IMPLEMENTING ANALYTICS: PERSPECTIVES FROM THE CLIENT SIDE

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Suresh Divakar
Implementing Analytics: Perspectives from the Client Side

Presenter
Suresh Divakar, Ph.D.

• Suresh Divakar, currently an independent consultant, has 30 years of business and marketing analytics experience leading analytic groups in companies such as Kraft, PepsiCo, Citibank, Avon and Bristol-Myers Squibb. He has used analytics both tactically and strategically in these companies to enable fact-based decision making and has extensively interacted with several analytics partners, consulting firms and data vendors. He also has academic experience as a Marketing faculty and has been a SAS user for 30 years.
Agenda

- Who initiates Analytics within a client organization?

- Data Driven Analytics
  - Understand the typical business issues and questions a brand manager faces
  - Data sources

- Analytic Projects Use Cases
  - Types of analytic work
  - Use cases – MMM/Resource Allocation, Pricing, Assortment Optimization, Forecasting

- Analytics Activation
  - Process, Evolution and Learnings
Client groups/functions that initiate analytic work

- Brand Marketing, Promotions, Event Marketing, Merchandising etc.
- Sales (Field sales, Sales Operations)
- Insights, Market Research, Analytics
- Finance
- Supply Chain
- Senior Management (C-Level, EVPs etc.)
- Several other groups (HR, others)
Typical analytics process at a client organization

- Activation
- Business Issues Identification
- Data Collection
- Data Review
- Action Plan
- Presentation
- Work Session
- Modeling
Major organizations use data-driven analytics to drive growth.
Where it all starts: Electronic ‘tools’ collect POS transactional data

- **What** items people buy...
- **Where** are the items purchased...
- **When** are the items purchased...
- **How often** are certain types of items bought...
- **How much** is paid for the items purchased...

**Analytic Data Cube: The Four Dimensions**

- Time Periods
- Geography
- Products
- Measures
Types of syndicated sources

- Internal Clients
- Global
- Regional
- Commercial Marketing
- Product Innovation
- R&D
- Market Research
- Consumer Insights
- Finance
- Corporate & Regional Strategy
Role of a Brand Manager

The job of a brand manager is to know their business better than anyone. To do this, they analyze many types of information:

- **Point of Sale (POS) data performance (ACN and IRI)**
  - Market and account level data
  - Sales, pricing, promotion and distribution
  - Your brand and competitive

- **Household panel information to understand consumer trends**
  - Purchase behavior of your consumers
  - Trial of a new product
  - Demographics of your consumers and your competitors
  - What other brands are your consumers purchasing

- **Individual user data**
  - Focus groups
  - Surveys
A day in the life of a Brand Manager

- Dollar & unit sales, market share
- Brand over/under developed in certain markets?
- Amount of sales attributable to everyday “off-the-shelf” business
- Brand performance in different markets
- Who is the customer
- Has the buyer base changed over time

Product

- Changes in the breadth and depth of distribution
- Changes in shelf conditions
- How quickly is a new product gaining distribution?
- Comparison of distribution levels around the country
- Number of item SKUs at a particular store?

Placement

- Number of stores (ACV) to take the product promotion
- Are promotions increasing product sales
- Number of weeks of support received
- The kind of merchandising occurred
- Portion of sales resulting from merchandising

Price

- Changes in non-promoted price
- Everyday price gap vs competition
- Price ranges for a SKU within the brand
- How are the retailers pricing the product
- Discounted prices retailers are offering for the product

Promotion
Critical data challenges

- Data access, quality and integrity challenges across multiple countries

- Internal data – CDW challenges (quality and access issues, misaligned responsibilities, etc.)

- No panel data available in smaller countries, esp. for some categories e.g. beauty
  - Long purchase cycle for some categories
  - No barcodes; audits needed

- Scanner Data:
  - Poor coverage in most markets across the world (e.g. Russia, Brazil, Colombia) except US and W. Europe
Types of analytics work

**Large, ‘routine’ projects**

- Marketing mix analyses, advertising/promotion effectiveness, price elasticity, segmentation, assortment, forecasting, etc.
- Budgeted for and vendors identified/standardized
- Typically won’t change vendors
- New projects may go through RFP process to select vendors (especially for high value projects)

