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Promotion in the Marketing Mix: What Works, Where and Why

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POCKETING THE TRADE DEAL

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ABSTRACT

Retailers frequently pocketed trade deals but magnified them when they passed anything through. Nothing other than anecdotal evidence has been published in intervening two decades since Chevalier and Curhan's study to document changes occurring in trade promotion offers and retail response. Filling this void, the paper begins with an empirical analysis of all trade promotion offers over a recent two year period to one retail chain and its response. The paper concludes with a simple model that identifies the forces that break down channel coordination when trade promotions are relied upon. These include consumer difference in willingness to pay and retailer differences in the importance of store traffic draw from the promoted brand.

Introduction

In June of 1992, Gillette offered grocery stores a trade deal of 29¢ off each Gillette sensor razor (17¢ billback plus 12¢ off-invoice). One typical midwest grocery supermarket chain ran a one-week special with feature ad and display for $2.99 per razor, a reduction from the regular price of 5¢. This generous pass through of savings to consumers is deceiving, however, for while the trade deal lasted two months, consumers saw the reduced shelf price for only one week. During the remaining weeks of Gillette's promotion, the grocery store simply pocketed the push money (see Williams 1983 for other examples).

Price promotions increased significantly during the 1980s, when more frequent and attractive trade deals were offered by manufacturers to retailers (Donnelley Marketing 1989). When passed on to consumers, these promotions can help attract customers to stores, induce new product trial and impulse buying, and create a sense of urgency to buy before the deal expires (Cobb and Hoyer 1986). Many manufacturers and researchers also believe that a high-list/high-deal policy is more profitable than a uniform price policy because dealing allows sellers to price discriminate between consumer segments with different price sensitivities (Conlisk, Gerstner and Sobel 1984, Gerstner and Holthausen 1986, Jeuland and Narasimhan 1985, Narasimhan 1988, Varian 1980).

Unfortunately, retailers do not always cooperate with manufacturers. They do not pass trade promotions through to consumers, and even when passthrough occurs, sometimes only a fraction of the manufacturer's promotion is offered to consumers. Deeper trade

deals are more likely to be passed through (Curhan and Kopp 1986) but are often unprofitable for the manufacturer (Blattberg and Levin 1987; Buzzell, Quelch, and Salmon 1990). Moreover, when manufacturers use coupons, retailers raise their shelf price to capture some of the benefits aimed at consumers (Levedahl 1986; Vilcassim and Wittink 1987, Hess and Gerstner 1993, Gerstner and Hess 1994).

The empirical findings paint a gloomy picture of the potency of price promotion policies of manufacturers. However, the frequently cited empirical work by Chevalier and Curhan (1976) was published eighteen years ago. We begin this paper by updating their findings on retail passthrough of trade deals using records of a supermarket chain in 1985-87. All the trade promotions available to the chain and its decisions to accept or reject them are studied for four product categories.

To attract price-sensitive consumers in a profitable way, manufacturers must learn how to motivate distributors effectively to pass deals on to consumers. Much of the theoretical research on price promotion does not provide guidance on this motivational issue because the research is in context of a direct channel. Only recently have studies appeared on price promotion in a channel context (Bucklin 1989, Lal 1990, Gerstner and Hess 1991, Gerstner, Hess and Holthausen 1994).

The paper begins with an overview of the recent behavior of manufacturers and retailers toward trade deals. This is followed by a simple model of the manufacturer's trade promotion decisions that anticipates that some retailers will pocket the deal. The manufacturer accepts the loss in margin to these retailers because their are enough other retailers who will cooperate in the promotion and significantly expand unit sales.

Empirical Study of Trade Deals Response

The majority of trade promotion response research published to date employs scanner data or warehouse movement data from which trade promotion specifics and retailer response is inferred. Very little primary data on trade promotions, their terms, and actual retailer actions are available; the primary exception dates back twenty years (Chevalier and Curhan 1976). This section updates these findings. A leading supermarket chain in the southwestern United States, the regional market leader holding a 26% share over 66 stores, provided an extensive data set containing direct measurement of trade promotion terms and its response (see Armstrong 1991 for more details).

