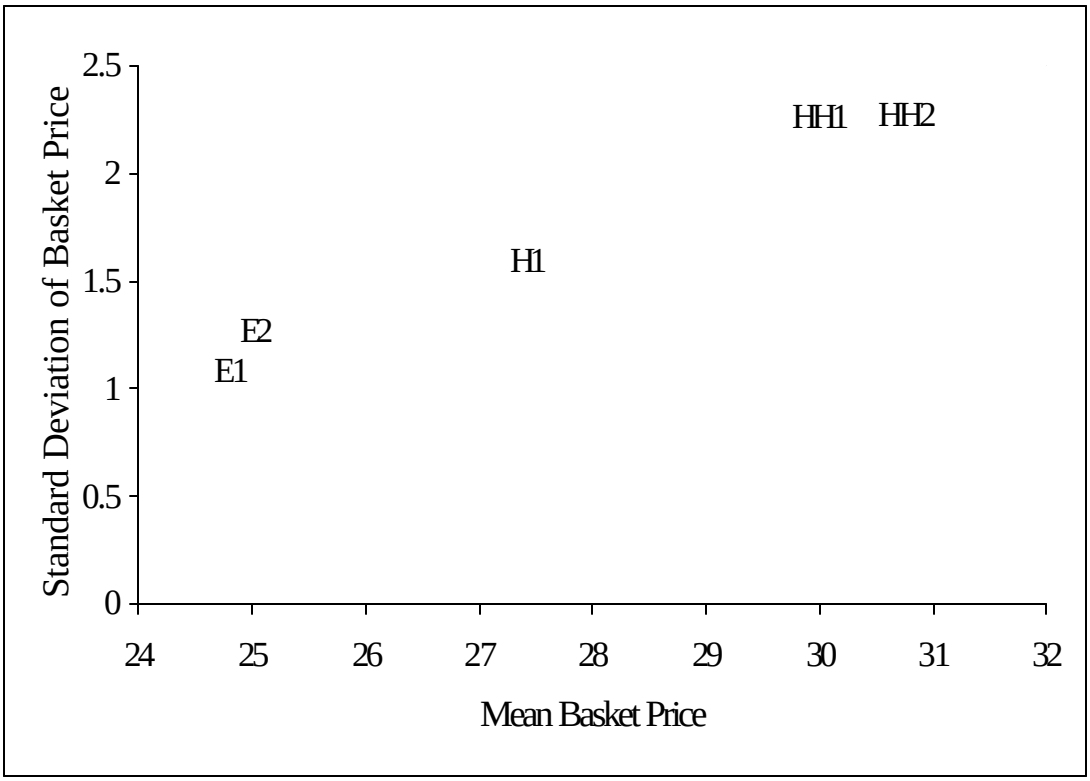

Figure 2. The Relationship Between Perceived Shopping Utility and Store Performance