**Ad-hoc Projects**

- Performance Analytics, Test and Learn, Lift Analysis, New Product Launch Analyses
- Work/projects could arise from various groups
- Some projects are budgeted for, but most are not
- Can sometimes circumvent the RFP for lower value projects
Analytic Projects Use Cases
Analytics to formulate marketing strategy – Some Use Cases

- Marketing Mix Analysis/Resource Allocation in CPG & Pharma
- Pricing Strategy
- Assortment Optimization
- Forecasting
Analytics to formulate marketing strategy

Marketing Mix Analysis/Resource Allocation in CPG & Pharma

Assortment Optimization

Forecasting
Marketing Mix Analysis: Overarching Objective

• Three broad marketing instruments in CPG
  – Advertising (TV, Radio, Print, others)
  – Merchandising (Brochure, Price-reductions)
  – Consumer/Representative Promotions (Sampling, Incentives, Events)

• Marketing Mix helps answer:
  – How much should we spend?
  – What should we spend on?
  – How should it be spent?
  – When and where should we spend?
  – What will happen if...?

• End result needed: Maximize return on marketing investment and efficiently allocate resources
How marketing mix models work

What Drives Sales for this Product?

- Price
- New Product Intros
- Sales
- Advertising?

Decompose sales
Explain change vs. year ago
Calculate ROI

Change Due to Analysis: Waterfall

Promos TV TPR FSI Print Price Distn Radio

19
Example: The incremental portion of the business grew from 23.5% in '06 to 24.9% in ‘07 mainly due to increases in advertising, PR, Save N Sell and Sampling.

Contribution: The percent of total customer price sales driven by a particular variable.

*Base includes Seasonality, Staff Count, Brochure Distribution, Covers, Shorts, Pageweight, Price Claims, Non Brochure Sales, Competition, Holidays
Sales Change “Due-To” – Total Beauty

**Due-To:** The customer price sales change percentage due to a particular activity

<table>
<thead>
<tr>
<th>Positive Contributors</th>
<th>% Sales Chg</th>
<th>-3.3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back Covers &amp; Center Spreads</td>
<td>1.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Staff / Brochure Dist</td>
<td>0.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>PR</td>
<td>0.8%</td>
<td>0.8%</td>
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<tr>
<td>Price Claims</td>
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<td>0.4%</td>
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<tr>
<td>Advertising</td>
<td>0.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Stock up Programs</td>
<td>0.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Excess / Jewelry Flyer Sales</td>
<td>-0.6%</td>
<td>-0.3%</td>
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<tr>
<td>Demo Sales</td>
<td>-0.5%</td>
<td>-0.4%</td>
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<tr>
<td>Shorts</td>
<td>-0.6%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Front Covers</td>
<td>-0.2%</td>
<td>-0.3%</td>
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<tr>
<td>Celebrity / Endorsements</td>
<td>-0.5%</td>
<td>-0.6%</td>
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<tr>
<td>Concept Count</td>
<td>-0.8%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Excess Sales in Core Brochure</td>
<td>-1.0%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Super Hits</td>
<td>-1.6%</td>
<td>-1.8%</td>
</tr>
<tr>
<td>Scented Pages</td>
<td>-1.9%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Pageweight</td>
<td>-0.6%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Competition</td>
<td>-1.8%</td>
<td>-1.9%</td>
</tr>
<tr>
<td>Order Builders</td>
<td>-2.1%</td>
<td>-2.9%</td>
</tr>
</tbody>
</table>

