US Soft Drink Industry

By: Deedee Akpaete, Ignacio Masias, Nick Stern, John Sulpizio
Carbonated Beverages Industry

- What does this industry produce?
  - Manufactures drinks by blending various ingredients with artificially carbonated water
  - Bottles and distributes these beverages

- Industry structure
  - Composed of two distinct subindustries, Syrup and Concentrate manufacturing and Soft Drink manufacturing
  - 151 companies in the syrup concentrate subindustry (2010)
  - 1,209 companies in the soft drink subindustry (2010)
  - Increasing vertical integration, buying throughout the supply chain
Why this industry

• Our group chose last
• Soda companies are prominent companies in the beverage industry
• The two largest soft drink companies, Coca-Cola and Pepsi, are the second and third largest companies in the beverage industry following Anheuser-Busch
• Though prominent in the beverage industry, the soft drink industry has been declining steadily as consumers are looking for healthier alternatives
Background

What does the value chain look like?

- While some firms have independent bottlers and distributors, etc, several firms have begun the process of Vertical Integration within the supply chain.

Who buys carbonated beverages?

- Wholesalers, retailers, food services
Proportion of Exports and Imports in Revenue

- Sum of Imports ($m)
- Sum of Exports ($m)
- Sum of Revenue ($m)
Largest Beverage Manufacturer in the World, more than 500 brands and sold in over 200 countries

Classic/Timeless Brand Positioning

Brands: Coca-Cola, Diet Coke, Sprite, Fanta, Coca-Cola Zero, Barq’s, Cherry Coke, Powerade, Full Throttle

Second largest market share in the carbonated beverages industry

Youthful brand positioning “Coke is timeless, Pepsi is timely

Brands: Pepsi, Mountain Dew, Sierra Mist, Mug Root Beer, Izze, Diet Pepsi, Pepsi One

Third largest market share, significantly smaller than two other leading companies

Brands: 7UP, A&W Root Beer, Schweppes, Dr. Pepper, RC Cola, Crush
Competition

- The largest producers account for nearly 71% of industry revenue (ibisworld)
- Driven by brand loyalty and intense price competition
- High market concentration
  - $\text{HHI} = 1650.22$
  - $C_4 = 71$
Industry challenges

- Decline in demand for carbonated beverages, leading to intense price competition
- Increasing health concerns leading to less soda consumption
- Proposed bans on large sodas
- Soda tax
Porter’s 5 forces

**Threat of Substitute Products: High**
- High cost of capital
- Economies of Scale
- Saturated Market
- Heavy brand loyalty
- Many suppliers in the industry
- Inputs are not specialized
- Vertical Integration
- Elastic Demand
- Could substitute with other brands, water, tea
- Top firms dominate the market
- Economies of Scale

**Bargaining Power of Suppliers: Low**
- Top firms dominate the market
- Economies of Scale

**Bargaining Power of Buyers**
- Top firms dominate the market
- Economies of Scale

**Intensity of Rivalry: High**
- Top firms dominate the market
- Economies of Scale
Taste Test! What Brand Are You?

John Likes...

Ignacio Likes...
Results!

Player 1:

A
B
C
D

Player 2:

A
B
C
D
Pricing Strategies
Main pricing strategies

• 2\textsuperscript{nd} degree price discrimination
  – Versioning
  – Bundling
• Promotional Deals
• High industry concentration leads to Tacit Collusion
• Advertising
Data Collection Process

Process:

- Visited 5 Key Distribution Channels
- Collected more than 70 data samples

Results:

Price per Standard 20 Oz Bottle Average Price Per Ounce

<table>
<thead>
<tr>
<th>Product</th>
<th>Price Per Ounce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coke</td>
<td>$1.75</td>
</tr>
<tr>
<td>Pepsi</td>
<td>$2.29</td>
</tr>
<tr>
<td>Dr. Pepper</td>
<td>$1.99</td>
</tr>
<tr>
<td>Wegman's Generic</td>
<td>$1.79</td>
</tr>
<tr>
<td>Olin Vending Machine</td>
<td>$0.066</td>
</tr>
<tr>
<td>Libe Café</td>
<td>$0.060</td>
</tr>
<tr>
<td>711</td>
<td>$0.065</td>
</tr>
<tr>
<td>Jason's Grocer</td>
<td>$1.79</td>
</tr>
<tr>
<td>Wegman's</td>
<td>$1.79</td>
</tr>
</tbody>
</table>
2nd Degree Price Discrimination

