Justin Yu
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Observations of Year 2 Data for Year 3 Decisions

Recap of my Year 2 Decisions

Units to Produce: 75.0 million
Channel price: $6.50
Formulation: Pods
Product Features and Positions: Odor Elimination
Trade Channel Spend
- Convenience: 45%
- Club: 40%
- Grocery: 10%
- Mass: 5%

Media Spend:
- Print: 5%
- TV: 45%
- Radio: 5%
- Digital Ads: 45%

Target Market Segment
- **Income**: $20,000 and $20,000-$39,999
- No ethnicity focus
- **Household focus**: All household sizes
- **Region**: Southeast, Central, West
- **Age**: Under 35, 35-44

The analysis of competitors and the outcomes of my Year 1 decisions for Blue will be explored. After analysis, I will make decisions and strategies for Year 2.

Price Elasticity of Demand

Price Elasticity of Demand = Percentage change in demand / Percentage change in price. The companies that changed prices in Year 2 are **Turbo**, **Fresh**, and **Store**

Turbo from Year 1 to Year 2 went from $10 to $9. Demand went from 124,445,260 to 136,438,993.

$$\%\, increase\ of\ Demand\ =\ ((136,438,993\ -\ 124,445,260)/124,445,260)\ *\ 100\ =\ \%\ +9.6$$

$$\%\, decrease\ in\ Price\ =\ ((9\ -\ 10)/10)\ *\ 100\ =\ \%\ -\ 10$$

$$Price\ Elasticity\ of\ Demand\ =\ \frac{9.6}{-10} =\ -\ 0.96$$

A PED of -0.96 is considered inelastic. So demand does not respond very strongly to a change in price.

Fresh Year 1 to Year 2 went from $8 to $8.50. Demand went from 66,474,636 to 51,128,793.

$$\%\,decrease\ of\ Demand\ =\ ((51,128,793\ -\ 66,474,636)/66,474,636)\ *\ 100\ =\ \%\ -23$$
$$\%\,increase\ in\ Price\ =\ ((8.50\ -\ 8)/8)\ *\ 100\ =\ \%\ +\ 6.25$$
$$Price\ Elasticity\ of\ Demand\ =\ \frac{-23}{6.25} =\ -\ 3.68$$

A PED of -3.68 is elastic. Demand responds strongly to a change in price.

Store from Year 1 to Year 2 went from $6 to $5.25. Demand went from 48,183,882 to 61,001,258.

$$\%\,increase\ of\ Demand\ =\ ((48,183,882\ -\ 61,001,258)/48,183,882)\ *\ 100\ =\ \%\ -26.4$$
$$\%\,decrease\ in\ Price\ =\ ((6\ -\ 5.25)/6)\ *\ 100\ =\ \%\ +\ 12.5$$
$$Price\ Elasticity\ of\ Demand\ =\ \frac{-26.4}{12.5} =\ -\ 2.1$$

A PED of -2.1 is considered elastic. Demand responds strongly to a change in price.

Looking at Trends

Operating Profit from 2019 - 2020
Turbo: $155,416,504 -> $107,881,057. **%30.5 decrease**.
Fresh: $76,696,548 -> $21,848,727. **%71 decrease**.
Blue: $38,799,999 -> $67,534,169. **%74 increase**.
Store: -$12,683,745 -> -$3,640,406. **%71 increase**.

Market Share
In Year 2, I decided to market towards the Southeast, Central, and West. For Blue, shares in the Southeast have increased by ~%3. Moreover, shares in the Central and West regions have increased ~%2. This shows that my strategy is working. Store gained %3 and Fresh lost %6. Now the order from highest to lowest is Turbo -> Store -> Fresh -> Blue. Remember that Market Share is not a strong indicator of how much profits a company makes. A company can lower their prices but still not receive a large amount of profit in return.

- The market shifts based on Region.
- Northeast: Turbo > Fresh > Store > Blue
- Southeast: Store > Turbo > Fresh > Blue
- Central: Store > Turbo > Fresh > Blue
- West: Turbo > Blue > Fresh > Store

Brand Demand and Brand Sales

From my Year 2 decisions, the Brand Demand for Blue decreased from 55,468,908 to 48,453,897. Only for Blue, **Brand Sales** met demand, but I produced too many units. It is good to note that producing too much will not affect Blue's profitability. Otherwise, every competitor had a 1-1 ratio with their demand and sales. The Brand Demand for Turbo and Store increased while Fresh decreased.

Turbo and Store reduced their prices which is a reason why their demands went up and why the demand for Blue lowered. Also, switching to pods can increase demand, but I can only assume they switched to Pods in order to compete with the fact that Blue decided to produce pods. The demand for Fresh decreased because they increased their prices while Turbo and Store decreased theirs.

I kept the price of Blue the same, so I did not have any effects of PED. In fact, competitors changing their prices for 2020 moved demand away from Blue and towards them.

However, **lowering the price has a chance to sacrifice profit despite increasing demand**. This is what happened to Turbo. After decreasing their price, their operating profits went from $155,416,504 to $107,881,057.

