Pricing Optimization

(Confectionary Manufacturer)

Developed **dynamic pricing models to analyse the impact of price changes** on revenues, margins & volumes and identify the optimum pricing for company's products, thus enabling the firm to maximize its profits

PRICING ANALYSIS FOR PE-OWNED CONFECTIONARY MANUFACTURER

ABOUT THE CLIENT

Company was a **PE-owned snacks/confectionary** manufacturer

SITUATION

- Client's **profit margins were relatively low**, and was evaluating potential pricing actions across different business lines
- Merilytics partnered with the client to **develop price optimization models to determine optimum price levels for its products**, which would enable the company to maximize profits

VALUE ADDITION

- **Benchmarked the company against competitors** in key product segments and channels (i.e., pricing, promotional behavior, distribution, velocity etc.)
- **Determined the SKU level optimal shelf price gaps w.r.t competitors** based on detailed cross-elasticity analysis of historical market data for about ~80 different product groups
- **Developed a price optimization model based on regression to determine the optimal price premium**, in order to maximize the contribution margin
- Estimated the impact of price changes on revenues, margins and volumes

IMPACT

- Dynamic pricing models **helped the company take the appropriate pricing decisions for their products**
- Company had implemented the **price recommendations leading to an annual run-rate margin impact of ~$5M**

IDENTIFICATION OF KEY COMPETITOR PRODUCT GROUPS

Snapshots of the model to identify key competitor product groups based on product attributes and correlation between price premium and distribution adj. volume

ILLUSTRATIVE

Shortlisting assumptions	
Size (min) oz	4.00
Size (max) oz	8.00
Sales cutoff	$100,000
Maximum price (Company SKU)	$1.86
Minimum price (Company SKU)	$1.18
Price deviation (%)	50%
Price correlation threshold with lead SKU (%)	80%

Identification of key competitor SKUs of each competitor brand based on product attributes (Size, Price, Seasonality etc.)

Selection of competitor SKUs for company's product group		Note: Sequential shortlisting				
		Shortlisted (Y/N)				
Product SKUs	Brand	Level 1 (Size check)	Level 2 (Non-seasonal check)	Level 3 (Sales cutoff check)	Level 4 (Price check)	Level 5 (Correlation with lead SKU check)
a	A	Y	Y	N	N	N
b	A	Y	Y	N	N	N
c	B	Y	Y	Y	Y	Y
d	B	Y	Y	N	N	N
e	B	Y	Y	N	N	N

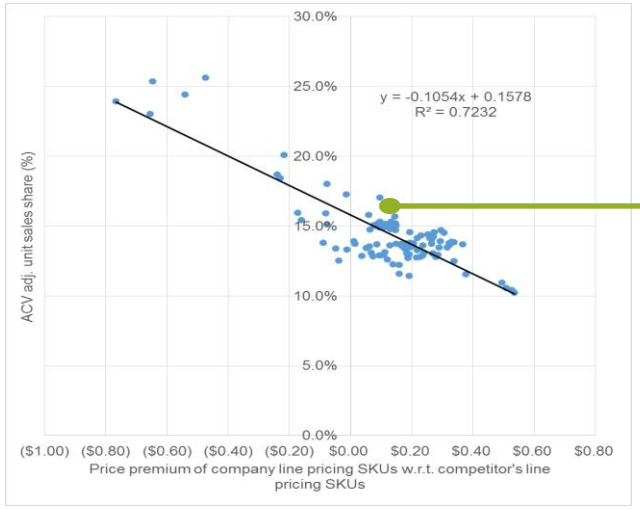
Identification of key competitor product groups based on correlation between price premium and distribution adj. volume share