- Versioning
  - Packaging
  - Size
  - Cold/Warm
  - Dietary/Regular
  - Promotions
  - Individual/Bulk

- Bundling
  - Food/Beverage
Packaging Versioning

- Price/Oz: $0.160
- Price/Oz: $0.045
- Price/Oz: $0.035

Packaging Options:
- Plastic
- Glass
- Can
Size Versioning

Price per Fl. Oz Bottle

- Coke
- Pepsi
Bulk Purchases

- 16 oz Can: $0.093
- 12 oz Can: $0.073
- 8 pack of Cans: $0.058
- 12 pack of Cans: $0.039

*Data from Coca-Cola Products*
The Cold Premium

Average Price/Oz:
$0.034

Average Price/Oz:
$0.085
Price Effects of Bundling

- Coca-Cola Brand Manager on Bundling:
  - Convenience is king
    - 69% of consumers just want to get in and get out of grocery stores (iSHOP Survey—Coca-Cola)
  - Increases sales and profits of Coca-Cola products and paired products
  - Bundle beverage with supermarket fresh-prepared foods
  - Best sections to bundle with Coca-Cola?
    - Bakery Section
    - Deli Section
    - Butcher Area
    - Produce Section
    - Frozen Section
Promotions

Coca-Cola
- 2L Buy one get one for $1
- 33 oz buy 2 for $3.33
- 12 Pack Cans 2 for $9.98
- 3 6-packs for $10
- 3 12 pack cans for $12.99

Pepsi
- 2L Buy one get one for $1
- 12 oz cans 2 for $8.98
- 3 16 oz plastic 6-pack for $9.99
- 12 Pack Cans 4 for $12

Individual Price ▬▬▬ Promotional Price

[Bar charts showing price comparisons for Coca-Cola and Pepsi promotions]
Promotional Savings

**Coca-Cola**

- 2L Buy one get one for $1: $0.010
- 33 oz buy 2 for $3.33: $0.018
- 12 Pack Cans 2 for $9.98: $0.007
- 6-packs for $10: $0.010
- 3 12 pack cans for $12.99: $0.005

**Pepsi**

- 2L Buy one get one for $1: $0.010
- 12 oz cans 2 for $8.98: $0.007
- 16 oz plastic 6-pack for $9.99: $0.000
- 12 Pack Cans 4 for $12: $0.014

**Average Promotional Savings:**

**Coca-Cola:**

= $0.010

**Pepsi:**

= $0.008
Main Takeaways From 2\textsuperscript{nd} Degree Price Discrimination

- Brand Premiums
- Allows consumers to self-identify and reveals true willingness to pay
- Luxury Premiums
  - Glass
  - Cold
- Promotional Loyalties
Tacit Collusion
Tacit Collusion

• A non-explicit, often spontaneous, form of cooperation between firms that is due to interdependence
  – Easily done in industries with few firms
  – Firms use similar production methods
• Results in Price Matching in the industry
Tacit Collusion: Few Firms

- HHI 1650
- Soft Drink Industry Is dominated by 2-3 firms
  - Coca-Cola : 29%
  - Pepsi : 25%
  - Dr. Pepper : 10%
Tacit Collusion: Similar Production

- Carbonated Water
- High Fructose Corn Syrup
- Caramel Color
- Phosphoric Acid
- Natural Flavors
- Caffeine

- Carbonated water
- High Fructose Corn Syrup
- Caramel Color
- Sugar
- Phosphoric Acid
- Natural Flavors
- Caffeine
- Citric Acid

Similar ingredients and production costs, allowing for Price Matching
## Tacit Collusion: Price Matching