**Negative Contributors**

<table>
<thead>
<tr>
<th>Back Covers</th>
<th>Staff</th>
<th>Price Claims</th>
<th>TV Advertising</th>
<th>Stock up Programs</th>
<th>Excess Flyer Sales</th>
<th>Front Covers</th>
<th>Celebrity Images</th>
<th>Concept Count</th>
<th>Pageweight</th>
<th>Competition</th>
<th>Order Builders</th>
<th>Macroeconomic Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Avg. Total Staff per Campaign</td>
<td>Color</td>
<td>Discount Depth - Color</td>
<td>Color - GRPs</td>
<td>Color - Premium + Value</td>
<td>Color</td>
<td>Color</td>
<td>Color</td>
<td>Total Beauty</td>
<td>Boots Media Spend</td>
<td>GWS – Skin Care</td>
<td>Retail Price Index</td>
</tr>
<tr>
<td>Yr 1 4</td>
<td>Yr 1 149,038</td>
<td>Yr 1 31.4%</td>
<td>Yr 1 450</td>
<td>Yr 1 £2.1 MM</td>
<td>Yr 1 £1.7 MM</td>
<td>Yr 1 5</td>
<td>Yr 1 16</td>
<td>Yr 1 560</td>
<td>£8.5 MM</td>
<td>£19.1 MM</td>
<td>£6.0 MM</td>
<td>£197.5</td>
</tr>
<tr>
<td>Yr 1 6</td>
<td>Yr 1 150,871</td>
<td>Yr 1 32.6%</td>
<td>Yr 1 1,004</td>
<td>Yr 1 £2.8 MM</td>
<td>Yr 1 £3.2 MM</td>
<td>Yr 1 3</td>
<td>Yr 1 8</td>
<td>Yr 1 560</td>
<td>£19.1 MM</td>
<td>£38.5 MM</td>
<td>£16.7 MM</td>
<td>£205.9</td>
</tr>
<tr>
<td>+2</td>
<td>Yr 1 150,871</td>
<td>+1.2%</td>
<td>+11 pts</td>
<td>+123.1%</td>
<td>+30.3%</td>
<td>-2</td>
<td>-8</td>
<td>-8.1%</td>
<td>+123%</td>
<td>-9.9%</td>
<td></td>
<td></td>
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<tr>
<td>Wellbeing</td>
<td>Yr 1 10</td>
<td>Yr 1 38.4%</td>
<td>Yr 1 0</td>
<td>Yr 1 25.6 MM</td>
<td>Yr 1 £1.3 MM</td>
<td>Yr 1 0</td>
<td>Yr 1 1</td>
<td>-1</td>
<td>£1.1 MM</td>
<td>£0.4 MM</td>
<td>£0.3 MM</td>
<td>£197.5</td>
</tr>
<tr>
<td>Yr 1 2</td>
<td>Yr 1 75,038</td>
<td>Yr 1 42.7%</td>
<td>Yr 1 450</td>
<td>Yr 1 £50.632</td>
<td>Yr 1 £1.6 MM</td>
<td>Yr 1 0</td>
<td>Yr 1 1</td>
<td>-1</td>
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<td>£0.4 MM</td>
<td>£0.3 MM</td>
<td>£205.9</td>
</tr>
<tr>
<td>+1</td>
<td>Yr 1 32.3 MM</td>
<td>+2.9%</td>
<td>+4.3 pts</td>
<td>+94.6%</td>
<td>+24.7%</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>£1.1 MM</td>
<td>£0.4 MM</td>
<td>£0.3 MM</td>
<td>+8.5 pts</td>
</tr>
</tbody>
</table>

Avg. PR Circulation

<table>
<thead>
<tr>
<th>Brochure</th>
<th>Avg. # of Brochures per Campaign</th>
<th>Avg. PR Circulation</th>
<th>Total Avon</th>
<th>Anew Clinical Eye Lift Launch in Yr 1</th>
<th>Anew ThermaFirm Launch in Yr 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr 1 1</td>
<td>Yr 1 3.2 MM</td>
<td>Yr 1 25.6 MM</td>
<td>Yr 1 80</td>
<td>Anew Clinical Eye Lift Launch in Yr 1</td>
<td>Anew ThermaFirm Launch in Yr 1</td>
</tr>
<tr>
<td>Yr 1 2</td>
<td>Yr 1 3.3 MM</td>
<td>Yr 1 35.0 MM</td>
<td>Yr 1 60</td>
<td>Anew Clinical Eye Lift Launch in Yr 1</td>
<td>Anew ThermaFirm Launch in Yr 1</td>
</tr>
<tr>
<td>+1</td>
<td>Yr 1 3.3 MM</td>
<td>+2.9%</td>
<td>-20 pages</td>
<td>Anew Clinical Eye Lift Launch in Yr 1</td>
<td>Anew ThermaFirm Launch in Yr 1</td>
</tr>
</tbody>
</table>

Excess Sales in Core Skin Care

- Excess Sales in Core Skin Care
  - Yr 1 £1.1 MM
  - Yr 1 £0.4 MM
  - Yr 1 £0.3 MM
  - Yr 1 £0.2 MM

Pageweight

- Pageweight
  - Yr 1 560
  - Yr 1 560
  - Yr 1 560
  - Yr 1 560

Super Hits

- Super Hits
  - Anew Clinical Eye Lift Launch in Yr 1
  - Anew ThermaFirm Launch in Yr 1