- In the overall line graph with **no filters**, Blue is now performing better than Store.
    - Here are the Brand Demand values
    - Turbo: 136,438,993
    - Store: 61,001,258
    - Fresh: 51,128,793
    - Blue: 48,453,897
- Looking at people **under the age of 35 and 35- 44**, Blue has the second highest demand out of everyone 34 million with Turbo at 43 million a
    - This shows that marketing towards these two groups have been successful.
- Filtering with a **household size of 4 and 5+** Blue performs better than Fresh. Blue is at 28 million whereas Fresh is at 22 million.
- With the filter on **Income under $20,000** the demand for Blue is higher than fresh but lower than Turbo and Store.

From these observations, it looks like marketing towards these groups have some effect on Brand Demand. However, the **strongest factors that affect Demand are Price, Formulation, and Volume**. So there is some success in my marketing strategy, but I have to focus Blue's decision making in the latter metrics.

Media Consumed

There is no significant change in these numbers in 2020.

- Media Consumed heavily changes when filtering on **Age**. I will list them from greater to least media consumed. With no filters it is Print > TV > Digital Ads > Radio
- Under 35: Digital Ads -> Radio -> TV -> Print
- 35-44: Digital Ads = TV > Radio > Print
- 45-55: TV > Print > Digital Ads > Radio
- 55 and Over: Print > TV > Radio > Digital Ads

Deciding which age group I will market towards will also affect which media channel I will invest in. E.g. if I focus marketing for Blue to people under 35 and ages 35-44, then I should put more emphasis into digital ads.

Formulation Demand

There is no significant change in these numbers in 2020.

- **Household Size** has a big change on formulation demand whereas other filters do not. Demand will be listed from greatest to least. The quantity demanded will be listed if the margin between the is very large.
- Household size 1: Pods (27,361,039) >Liquid (13,909,055) >Powder (9,196,209)
- Household size 2: Pods > Liquid > Powder
- Household size 3: Pods and Liquid are of equal demand > Powder
- Household size 4: Pods > Liquid > Powder
- Household size 5+: Pods > Liquid > Powder

Pods are still very popular, despite a %15 increase, I will continue to choose pods as Blue's formula.

Brand Attribute Demand

There is no significant change in these numbers in 2020.

- Playing around with Brand Attribute Demand, the only filter that has a strong effect is **Region**.
- The **Northeast** region prefers Softness and Cold Water
- **Southeast** prefers Scent and Odor Elimination
- **Central** demands Odor Elimination, Cold Water, Scent, Softness (from greater to least demand.
- **West** prefers Cold Water -> Odor Elimination -> Softness -> Scent

Trade Channel Demand

There is no significant change in these numbers in 2020.

- Income heavily affects this attribute. But with no filter, from greater demand to least demand is Convenience -> Club -> Grocery -> Mass

- Income under $20000, there is a much greater demand for shopping in Convenience locations than other channels.
- $20,000-$39,999, there is a much greater demand for shopping in Club locations than other channels.
- $40,000-$59,999, there is a much greater demand for shopping in Mass locations than other channels.
- $60,000 and Over, there is a much greater demand for shopping in Grocery locations than other channels.
- No other filters seem to shift the locations for Trade Channel Demand.

Households

There is no significant change in these numbers in 2019. The values described here from 2018 to 2019 are very close to one another and still follow the same order, so these values do not need to be adjusted.

- A breakdown of how many people (data points) are in Household Size. This can be useful to reference when I am deciding if I should filter on Household Size.
    - 1: 32.8 million
    - 2: 40.9 million
    - 3: 20.1 million
    - 4: 17.9 million
    - 5+: 12.1 million
- For region, the breakdown is as follows
    - Northeast: 21 million
    - Southeast: 47 million
    - Central: 26 million
    - West: 29 million

Price Point Demand

Price point demand are prices at which demand for a given product is supposed to stay relatively high. This metric does not drastically change with any filter and it would make sense a lower price will have a high demand.

The **current prices** as of 2020 are

- Turbo: $9
- Fresh: $8.50
- Blue: $6.50
- Store: $5.25

Competitor Analysis

I have the Unit Costs from 2018, 2019, and 2020 together so I can compare them. These calculations are in my Excel sheet which I will upload.

Unit Cost of Each Company 2018

Blue: $5.83
Turbo $8.20
Fresh: $5.94
Store: $5.53

Unit Cost of Each Company 2019

Blue: $5.53
Turbo $8.75
Fresh: $6.85
Store: $6.26

Unit Cost of Each Company 2020

Blue: $5.11
Turbo $8.21
Fresh: $8.07
Store: $5.31

I determined the reason for the change in trends for Operating Profits, Market Share, Brand Demand, and Brand Sales of Turbo, Fresh, and Store for 2020. These reasons are stated under the Brand Demand and Sales section in Trends. I will anticipate the business decisions the competitors will make in order to better create my own strategies for Year 3.

