

Solutions

Optimal

Discount

Policy

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In today's difficult economy, retailers are learning the critical importance of Smart Strategic discounting.

In today's difficult economy, retailers are learning the critical importance of making smarter discounting. In categories which are already heavily promotion driven such as jewelry, retailers are featuring bigger discounts than ever before, and at times when they never have discounted. With traffic down in many malls and strip centers, even retailers who never discounted before are beginning to feature % off signs in their windows. In fact, a recent article in *The New York Times*, "Never Mind What It Costs. Can I Get 70% Off?" quotes numerous retail experts who claim that % off deals are winning out over price rollbacks and other promotional offers across the retail industry. What's more, according to the *Times*, this trend will continue.

Clearly determining the discount level which maximizes profits is critically important to the retailer. No manager wants to leave money on the table by over discounting their merchandise. At the same time, no manager wants to miss a sale by featuring discounts that simply don't draw traffic.

Below we outline a method for determining the optimal discount level for an entire chain of retail stores; that is, the discount level which maximizes the gross profit at each store.

Development of the Model

A sample of 1,000 category users would be interviewed online¹. Each respondent would be presented a series of 16 cards like the one below. Each card lists all of the key competitors in an enclosed mall or strip center with one of up to eight discount levels per competitor. These discounts could include: no discount, 20% off, 25% off, 30% off, 20% to 50% off, up to 70%, etc.

The respondent's task would be to examine each card and record the likelihood that he/she would purchase from each competitor so that his/her answers add up to 100%. Sometimes, instead of a discount level for a particular brand, the expression "NOT AVAILABLE" would be shown. This would allow us to eliminate competitors from a particular mall or strip center if that store is not actually present when the model is used to maximize profits at that particular location. Also, the respondent would always be allowed to allocate up to 100% to "NO PURCHASE."

1. A second sample of customers should also be completed and a separate model developed. The output from both models would then be compared to determine the discount policy which maximizes gross profit across customers and prospects.

The model determines the discount level which maximizes profit at each location in the chain.

The model is first developed across the retailer's entire footprint.

STORE	DISCOUNT	LIKELIHOOD TO BUY
JCPenney	20% to 50% off	_____ %
Gordon's	Not Available	_____ %
Helzberg	20% off	_____ %
Jared	30% off	_____ %
Kay Jewelers	Up to 70% off	_____ %
Robbins Brothers	No Discount	_____ %
Zales	25% off	_____ %
NO PURCHASE		_____ %
TOTAL		<u>100%</u>

The combination of brands and discounts displayed on the various cards would be selected from an experimental design which enables us to estimate the percentage of consumers who would buy from each of the competitors, including the client, for any combination of the discount levels. The interview would close with a short battery of demographics, last 12 months category spend and anticipated next 12 months category spend.

Not everyone participating in the online survey may be familiar with the merchandise offered by all brands in the competitive set. Nevertheless, the discounts may be so compelling that some shoppers may actually visit new stores. With this in mind, we can show store fronts of all of the competitors and have links to their websites to better reflect shopping conditions.

Later it can be applied to each store in the chain and used whenever competitors change their discounts.

Application of the Model - Average Store

The model would be developed across the client's entire footprint. It can then be used to determine the client's sales and gross profit (retail price, less discount, less cost of goods sold) for each client discount level tested against the average (typical) discounts offered by competitors. With this, the model would be used to identify the discount which maximizes gross profit for the client's average store.

The following are examples of the input and output screens for a hypothetical study done for Zales. Inputs for the model would include: retail sales for the average client's store, cost of goods sold for the average store as a percentage of the retail sales, the average client discount as well as the discounts typically run by the competitors included in the competitive set. These discounts would, of course, be included in the list of discounts tested.

In the hypothetical example below, the average retail sales, before discounts per store, for the past 12 months are \$1,333K. According to the respondents, their budget for jewelry will decline 25% over the next 12 months, driving the store’s retail sales down to \$1,000K. The client’s average discount has been 25% and the cost of goods is estimated at 37.5% of retail. All of this is input into the model along with the list of competitors, the typical discounts that they offer and the discounts to be tested.