Macroeconomic Trend

- Macroeconomic Trend
  - Retail Price Index
    - Yr 1 197.5
    - Yr 1 197.5
    - Yr 1 197.5
    - Yr 1 197.5

Retail Price Index

- Retail Price Index
  - Yr 1 197.5
  - Yr 1 197.5
  - Yr 1 197.5
  - Yr 1 197.5
Some marketing events impact sales within the period of execution (price discounts), while other events impact sales for an extended period of time following the execution (TV, Print, etc.).
TV Effectiveness

TRPs:

<table>
<thead>
<tr>
<th></th>
<th>Yr 1</th>
<th>Yr 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color TV</td>
<td>3,815</td>
<td>3,240</td>
</tr>
<tr>
<td>Skin Care TV</td>
<td>4,584</td>
<td>3,817</td>
</tr>
<tr>
<td>Fragrance TV</td>
<td>2,199</td>
<td>2,317</td>
</tr>
<tr>
<td>Naturals Sweepstakes TV</td>
<td>514</td>
<td>530</td>
</tr>
<tr>
<td>Giftables TV (excludes Print)</td>
<td>899</td>
<td>837</td>
</tr>
<tr>
<td>Rep Recruiting TV</td>
<td>836</td>
<td>831</td>
</tr>
</tbody>
</table>

-Pro-to-Go Lip Plumping Supershock
- Elixir LWC Ultimate Eye Lift
- Ungaro Bond Girl Blue Rush Intense

*Effectiveness = Direct + Halo
Note that effectiveness is not precisely comparable across categories since targets are different
** Incremental volume is adjusted for carry-forward
Rank Order of Paybacks – Brazil Market

- Scented Pages: 563%
- Total Color TV: 289%
- Giftables TV & Print: 248%
- Total Fragrance TV: 248%
- Total TV Advertising: 204%
- Customer Motivation: 203%
- Color Rep Training: 161%
- Total Skin Care TV: 158%
- Total Naturals TV: 151%
- Total OOH & Radio: 129%
- Liiv TV & Print: 116%
- Total Print: 112%
- Total Rep Incentives: 109%
- Free Sampling: 58%
Example: Halo vs. Direct impact of advertising

- Direct Impact to Anew: 72%
- Halo Impacts:
  - Fashion: 15.3%
  - Fragrance: 13.0%
  - Home: 9.1%
  - Color: 8.2%
  - Personal Care: 6.2%
  - Wellness: 4.2%
  - Other Skin Care: 2.5%
  - Hair Care: 1.8%
  - Non Brochure*: 12.2%
Example: Color Cosmetics – Uplifting Mascara launch

Uplifting Mascara Front Cover with C12 Yr 1

<table>
<thead>
<tr>
<th>Beauty Bonus Bag GWS</th>
<th>TV Advertising</th>
<th>Front Covers</th>
<th>New Product Pageweight</th>
<th>Sampling</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.6%</td>
<td>7.5%</td>
<td>6.0%</td>
<td>1.9%</td>
<td>0.8%</td>
<td>42.8%</td>
</tr>
</tbody>
</table>

Total Uplifting Mascara Launch Synergy: 42.8%
Key Drivers Analysis (KDA) informs marketing decisions at multiple levels from tactic optimization to cross-brand investment.

- Understand **which tactics worked** to drive past Rx
- Gather **additional business insights** on performance of tactics
- Identify opportunities **to shift spend between brands** within the therapeutic area (and portfolio)
- Optimize allocation of **spend** to support the brand across tactics, segments, and brand objectives

Iterative process of progressive improvement and optimization
Country/Brand/Channel/Tactic Measurements and Simulations produce a strong foundation for decision making

- A rigorous framework to standardize investment measurement across multiple countries, brands, channels and tactics
- Return on Investment (ROI), is a concise way to assess total investment

- Marginal Return on Investment (mROI) examines the impact of the next dollar we spend
- Can quickly determine the value of individual investment plans and course correct
Analytics to formulate marketing strategy

Marketing Mix Analysis/Resource Allocation in CPG & Pharma

Pricing Strategy

Forecasting
Pricing analytics objective and issues

- How price sensitive are the items?
- How price sensitive are the product groups/categories?
- What product groups can we take pricing action? (profit improvement game-plan)
- What product groups are too price sensitive such that we cannot take a price increase?
- What are the price discount thresholds and merchandising offer lifts?
- How can we size the Pricing Opportunity?
Price elasticity interpretation

- If a product is considered **Highly Elastic**, a price increase will erode its volume to the point that it will **lose revenue**.
- If a product is considered **Slightly Elastic**, a price increase will cause its volume to decrease, but its revenue can **break even**.
- If a product is considered **Inelastic** or **Highly Inelastic**, a price increase is encouraged, because it will **drive revenue**.