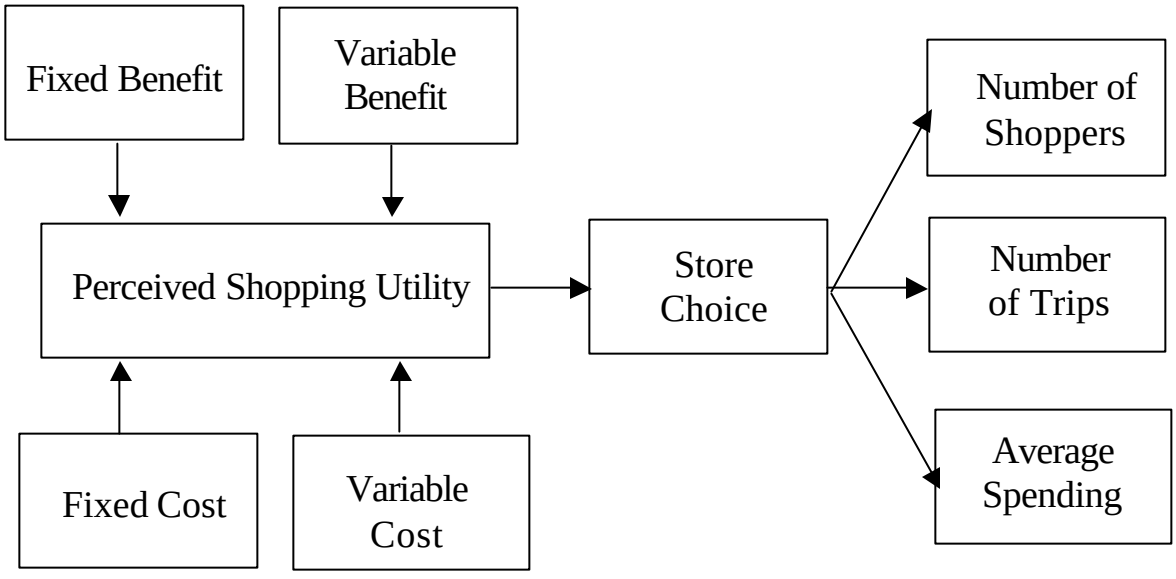

Figure 3. Impact of Shopping Utility on Store Choice

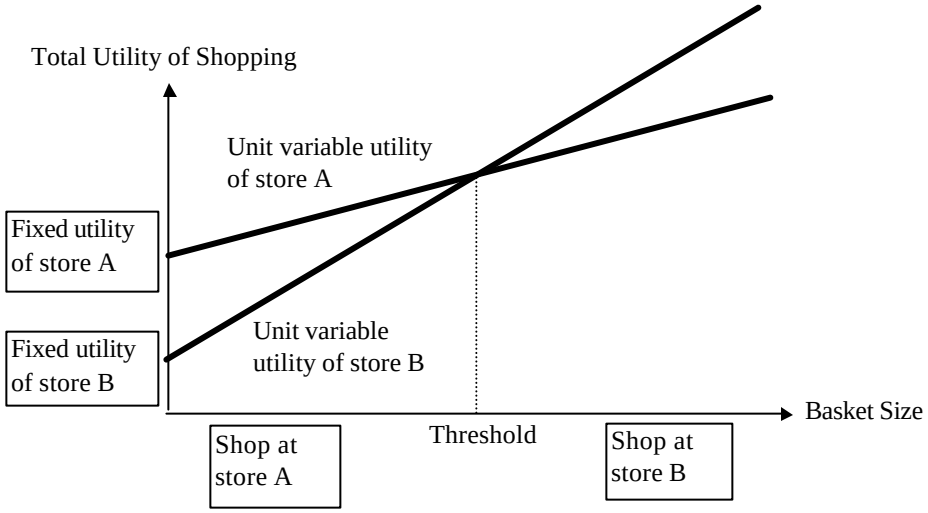

Figure 4a: Impact of Fixed Utility Increase

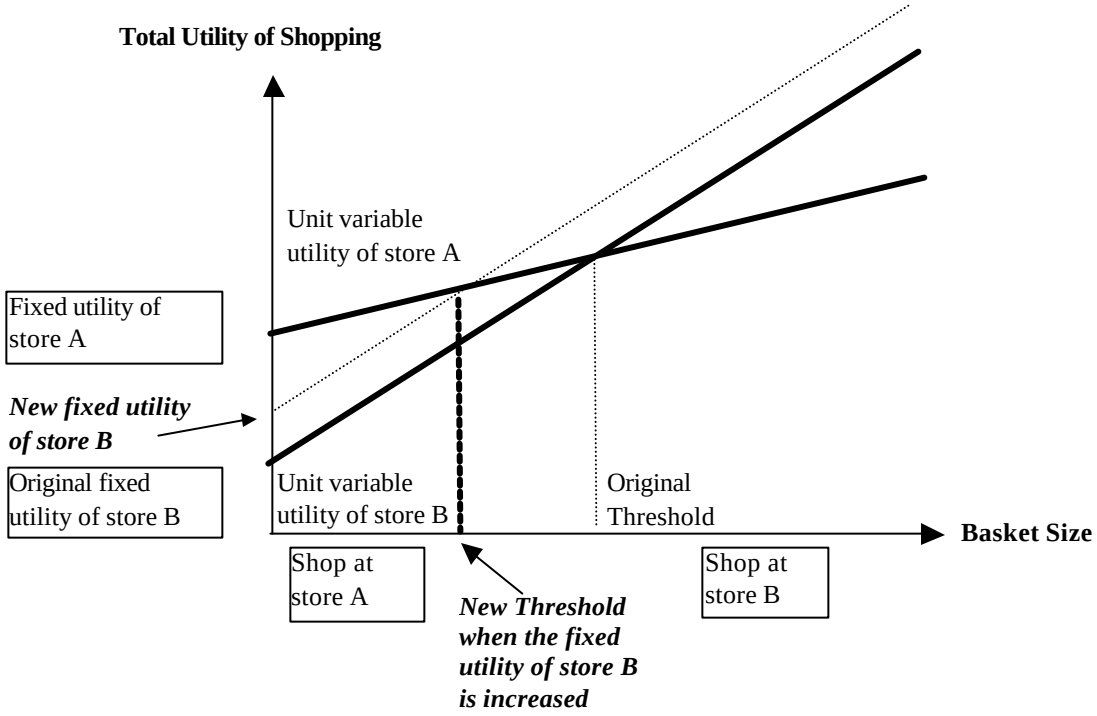

Figure 4b. Impact of Variable Utility Increase

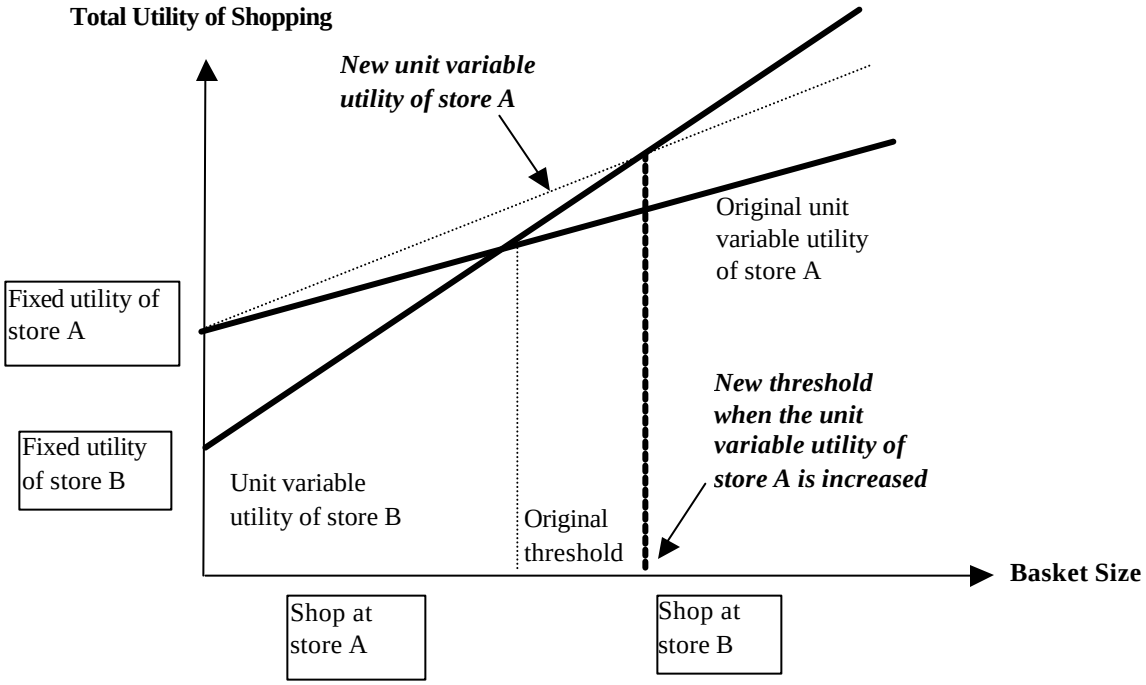

Figure 5. Store Positioning Map

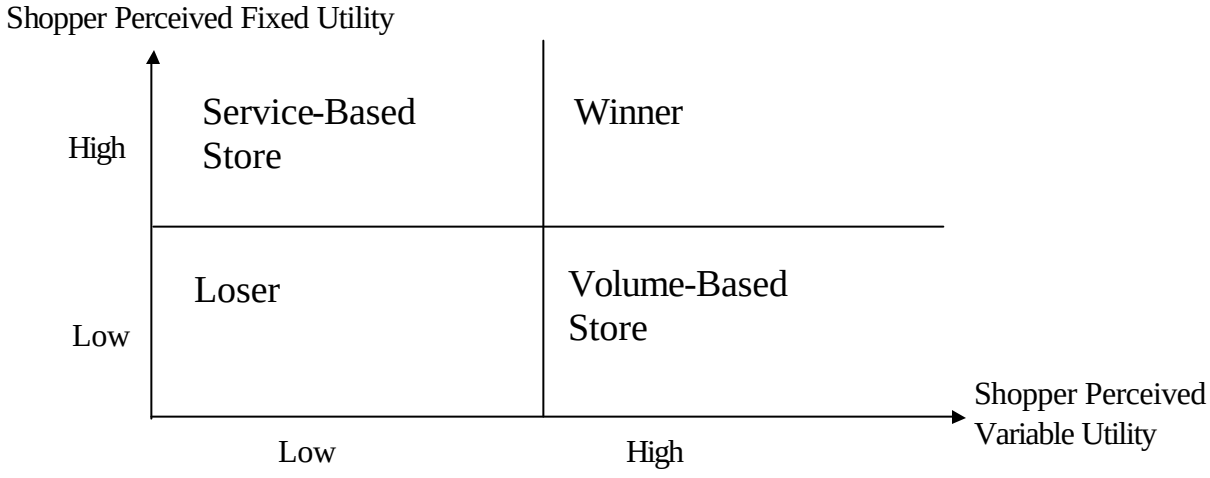

Figure 6. Store Positioning Maps for Different Market Segments

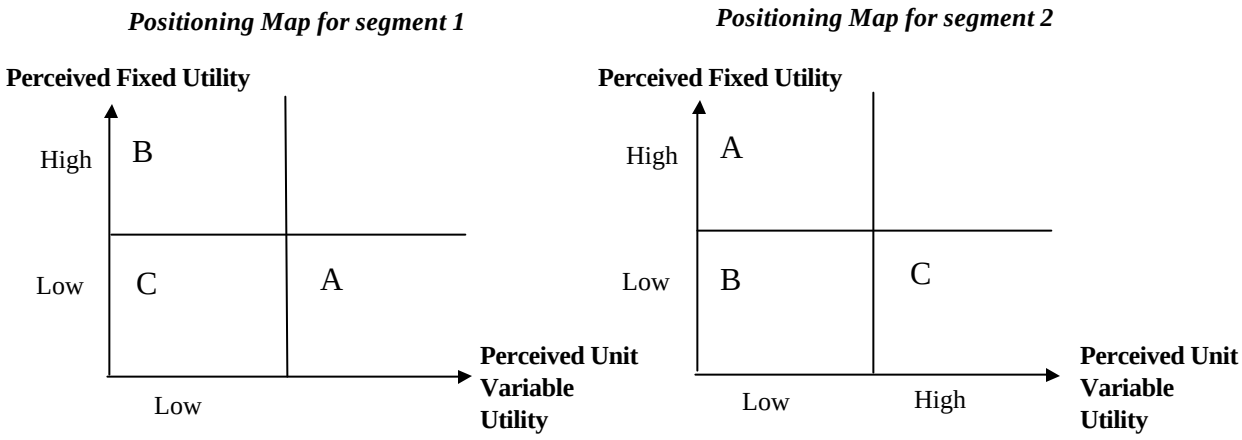

Figure 7. Store Positioning Maps With Two Segments

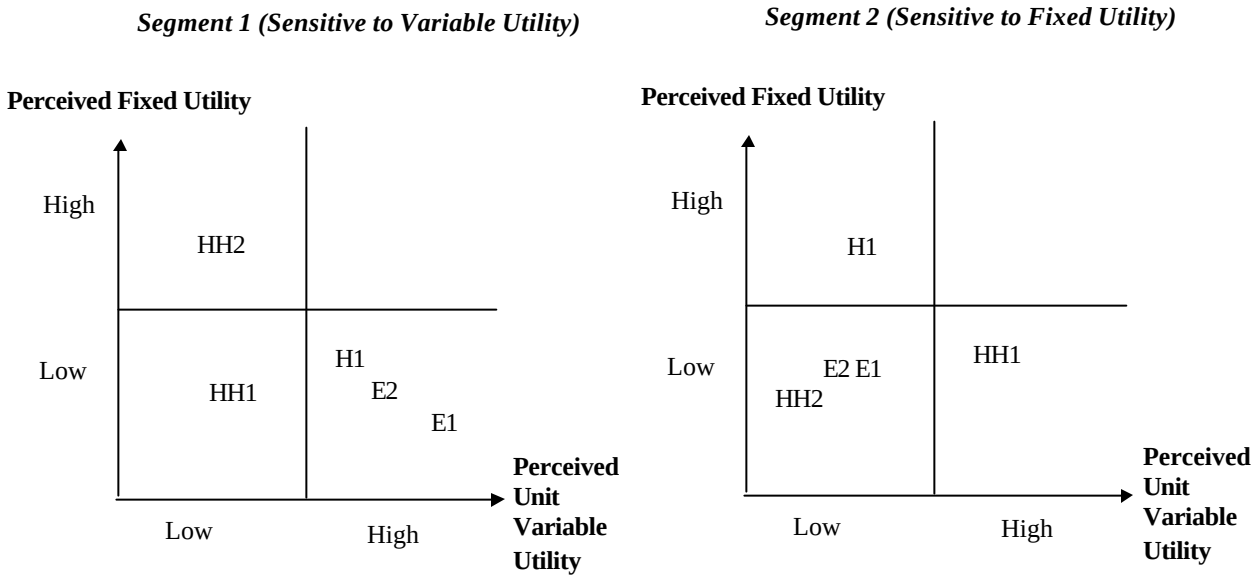

Table 1. Consumer Shopping Behavior

Store	Total number of shoppers	Total number of trips (over two years)	Average spending per trip