Below are samples of the input and output of the model for an average location.

INPUT SECTION - AVERAGE STORE

ABOUT THE AVERAGE STORE

	<u>Financial Data</u>
Average Past 12 Month Store Sales (\$000 Retail)	1,333
Change in Budget	25%
Next 12 Months Store Sales (\$000 Retail)	1,000
Average Discount Percent	25%
Average Store Sales (\$000 Discounted)	750
Cost of Goods (\$000)	375
Gross Profit (\$000)	375

COMPETITORS AND THEIR TYPICAL DISCOUNTS

	<u>Typical Discount</u>
JCPenney	20% to 50% off
Gordon’s	25% off
Helzberg	20% off
Jared	30% off
Kay Jewelers	Up to 70% off
Robbins Brothers	20% off
Zales	25% off

DISCOUNTS TESTED

<u>Discount on Storefront Signs</u>	<u>Discount Value</u>
No Discount	0%
20% off	20%
25% off	25%
30% off	30%
20% to 50% off	35%
Up to 70% off	40%

* Input data is shown in RED

The model estimates the sales, market share and profit for each discount level tested.

In the example the chain-wide model’s recommendation increases profit 13.2%!

The results on the output section below show that among the given competitive set, Zales realizes a 14% share using a 25% discount in the average store. This yields retail sales of \$1,006K which leads to a gross profit of \$378K or 38% of retail against the typical discounts offered by competitors. The model recommends increasing the discount from 25% off to 30% off which has the effect of driving retail sales to \$1,221K and the gross profit to \$428K, a chain-wide increase of 13.2%!

OUTPUT SECTION - AVERAGE STORE

BASE CASE

COMPETITOR	DESCRIPTION	DISCOUNT %	SHARE OF SALES %	ANNUAL RETAIL SALES (\$000)	DISCOUNTED SALES (\$000)	COST OF GOODS (\$000)	GROSS PROFIT (\$000)
JCPenney	20% to 50% off	35	18	1,293	840	485	355
Gordon's	25% off	20	11	790	632	296	336
Helzberg	20% off	25	12	862	647	323	324
Jared	30% off	30	13	934	654	350	304
Kay Jewelers	Up to 70% off	40	20	1,437	862	539	323
Robbins Bros.	20% off	20	12	862	690	323	367
Zales	25% off	25	14	1,006	755	377	378
TOTAL		31	100	7,184	5,080	2,693	2,387

PREDICTED CLIENT RESULTS FOR ALL DISCOUNTS TESTED

DESCRIPTION	DISCOUNT %	SHARE OF SALES %	ANNUAL RETAIL SALES (\$000)	DISCOUNTED SALES (\$000)	COST OF GOODS (\$000)	GROSS PROFIT (\$000)
No Discount	0%	5	359	359	135	224
20% off	20%	11	790	632	296	336
25% off	25%	14	1,006	755	377	378
30% off *	30%	17	1,221	855	429	428
20% to 50% off	35%	21	1,509	981	566	415
Up to 70% off	40%	22	1,580	948	593	335

* Optimal Solution

Application of Model - Particular Location

To apply the model to any particular client location, we would first collect information from a brief 200-person survey of category users near the client's location in the mall or strip center. This would include demographics of category users as well as their past 12 months and anticipated next 12 months category budget. We would simply weight the national sample in terms of this information about the location in question and run the model with weighted data. The only other inputs necessary would be the list of competitors and the discounts they are currently offering along with the list of discounts to be tested.

The model would then be run to determine the optimal discount rate, corresponding sales and gross profit for the store in question. The output can be compared to the case involving the discount currently being offered to evaluate the financial advantage of using the model's recommended discount policy. Moreover, when competitors change the discounts they are featuring, these parameters can be changed in the model. The output will be the best discount policy that maximizes gross profit. Samples of the input and output screens for a particular store follow.