<table>
<thead>
<tr>
<th>Elasticity</th>
<th>Description</th>
<th>Revenue Impact</th>
<th>Profit Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; – 1.51</td>
<td>Highly Elastic</td>
<td>Lose Revenue</td>
<td>Lose Profit</td>
</tr>
<tr>
<td>– 1.21 to – 1.50</td>
<td>Elastic</td>
<td>Break Even</td>
<td></td>
</tr>
<tr>
<td>– 1.00 to – 1.20</td>
<td>Slightly Elastic</td>
<td>Drive Revenue</td>
<td></td>
</tr>
<tr>
<td>– 0.50 to – 0.99</td>
<td>Inelastic</td>
<td></td>
<td>Drive Profit</td>
</tr>
<tr>
<td>&gt; – 0.50</td>
<td>Highly Inelastic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Price Elasticity Analysis Process

1. Price Elasticity Study
   - Responsible: Commercial Marketing
   - End of 2 Months

2. Review of Price Elasticity Study
   - Responsible: Commercial Marketing
   - Next 1-2 Months

3. Pricing Opportunities Identification & Action Plan
   - Responsible: Commercial Marketing and Global IMI
   - End of 3 Months

4. Action Plan Review
   - Responsible: Global IMI with Commercial Marketing, GM and Finance

5. Action Plan Implementation
   - Responsible: Commercial Marketing and Finance

6. Tracking and Validation
   - Responsible: Global IMI; Quarterly Tracking Starting One Quarter After Price Changes Have Been Implemented

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## Color Cosmetics price elasticities across 8 markets

<table>
<thead>
<tr>
<th></th>
<th>Brazil</th>
<th>Mexico</th>
<th>Argentina</th>
<th>UK</th>
<th>Turkey</th>
<th>Russia</th>
<th>Poland</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC Lip</td>
<td>1.37</td>
<td>1.02</td>
<td>1.14</td>
<td>0.68</td>
<td>1.18</td>
<td>1.18</td>
<td>1.42</td>
<td>1.30</td>
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<tr>
<td>AC Eye (ML)***</td>
<td>N/A</td>
<td>0.92</td>
<td>0.89</td>
<td>1.01</td>
<td>1.24</td>
<td>0.94</td>
<td>1.09</td>
<td>2.50</td>
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<tr>
<td>AC Eye (G)***</td>
<td>0.90</td>
<td>0.92</td>
<td>0.89</td>
<td>0.88</td>
<td>0.96*</td>
<td>1.39</td>
<td>1.35</td>
<td>1.70</td>
</tr>
<tr>
<td>AC Face (ML)***</td>
<td>N/A</td>
<td>1.00</td>
<td>1.03</td>
<td>0.64</td>
<td>1.03*</td>
<td>0.92</td>
<td>0.93</td>
<td>1.60</td>
</tr>
<tr>
<td>AC Face (G)***</td>
<td>1.04</td>
<td>1.00</td>
<td>1.03</td>
<td>1.50</td>
<td>1.61</td>
<td>2.01</td>
<td>2.36</td>
<td>1.60</td>
</tr>
<tr>
<td>AC Nail **</td>
<td>1.45</td>
<td>0.90</td>
<td>0.93</td>
<td>0.54</td>
<td>1.30</td>
<td>1.20</td>
<td>1.12</td>
<td>1.80</td>
</tr>
</tbody>
</table>

### Total Avon Color
- Brazil: 1.10
- Mexico: 0.97
- Argentina: 1.16
- UK: 0.88
- Turkey: 1.20
- Russia: 1.30
- Poland: 1.26

### Total Color Trend
- Brazil: 1.53
- Mexico: 1.04
- Argentina: 1.17
- UK: N/S
- Turkey: N/A
- Russia: N/S
- Poland: N/S
- US: 1.08

### Notes:
- Price elasticities are in absolute terms.
- Nail category excludes Instant Manicure. In Argentina AC Nail includes excludes Nail Care.
- For Mexico and Argentina, ML & Grams were modeled together for AC Eye and AC color Face and therefore have the same elasticity for those groups.