Data were collected from each trade promotion contract received by the supermarket chain over a two-year period in four product categories; ground caffeinated coffee, canned tuna, toilet tissue, and disposable diapers, and from all corresponding records of promotion receipt and performance. Variables in the data set for each item offered on trade promotion include type of trade promotion, performance required for compliance, amount of allowances, case cost (without promotion), and receipt of allowances.

Manufacturers typically offer several types of trade allowances and other incentives in their promotions. In the late 1980s the most commonly offered types are billback allowances, off-invoice allowances, and flat sum allowances (including cooperative advertising and slotting allowances). Promotions occur frequently. Over the two years, this chain received 605 promotional offers for the 26 brands in the four categories, dramatically underscoring the extent of effort among consumer packaged goods

Table 1. Frequency of Types of Trade Promotion Incentives by Product Caegory

Source	Off-Invoice Allowances	Billback Allowances	Flat Allowances	Other Incentives[1]	Total Number[2]
Chevalier & Curhan 1976	34.6% (343)	68.5 (680)	-	21.9 (217)	(992)
Armstrong 1991	90.58% (548)	38.18% (231)	52.89% (320)	0.66% (4)	(605)

[1]Other incentives include free merchandise and non-classifiable allowances.
[2]Row sums total more than the total number of promotions due to multiple types of incentives per promotion.

manufacturers to promote to the trade.

Table 1 summarizes the types and frequency of trade promotions offered over 1985-87 and compares them to the earlier study of Chevalier and Curhan (1976). It reveals a surge in off-invoice allowances. The prevalence of off-invoice allowances is most likely a reflection of retailers' preference for this type of promotion due to the minimization of paperwork and the immediacy of the discount.

Table 2 summarizes the size of total allowances included in the trade promotional offers (summing off-invoice and billback allowances for those promotions featuring both types). In the twenty years, there has been a modest increase in the size of the trade deals from 11% to 15%.

Table 3 summarizes the recent requirements for trade promotion compliance. Chevalier and Curhan do not report "requirements" but do report that 83.4% of the promotions are supported by advertisements, strikingly similar to the percent Armstrong reports require ads. Manufacturers frequently find themselves in a catch-22 with regard to specific promotion requirements: retailers will not respond as desired (advertise, reduce price, display, etc.) unless they are required to do so, yet stringent promotion requirements will prevent retailers from accepting the promotions at all.

Price reductions are required in more than 95% of the promotions offered in 1985-87. Chevalier and Curhan provide no direct evidence against which to compare this statistic. Fewer than 10% of the promotions now include other requirements such as displays, surveying stores, or buying only, while in the 1970s displays were present (perhaps not

Table 2. Frequency of Total Allowance amount Excluding Flat Allowances

Source	Mean Total Allowance	Percentage Off Case Cost			
		0-10%	10-20%	> 20%	Total Number
Chevalier & Curhan 1976	11.0%	45.4% (450)	45.4% (450)	9.3% (92)	(992)
Armstrong 1991	14.6%	37.6% (216)	40.0% (228)	22.8% (131)	(575)

Table 3. Frequency of Total Trade Promotion Requirements by Product Category

Source	Percentage of Promotions Required To: Advertise (Number)	Reduce Price (Number)	Display (Number)	Survey Stores (Number)	Buy Only (Number)	Total Number[1]
Chevalier & Curhan 1976	NA	NA	NA	NA	NA	(992)
Armstrong 1991	84.13% (509)	95.54% (578)	6.12% (37)	0.83% (5)	2.98% (18)	(605)

[1] Row sums total more than the total number of promotions due to multiple requirements per promotion.

mandated) 22% of the time according to Chevalier and Curhan.

Are accepted trade promotion allowances passed through to consumers in the form of reduced retail prices? Retail price reductions were drawn directly from scanner data for the periods when available. For other time periods, price reductions as well as regular retail price were taken from listings in newspaper advertisements or in-store supplements due to the chain's previously discussed policy of including all price reductions in these media.