<table>
<thead>
<tr>
<th>Brand</th>
<th>Volume</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coca-Cola</td>
<td>20 oz</td>
<td>$1.79</td>
</tr>
<tr>
<td>Pepsi</td>
<td>20 oz</td>
<td>$1.79</td>
</tr>
<tr>
<td>Dr. Pepper</td>
<td>20 oz</td>
<td>$1.79</td>
</tr>
<tr>
<td>Coca-Cola</td>
<td>67.6 oz</td>
<td>$2.29</td>
</tr>
<tr>
<td>Pepsi</td>
<td>67.6 oz</td>
<td>$2.29</td>
</tr>
<tr>
<td>Coca-Cola</td>
<td>33.83 oz</td>
<td>$2.29</td>
</tr>
<tr>
<td>Pepsi</td>
<td>33.83 oz</td>
<td>$2.29</td>
</tr>
</tbody>
</table>
Tacit Collusion: Promotional Strategies

• Promotional strategies are done via tacit collusion
• Coke and Pepsi alternate weeks where they offer sales
• 1/496,918,532,948,104 chance this happens in a 52 week period
• If both brands are on sale, consumers pick favorite brand
• Coke and Pepsi lose sales
• Run non-overlapping promotions to benefit both companies
Tacit Collusion: Promotional Strategies

<table>
<thead>
<tr>
<th>No Sale</th>
<th>Sale</th>
</tr>
</thead>
<tbody>
<tr>
<td>X,X</td>
<td>b,Y</td>
</tr>
<tr>
<td>Y,b</td>
<td>b,b</td>
</tr>
</tbody>
</table>

X = Normal profits
Y = High profits
b = Low profits
Advertising Data
Advertising Data Analysis

• Product differentiation
  – Relatively similar products
  – Focused on marketing campaigns in order to establish brand loyalty

• Analysis of all TV advertising costs for the soft drink industry in 2011
Total TV Advertising Costs per Company (2011)

- Correlation between total advertising costs and market share
- Perceived or actual product differentiation?
• Top 6 brands in terms of advertising costs are part of Coke and Pepsi family
• Differences in prioritizing ‘regular’ vs. ‘dietary’ brands
TV Advertising Costs (Regular vs. Dietary)

- **Pepsi**
  - Regular: 84%
  - Dietary: 16%

- **Coca-Cola**
  - Regular: 63%
  - Dietary: 37%

- **Dr. Pepper**
  - Regular: 59%
  - Dietary: 41%
Seasonality of TV Advertising Expenditures
Most expensive television advertising spots

<table>
<thead>
<tr>
<th>Program</th>
<th>Cost ($ per second)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPER BOWL XLV GAME</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>ACADEMY AWARDS</td>
<td>$90,000.00</td>
</tr>
<tr>
<td>GLEE-FOX</td>
<td>$60,000.00</td>
</tr>
<tr>
<td>NFC CHAMPIONSHIP GAME</td>
<td>$50,000.00</td>
</tr>
<tr>
<td>AFC CHAMPIONSHIP GAME</td>
<td>$40,000.00</td>
</tr>
<tr>
<td>NCAA BB CHAMPIONSHIP</td>
<td>$35,000.00</td>
</tr>
<tr>
<td>AMERICAN IDOL: FINALE</td>
<td>$30,000.00</td>
</tr>
<tr>
<td>X-FACTOR-FOX</td>
<td>$25,000.00</td>
</tr>
<tr>
<td>NFC DIVISIONAL PLAYOFF</td>
<td>$20,000.00</td>
</tr>
<tr>
<td>MODERN FAMILY-ABC</td>
<td>$10,000.00</td>
</tr>
</tbody>
</table>
Advertising Data Takeaways

• High product differentiation may lead to premium pricing
• Compete in the most expensive TV spots
• Different strategies in terms of pushing regular vs. dietary brands
  – Impact of future competitive landscape?
Investor Recommendations

• Do Not Invest
  - Trends towards healthy
  - Diminishing per capita consumption
  - Laws/Regulations on soft drinks
Investor Recommendations
Industry Recommendations

- Environmentally Friendly Packaging
- Healthier Options
- Continue to Advertise and Price Discriminate
- Maintain Brand Positioning for Coca-Cola
- Wholesale Bundling and Differentiate Pepsi
- Dr. Pepper Develop Unique Brand Image
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