Total US Color: -1.7 Elasticities are for AC color & CT combined.
Identifying pricing opportunity groups

16 groups are less price sensitive and have a pricing opportunity.

Price Elasticity by Product Group
Range = -0.49 to -3.98
Pricing opportunity varies widely by market

% of Beauty Business by Elasticity Level - by Market

Source: IMI Based on Price Elasticity Analyses for Top 14 Markets
### Pricing Increase Opportunity

**Strategy:**
Increase final consumer price by +7% in product groups with <1.2 elasticity

**Guidelines:**
- Raise prices to match the Beauty industry inflation for all products
- Increase final consumer price above inflation for inelastic product groups only
- Raise prices for all concepts in a product group to avoid consumers switching between concepts
- Increase regular, special and very special prices all by +5-7%
- Ensure that our price positioning vs. key competitors is maintained
Scenario A: When price increase is not taken in all concepts within a group

Taking Price on Only One Concept Sales makes consumers switch Between Concepts

<table>
<thead>
<tr>
<th>Concept</th>
<th>Original Price</th>
<th>After Price Increase</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept A</td>
<td>Price: $21.99</td>
<td>Price: $24.19 (+10%)</td>
<td>Units down 25% Revenue down 18%</td>
</tr>
<tr>
<td></td>
<td>Units: 100</td>
<td>Units: 75</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Revenue: $2,199</td>
<td>Revenue: $1,814</td>
<td></td>
</tr>
<tr>
<td>Concept B</td>
<td>Price: $21.99</td>
<td>Price: $21.99</td>
<td>Units up 19% Revenue up 19%</td>
</tr>
<tr>
<td></td>
<td>Units: 100</td>
<td>Units: 119</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Revenue: $2,199</td>
<td>Revenue: $2,616</td>
<td></td>
</tr>
<tr>
<td>Total Solutions Group</td>
<td>Avg. Price: $21.99</td>
<td>Avg. Price: $22.83</td>
<td>Units down 3% Revenue up 0.7%</td>
</tr>
<tr>
<td></td>
<td>Units: 200</td>
<td>Units: 194</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Revenue: $4,398</td>
<td>Revenue: $4,430</td>
<td></td>
</tr>
</tbody>
</table>
### Scenario B: When price increase is taken in all concepts within a group

**Increase Prices in Concert to Take Advantage of the Lower Group Elasticity**

<table>
<thead>
<tr>
<th>Concept</th>
<th>Original Price</th>
<th>After Price Increase</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concept A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Price:</strong> $21.99</td>
<td></td>
<td>Price: $24.19 (+10%)</td>
<td>Units down 8%</td>
</tr>
<tr>
<td><strong>Units:</strong> 100</td>
<td></td>
<td>Units: 92</td>
<td>Revenue up +1.2%</td>
</tr>
<tr>
<td><strong>Revenue:</strong> $2,199</td>
<td></td>
<td>Revenue: $2,225</td>
<td></td>
</tr>
<tr>
<td><strong>Concept B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Price:</strong> $21.99</td>
<td></td>
<td>Price: $24.19 (+10%)</td>
<td>Units down 8%</td>
</tr>
<tr>
<td><strong>Units:</strong> 100</td>
<td></td>
<td>Units: 92</td>
<td>Revenue up +1.2%</td>
</tr>
<tr>
<td><strong>Revenue:</strong> $2,199</td>
<td></td>
<td>Revenue: $2,225</td>
<td></td>
</tr>
<tr>
<td><strong>Total Solutions Group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Avg. Price:</strong> $21.99</td>
<td></td>
<td>Avg. Price: $24.19</td>
<td>Units down 8%</td>
</tr>
<tr>
<td><strong>Units:</strong> 200</td>
<td></td>
<td>Avg. Price: $24.19</td>
<td>Revenue up 1.2%</td>
</tr>
<tr>
<td><strong>Revenue:</strong> $4,398</td>
<td></td>
<td>Units: 184</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Revenue: $4,451</td>
<td></td>
</tr>
</tbody>
</table>
## Example of Price Increase Recommendation