Recall that the vast majority of accepted trade promotions include requirements for reducing retail price. Table 4 shows lack of compliance, then or now. More than one-third of the accepted promotions are pocketed by the retailer even when such reduction is a requirement for trade promotion acceptance, although this is a distinct improvement from the 55% reported in Chevalier and Curhan. One can only conclude that the enforcement mechanisms of manufacturers, if existent at all, are still very ineffective.

What is the magnitude of retail price reductions for those brands where price was reduced? In Table 4, the size of price reductions is given as a proportion of total allowances for the relevant trade promotion. Here we have some very dramatic results: the mean pass-through exceeds the amount of the total trade discounts by a factor greater than 2. In fact, the retailer passes through less than the full amount of the discounts for relatively few trade promotions (12%). This, too, is a significant improvement for the manufacturer over the situation in the mid-1970s.

Table 4. Frequency of Pass-Through Proportions by Product Category

Study	Mean Pass-Through of Deal (If not Pocketed)	Percentage of Per-Unit Discount: Pocketed Deal	0-100%	100-200%	> 200%
Chevalier & Curhan 1976	34.6% (126%)	55% (546)	NA	NA	NA
Armstrong 1991	30.2%[1] (237%)	36.6% (182)	12.3% (61)	38.6% (142)	22.5% (112)

[1] Based on the assumption that the retail price reduction lasts one week.

These are dramatic results but should be viewed with some caution. What we have not accounted for is the length of time the retail price reductions ran. It is probable that the retailer reduced price significantly (i.e., more than the per-unit discount) for a relatively brief period, often only a week. For the remainder of the trade promotional period, of course, the retailer would be purchasing at reduced cost and selling at regular retail price (forward buying). If you assume one week of retail price reduction for a trade deal that lasts five weeks, then the average retail price reduction is 30% (which corresponds closely to Chevalier and Curhan's number). All we can say with certainty, then, is that for the time period in which price was reduced, frequently the retailer passed-through more than the per-unit discount to consumers.

Theoretical Framework For Pocketing Trade Deals

The objective of this section is to answer the following question: How can a manufacturer use price promotions to take advantage of consumer heterogeneity in willingness to pay and at the same time effectively motivate his distributors to pass through the promotions to consumers? To investigate this we focus on the demand side of the market, controlling the cost side by assuming that the manufacturer's costs of promotion and production equal zero. The retailers' unit cost of merchandising is assumed to constant, say $0.20/unit.

Let us assume that a profit opportunity from price promotions exists because the market consists of two consumer segments with different levels of willingness to pay, called "Regulars" and "Deal-prones" (Blattberg and Sen 1976). Regulars each buy one unit of the product if its price is not higher than a threshold price (willingness to pay), say $2.00. The threshold price of the Deal-prones, is lower, say $1.50; Deal-prones each buy one unit of the product if the price does not exceed this threshold. It is convenient to scale the size of the Regular segment to 1.0, and let the segment size of the Deal-prones be 1.5.

For some retailers the Deal-prones may contribute more than just the revenue from selling this product. The Deal-prones may normally shop elsewhere, so if a special retail discount can get them to buy this product, they may also buy a basket of other goods that contributes to profits (see Hess and Gerstner 1987). For simplicity, we will assume that for some retailers this spillover is worth $0.50 per Deal-prone, while for an equal number of other retailers (normalized to 1.0) it is worth $0.00.

Motivating a distributor to pass through a manufacturer's promotion is likely to be more difficult if the distributor has monopoly power due to relative size or locational advantages. In recent years retail chains grew larger and stronger, and fewer firms control more market share. For ease of illustration let us examine a single manufacturer who sells a product through a single independent retailer in each market area.

The product is sold to the retailer at a wholesale price, P_w, that maximizes the manufacturer's profit, and the product is resold at a retail price, P_r, that maximizes the retailer's profit. The retailer will accommodate the manufacturer's promotional effort only if retail profits earned under promotion exceed those that can be earned without a promotion. The lowest profit under which the retailer agrees to operate is zero.