The hypothetical example shown below involves the Collin Creek Mall in Plano, Texas. Sales in the past 12 months in the Zales store have been \$1,500K but the survey of customers indicates their budgets for jewelry will be 20% less in the next 12 months, reducing the store’s retail sales before discounts to \$1,200K. The store currently runs a 30% off discount. Competitors and their current discounts are shown along with the discounts to be tested.

The store currently realizes an 18% market share among the competitive set shown using its 30% off discount with a \$390K gross profit. JCPenney with a 20% to 50% off discount and Helzberg with a 20% discount have a higher gross profit.

By weighting the national data according to location specific demographics and spend levels, a separate model can be developed for each store in the chain.

INPUT SECTION – SPECIFIC STORE LOCATION

Zales – Collin Creek Mall – Plano, Texas

Financial Data

Average Past 12 Month Store Sales (\$000 Retail)	1,500
Change in Budget	20%
Next 12 Months Store Sales (\$000 Retail)	1,200
Average Discount Percent	30%
Average Store Sales (\$000 Discounted)	840
Cost of Goods (\$000)	450
Gross Profit (\$000)	390

COMPETITORS AND THEIR TYPICAL DISCOUNTS

Typical Discount

JCPenney	20% to 50% off
Gordon’s	No Discount
Helzberg	20% off
Jared	30% off
Kay Jewelers	Up to 70% off
Robbins Brothers	N/A
Zales	30% off

DISCOUNTS TESTED

Discount Value

No Discount	0%
20% off	20%
25% off	25%
30% off	30%
20% to 50% off	35%
Up to 70% off	40%

* Input data is shown in RED

CATEGORY USER DEMOGRAPHICS

Collin Creek Mall

	Average Store Location	Plano, Texas
% Female	52%	55%
% Median Income	\$53,600	\$68,500
% Caucasian	72%	75%

In the example, the model’s recommendation increases profit 22.1%!

When we test other discounts for the store, it becomes clear that the 30% discount is not optimal. Indeed, the store can increase their gross profit from \$390K to \$476K by changing the discount from 30% off to 20% to 50% off.

Zales – Collin Creek Mall – Plano, Texas

COMPETITOR	DESCRIPTION	DISCOUNT %	SHARE OF SALES %	ANNUAL RETAIL SALES (\$000)	DISCOUNTED SALES (\$000)	COST OF GOODS (\$000)	GROSS PROFIT (\$000)
JCPenney	20% to 50% off	35	23	1,533	996	575	421
Gordon's	No Discount	0	5	333	333	125	208
Helzberg	20% off	20	14	933	746	350	396
Jared	30% off	30	14	933	653	350	303
Kay Jewelers	Up to 70% off	40	26	1,733	1040	650	390
Robbins Bros.	Not Available	-	-	-	-	-	-
Zales	30% off	30	18	1,200	840	450	390
TOTAL		31	100	6,665	4,608	2,500	2,108

CLIENT RESULTS FOR ALL DISCOUNTS TESTED

DESCRIPTION	DISCOUNT %	SHARE OF SALES %	ANNUAL RETAIL SALES (\$000)	DISCOUNTED SALES (\$000)	COST OF GOODS (\$000)	GROSS PROFIT (\$000)
No Discount	0%	5	333	333	125	208
20%off	20%	11	733	586	275	311
25% off	25%	15	1,000	750	375	375
30% off	30%	18	1,200	840	450	390
20% to 50% off *	35%	26	1,738	1,126	607	476
Up to 70% off	40%	29	1,933	1,160	725	435

* Optimal Solution

This individual location model can be run at any time when competitors change their signage, which will indicate for each store the best discount they can employ. It could be particularly helpful for promoting specific occasions in categories like jewelry, such as Mother's Day and Christmas. As a final note and as mentioned before, the model should be developed from both category user and customer samples. Management would then have to compare the optimal discount program for current customers to that of the random sample to determine the best ultimate discount to offer.

For more information about the Optimal Discount Model, contact Jeffry N. Savitz at (972) 386-4050 ext. 208 or jsavitz@savitzresearch.com

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