### Price Increase Recommendation

<table>
<thead>
<tr>
<th>Groups</th>
<th>PE</th>
<th>Price Increase</th>
<th>Gross Margin $ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>MXP</td>
</tr>
<tr>
<td>Avon Color Eye</td>
<td>-0.97</td>
<td>7%</td>
<td>$3,543,541</td>
</tr>
<tr>
<td>Color Trend &amp; Arrivee Eye</td>
<td>-0.75</td>
<td>7%</td>
<td>$5,312,646</td>
</tr>
<tr>
<td>Avon Color Lip</td>
<td>-0.91</td>
<td>7%</td>
<td>$6,756,330</td>
</tr>
<tr>
<td>Avon Color Nail Color &amp; Care</td>
<td>-0.95</td>
<td>7%</td>
<td>$1,416,382</td>
</tr>
<tr>
<td>Avon Color Face</td>
<td>-0.98</td>
<td>7%</td>
<td>$1,773,014</td>
</tr>
<tr>
<td>Skin Care Eye Care</td>
<td>-0.60</td>
<td>7%</td>
<td>$2,560,418</td>
</tr>
<tr>
<td>Skin Care Anew Moisturizers &amp; Treatments</td>
<td>-1.01</td>
<td>7%</td>
<td>$7,456,787</td>
</tr>
<tr>
<td>Skin Care Solutions Moisturizers &amp; Treatments</td>
<td>-1.05</td>
<td>7%</td>
<td>$1,598,845</td>
</tr>
<tr>
<td>Skin Care Hand &amp; Body Anew &amp; Solutions</td>
<td>-0.90</td>
<td>7%</td>
<td>$1,176,002</td>
</tr>
<tr>
<td>Fragrance Juices Women's Mass</td>
<td>-1.05</td>
<td>7%</td>
<td>$8,610,916</td>
</tr>
<tr>
<td>Color Trend &amp; Arrivee Face</td>
<td>-1.05</td>
<td>7%</td>
<td>$384,953</td>
</tr>
<tr>
<td>Fragrance Juices Men's Mass</td>
<td>-1.16</td>
<td>7%</td>
<td>$3,839,122</td>
</tr>
<tr>
<td>Fragrance Juices Men's Value</td>
<td>-0.61</td>
<td>7%</td>
<td>$2,155,356</td>
</tr>
<tr>
<td>Hair Care Treatments</td>
<td>-0.49</td>
<td>7%</td>
<td>$4,172,512</td>
</tr>
<tr>
<td>Personal Care Foot Care</td>
<td>-1.17</td>
<td>7%</td>
<td>$801,508</td>
</tr>
<tr>
<td>Personal Care Hand &amp; Body</td>
<td>-1.04</td>
<td>7%</td>
<td>$1,016,334</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>$55,741,127</strong></td>
</tr>
<tr>
<td><strong>Gross Margin $ Change USD</strong></td>
<td></td>
<td></td>
<td><strong>$5,298,649</strong></td>
</tr>
</tbody>
</table>

### Price Increase Impact

- **PRICE**: 4.24%
- **UNITS**: 0.40%
- **CP SALES**: -1.75%
- **PROFIT**: 2.00%

*Total GM change includes effect of cross elasticities

10.6 exchange rate used to calculate Gross Margin in USD
Pricing Analytics Evolution

FROM
Pre Analytics Era
- No Analytic models to support pricing
- Beauty pricing taken across the board
- Limited belief in pricing ability

CURRENT
Years 1-2
- Price Elasticity Models in all key markets
- Pricing Opportunity sized
- Targeted Strategic pricing activated
- $200MM+ opportunity realized
- Price tracking tools & monthly updates with commercial marketing

FUTURE
Years 3+
- Next level of Pricing - Global Pricing Transformation
- Advanced analytics relating to Pricing thresholds, merchandising lifts across all brochure vehicles
- Build a comprehensive Price Planning tool for campaign management
- Change management and governance around local pricing decisions
Analytics to formulate marketing strategy

- Marketing Mix Analysis/Resource Allocation in CPG & Pharma
- Pricing Strategy
- Assortment Optimization
- Forecasting
Assortment Optimization Process

Data Acquisition
• Data feeds from multiple sources
• Data cleansing and integration
• Data default logic

Advanced Analytics
• Transferable Demand
• Item Incrementality
• Attribute Science
• Activity Based Costing

Business Insights
• Contribution Margin
• Consumer Preference
• Demand driven Supply Chain

Optimizations
• Assortment
• Volume
• Space
• Profitability

Implementation
• Catalog item planning
• Presentation of findings
Assortment optimization conceptual framework

- Consumers respond differently to different attributes based on the relative importance of the attribute to their needs.
- This allows us to determine the relative value of each item.