Suppose each retailer has been buying from the manufacturer at $1.80 and selling the product only to the Regulars at a price $2.00 (gross contribution just covers

merchandising costs), and the manufacturer is currently earning a profit of 2x\$1.80 = \$3.60 (recall there are two segments of retailers, each normalized in size to 1.0). The manufacturer then perceives that sales to the Deal-prones could be profitable. We do not explicitly model dynamics but this could be due to a temporary increase in their number or willingness to pay (see Armstrong, Bass and Rao 1993, and Armstrong and Buss 1993 for models of trade deals that are explicitly dynamic). How can the manufacturer effectively motivate the retailer to sell to the Deal-prones?

Consider first the retailers who can increase margins by \$0.50 by attracting Deal-prones away from rival stores. To bring the Deal-prone customers into the market, the retail price cannot exceed \$1.50. To motivate retail sales to these Deal-prones a trade deal is required; at the current wholesale price of \$1.80, the retailer would just break even on the Deal-prones, \$1.50-1.80-0.20+0.50 = \$0, but would lose on the Regulars, \$1.50-1.80-0.20 = -\$0.50. A small wholesale price reduction will not suffice, either. Why not? The retailer can always leave the retail price unchanged, pocket the trade deal, and profit from selling to the Regulars. How deep must the trade deal be in order to motivate a retail passthrough?

Consider a wholesale price of P_w. Selling only to Regulars at their threshold price, the retailer's profit is 1.0(\$2.00-P_w-0.20), while it is 1.0(\$1.50-P_w-0.20)+1.5(\$1.50-P_w-0.20+0.50) when selling to all customers. At wholesale price level P_w=\$1.47 the two profits are just equal. Hence, a trade allowance of \$0.33 must be offered to induce cooperation from the retailers who benefit most from selling to Deal-prones.

Consider next the retailers who gain no extra margin from the Deal-prones. Perhaps this is because the Deal-prones already shop with these retailers, so there is no added revenue from store traffic. Such retailers are harder to motivate. By similar reasoning to that in the previous paragraph, one can show that if these retailers are to be convinced not to pocket a trade deal, the wholesale price must be reduced to P_w=\$0.97 by a trade allowance of \$0.83.

If the manufacturer offers a trade allowance of \$0.83 per unit (46% off), both types of retailers will accept the deal and reduce their prices from \$2.00 to \$1.50. No one pockets the trade deal. Unit sales will increase from 2x1.0 to 2x(1.0+1.5), a 150% increase. However, retailers pass through only part of the trade allowance, just enough to sell to the Deal-prone consumers. The passthrough percentage is 60%. Manufacturer profits equal \$4.83.

This is not the optimal trade deal! Too much margin has been sacrificed by the manufacturer to motivate the less cooperative retailers. A better strategy is to ignore these retailers and offer a smaller trade allowance. If the manufacturer offers a trade allowance of \$0.33 (18% off), only the retailers who gain store traffic by Deal-prones will discount their price to \$1.50. The other retailers will pocket the trade deal, so sales expand only 75%. Pocketing the trade deal occurs 50% of the time. Conditional upon cooperation, however, the retailer passes through more than the full trade allowance: passthrough is 150%. Profits from the cooperative retailers are 2.5x\$1.47 and profits from the retailers that pocket the deal are 1.0x1.47, so total manufacturer profits equal \$5.15. The profit of the manufacturer is higher even when half the retailers pocket the trade deal.

Summary

Brand managers rely year after year on push price promotions. In the unique data set described above, a new trade deal is offered every month. The manufacturers talk tough about retailer performance requirements, but still one out of every three trade allowances is pocketed by the retailers. When retailers do perform, however, it is generally very intense for a period of time: retail price discounts are double the trade allowance, or more.

Is this situation ephemeral, or is it an equilibrium behavior in a fast flowing channel of distribution? We showed that this type of incomplete channel coordination can be stable. A common trade deal is offered to diverse retailers (given the Robinson-Patman Act prohibition of price discrimination). Some retailers may temporarily value price promotions because the targeted customers will not only buy this brand but a wide assortment of other items if their store choice can be changed. These retailers will magnify the push money in their quest for store traffic. It can be optimal for the brand manager to focus on them and ignore those who pocket the deal.

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