E1	236	15,642	$32.33
E2	311	19,346	$38.72
H1	262	31,706	$17.72
HH1	195	12,318	$18.14
HH2	143	9,642	$21.24

Table 2. Drivers of Shopping Utility

Perceived Shopping Utility Component	***Drivers***
1. Fixed Utility (a) Fixed benefits (b) Fixed Costs	• Habitual shopping experience (store loyalty, familiarity level with the store layout and product locations) • Service quality (parking space, cleanliness of the store, friendliness of the employees, waiting time at the checkout counter, etc.) • Assortment of products (breadth and depth of assortment, exclusive labels) • Purchase flexibility • Store location (distance and time to reach the store)
2. Variable Utility (a) Variable benefits (b) Variable costs	• Store-specific price discounts (coupons, loyalty rewards) • Habitual category purchase experience (category-specific store loyalty due to assortment, prices, familiarity) • Expected price of items on the shopping list

Table 3. Estimated Fixed and Variable Utilities of Shopping

Store	Fixed Utility Per Trip	Unit Variable Utility (% Over the Lowest Value)
E1	0.00	24.1%
E2	0.53	26.3%
H1	1.19	15.4%
HH1	1.35	1.4%
HH2	1.96	0.0%

Table 4. Impact of a 10% Price Increase at a store on Customers' Shopping Patterns

Store	% Change in annual number of trips per customer	% Change in average spending per trip	% Change in annual grocery spending
E1	-2.4%	-2.6%	-5.1%
E2	-2.5%	-3.0%	-5.6%
H1	-3.2%	-2.8%	-6.1%
HH1	-10.1%	+2%	-7.4%
HH2	-9.8%	+2%	-7.6%

Table 5. Store Characteristics and Segment Perceptions

Store	**Location**	**Private Labels?**	**Specializes in Baby Product Category?**	**Segment 1's perception**	**Segment 2's perception**
A	Near segment 2	Yes	No	Low fixed utility (located far away) High unit variable utility (private labels)	High fixed utility (located close by)
B	Near segment 1	No	No	High fixed utility (located close by)	Low fixed utility (located close by)
C	Between segments 1 and 2	No	Yes	Low fixed utility (located far away)	Low fixed utility (located far away) High unit variable utility (baby products)