### Primary Attribute Weights

- **Brand:** 40%
- **Package:** 25%
- **Feature:** 35%

### Secondary Attribute Weights

- **Brand:** 40%
- **Package:** 25%
- **Feature:** 35%

- **Anti-age:** 25%
- **Full Lips:** 75%
- **becoming:** 20%
- **Avon:** 80%
- **Classic:** 60%
- **Narrow Stick:** 40%
Attribute presence and importance allows us to forecast item incrementality and transferable demand.

Product attribute scoring allows us to identify unique SKU attribute volume and non-unique SKU volume.

**SKU 2 has similar attributes to 1 and 3. When it is removed from the assortment most of its demand transfers to SKUs 1 and 3.**

**$ ranking is not an indication of relative item importance.**

SKUs 2, 4 and 9 have redundant attributes so minimal volume is lost from the category if they were removed.

No attribute to transfer to, so incremental.
Analytics to formulate marketing strategy

- Marketing Mix Analysis/Resource Allocation in CPG & Pharma
- Pricing Strategy
- Assortment Optimization
- Forecasting
Client example: Forecasting system

Overview of Forecasting Process

4 week cycle

Pull data

Get inputs from the field

Data Processing/Run Models

Preliminary Forecast

Adjustments
(New Products, Trading days, etc.)

Scorecards, “due to’s”

Final Forecast
Bayesian Shrinkage – Reliable measurement

- Model obtains information about underlying commonality through a distribution assumption
- Outliers are “shrunk” in toward a more realistic mean
- Store-specific results are based on store-specific data
Typical analytics process at a client organization

Activation

Business Issues Identification

Data Collection

Data Review

Action Plan

Presentation

Work Session

Modeling
Evolution of analytics within a client organization

Go Beyond Measurement ... to Activation and Strategy Implementation

Build the Foundation and Fundamentals

Activate into Strategic Plans and Projects

Integrate into the Cultural Landscape

Current Position

YR I

YR II/III

YR IV and Beyond

Critical Challenges

- How to drive “continuous” activation into our plans and integrate into the company’s cultural landscape?
- How to drive the learning across multiple touchpoints?
- Conflicting short term volume pressures vs. long term strategy implementation
Analytics Evolution - Case Study at a Client

**Year 1**

**Focus on brand and category**

**Build the Fundamentals**
- Marketing mix and media optimization
- Price elasticity models
- Initial Representative Models
- Assortment optimization

**Year 2-3**

**Sustainable growth**

**Build Fundamentals +Activate**
- Laser like focus on Source-of-Sales KPIs
  - Appointment, activity, average order & customer drivers
  - Representative segmentation models
  - ‘Test and Learn’ approach: commission thresholds etc.
  - Internal PLS capability

**Year 3+**

**Analytics focused on the Chairman’s growth Agenda**

**Build Fundamentals +Activate+ Integrate**
- Drive Sustainable, Profitable Growth and Capture Beauty White Space
  - Implement Next gen tools & methodologies
  - Enhance External market Information Capabilities
  - PLS and Incrementality models
- Fuel Rising Asia
  - Provide analytic support to China new business model and India research
- Accelerate Core Direct Selling
  - Incentive Optimization
  - PATD Impact
- Unleash Customer and rep growth via technology:
  - ALM Impact Evaluation
  - Intelligent Ordering
  - E-Brochure
Key learnings in the analytics activation journey

1. Identify agents of change ("champions") within the organization
2. Try to go for pilots and ‘quick wins’ initially
3. Need full senior management support to ensure compliance
   “Reward” good behaviors and identify significant violations
    Need both top-down and bottom-up buy in
4. Build guidelines and tracking into the Marketing Planning system to foster strategic and tactical alignment.
5. Foster a high level of organizational learning through “Analytics Road Shows” and on-the-ground Analytics engagement.
6. Place people on the ground locally to lead implementation effort
7. Longer term, embed analytics into the process and decision-making
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4. Complete the survey and click Finish.