Competitor brand	Include in selected brands (Y/N)	Correlation (%)	R square	Slope	Intercept	Optimal price premium for Company's Brand SKUs ($)	Optimal shelf price for Company's Brand SKUs ($)	Optimal price to Retailer after all discounts for Company's Brand SKUs ($)
Simple elasticity (Company price vs. Company volume)		**-84.0%**	**0.71**	**-48,317**	**125,763**	**nm**	**$1.70**	**$0.73**
Selected brands		**-85.0%**	**0.72**	**-0.11**	**0.16**	**$0.36**	**$2.01**	**$0.87**
A	N	-59.1%	0.35	-0.19	0.43	$1.18	$2.03	
B	Y	-79.0%	0.62	-0.13	0.27	$0.80	$2.20	
C	Y	-84.5%	0.71	-0.12	0.61	$1.63	$4.11	
D	Y	-85.3%	0.73	-0.13	0.61	$1.58	$4.06	
E	Y	-93.8%	0.88	-0.16	0.48	$0.85	$3.06	
F	Y	-83.0%	0.69	-0.17	0.59	$1.38	$2.92	

IDENTIFICATION OF PROFIT MAXIMIZING PRICE FOR COMPANY'S PRODUCTS AND CALCULATION OF IMPACT OF PRICE CHANGE

ILLUSTRATIVE

Snapshots of the model to identify optimal price and calculate impact of price change



Regression between distribution adjusted volume share and price premium w.r.t. key competitor product groups

Overview of findings	
Cross-elasticity reference	Line pricing SKUs
Company profit-maximizing price:	
Non-promo shelf price ($)	$2.11
Promo shelf price ($)	$1.65
Avg. Shelf price ($)	$2.01
List price ($)	$0.87
Implied price elasticity of recommended profit maximizing price	-1.09
Retailer profit-maximizing price:	$2.50
Future avg. weekly volume X units (Y units currently)	30,879 (34,006)

Profit-maximizing price for company's products using the regression equation

Impact of price change	Current	Pro-forma profit-max	% change
Non-promo shelf price ($)	$1.94	$2.11	8.4%
Promo shelf price ($)	$1.52	$1.65	8.4%
Avg. Shelf price ($)	$1.86	$2.01	8.4%
Avg. premium ($)	$0.20	$0.36	78.3%
Unit sales (m)	1.77	1.61	-9.2%
Retail sales ($m)	$3.29	$3.23	-1.6%
ACV adjusted dollar retail sales percentile for lead SKU, %	97.3%	96.8%	-49 bps
List price ($)	$0.80	$0.87	8.4%
Sales ($m)	$1.41	$1.39	-1.6%
CM ($m)	$0.68	$0.71	5.1%
CM %	47.8%	51.0%	325 bps

Impact of price change on volume, dollar sales and contribution margin

IMPACT OF PRICING ACTION ACROSS ALL THE PRODUCT GROUP

ILLUSTRATIVE

Snapshots of the model to calculate consolidated impact of price change across all product groups based on the inputs for price and weight changes as well as competitor price changes

Change in market unit vol. (%)	0%

Company product group	Δ price (%)	Δ weight (%)	Product type
Product group A	10%	0%	Product type B
Product group B	10%	0%	Product type B
Product group C	10%	0%	Product type B
Product group D	10%	0%	Product type B

Competitor brand	Product type A change (%)	Product type B price change (%)
Competitor A	0%	10%
Competitor B	0%	0%
Competitor C	0%	10%
Competitor D	0%	0%

Inputs for market size change, company's product price and weight change and competitor price changes

Company's product group	Δ price (%)	Δ weight (%)	Implied elasticity (based on cross-elasticity)	Δ CM ($)	Δ sales ($)	Δ vol. (units)	Δ CM (%)	Δ sales (%)
Product group A	10%	0%	-0.62	$ 412,016	$ 138,984	-17,235	-59.1%	3.2%
Product group B	10%	0%	-1.08	$ 570,103	$ -252,229	-508,243	11.8%	-1.8%
Product group C	10%	0%	-0.64	$ 863,868	$ 297,709	-95,401	-197.1%	3.0%
Product group D	10%	0%	-0.73	$ 140,375	$ 46,007	-99,653	24.1%	1.9%
Product group E	10%	0%	-0.59	$ 454,155	$ 258,143	-39,994	22.5%	3.5%
Product group F	10%	0%	-1.49	$ 221,245	$ -443,337	-102,909	12.2%	-6.4%

Consolidated impact on volume, sales and contribution margin across all product groups of the company based on the price and weight changes and competitor price changes