- My Year 2 decisions saw major success for Blue as operating profit increased from $38,799,999 -> $67,534,169 whereas all competitors except Store saw a loss of profit. (The exact numbers are posted below)
    - For Year 3, I suspect that the competitors will not change their prices as they have already changed them in Year 2.
    - **Turbo** decreased their price in Year 2, but lost profit. I suspect that they did not produce enough units to sell to make up for the decrease in price.
        - **In response to this** and to Blue's success in operational profits, I think Turbo will increase their volume to offset the difference due to lowering their price in **Year 3**.
    - **Store** decreased their price in Year 2 and made "profit" (they are still in the negative values for operational profit).
        - **In response to this** and Blue's success, I think the only way to increase demand and subsequent profits is to increase volume (for profits) and to change formulation to Pods (increase demand) for **Year 3**.
    - **Fresh** increased price in Year 2 and lost demand profit. Moreover in Year 1 they did not change price and lost demand and profit.

        - **In response to this** and their Blue's success, their best course of action for **Year 3** is to switch to Pods and lower prices to increase demand.
    - I focus on their operating profit, demand, and sales since it is very difficult to determine who the competitors market to.

Operating Profits from 2020
Turbo: $155,416,504 -> $107,881,057. **%30.5 decrease**.
Fresh: $76,696,548 -> $21,848,727. **%71 decrease**.
Blue: $38,799,999 -> $67,534,169. **%74 increase**.
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Operating Profit and **Revenue** will be factored in the Decision and Strategy section based on the **Demand Forecast Tool** and my **Income sheet**.

My Decision and Strategy of Year 3

Channel Price

The Channel Price I choose will be $6.25

Strategy

- I have a few reasons for setting the price to $6.25
    - In 2019 (Year 1), I changed the price from $7 to $6.50, which increased demand from 32 million to 55 million
        - In this Year, no other company changed their prices which greatly help increase Blue's demand
        - In Year 2 I did not change Blue's price, but competitors changed theirs which took demand away from Blue.
        - From my **Competitor Analysis**, I have strong reasons to believe that the competitors **will not make any significant changes to their prices (more than 50 cents)** until AFTER Year 3 decisions (so in Year 4) since they have already changed them.
        - As a result, I will lower my price to take advantage of this fact to gain more demand.
            - However, I do not want to drastically lower my price just to increase demand.
- Also by lowering price, I expect to gain the effects from PED (higher demand)
- Porter's 5 Forces Model explains that price is a strong factor in competition and the Year 2 results of Blue and their competitors prove that.

Formuluation

My choice is Pods

Strategy

- Although Pods will incur a +%15 in variable costs, Pods are still the most popular choice.

        - It is shown in my Year 2 results that Blue had an increase of %74 in Operating Profits from Year 1 to Year 2 since I produced enough units to overcome the increase in variable costs.
        - Since Pods are the most popular choice, they are always in greater demand vs the other formulas.
    - No matter the filter, Pods are always in demand with Powder in last place.
    - Blue will go with Pods despite the +15% in variable costs due to popularity.

Product Features and Positioning

My choice is Odor Elimination

Strategy

- I chose this because I plan to Market to the Regions Southeast, Central, and West.
    - This is because all of these regions strongly prefer odor elimination
    - Blue is stronger in the Central and West regions now, but I will keep marketing towards these regions.
- Now there are more positive sentiment towards Blue
    - %37.8 positive, %18.9% fairly negative, %16.2 negative.
    - So I'll keep this product's features and position.

Trade Channel Spend

My choice is

- Convenience: 45%
- Club: 40%
- Grocery: 10%
- Mass: 5%

Strategy

- With lower income, Convenience is more in demand as seen in the data.
- Since I also choose to market to people making 20k-39k, I will also spend a similar amount to Club.
- Since I will lower Blue's Price for this year (Year 3), it should still be affordable for people with lower income.

Media Spend

My choice is

- Print: 5%
- TV: 45%
- Radio: 5%
- Digital Ads: 45%

Strategy

- Digital ads are more consumed by people under the age of 35 and 35-44.

        - TV ads are consumed by 35-44 and 45-54 as well so that is why I will choose to spend more money on TV ads.
- I want to allocate more media spend into TV and Digital ads since my target market segments for Age is towards people under 35, 35-44, and 45-54.

Target Market Segment for Decisions

- **Income**: $20,000 and $20,000-$39,999
- No ethnicity focus
- **Household focus**: Household size 1 and 2.
- **Region**: Southeast, Central, West
- **Age**: Under 35, 35-44, 45-54

Strategy

- The most preferred channel for lower **income** people is Convenience. Since I have already chosen to focus on Convenience, I have decided to focus on people with under $20,000 and $20,000-$39,999 incomes.
    - Choosing to spend more money on the Club trade channel is also a reason for me to focus on people with the income of $20,000 - $39,999
- Not focusing on ethnicity is the same decision i made for Year 1 and Year 2
    - There is no strong indication that ethnicity is a contributing factor
- Examining the population sizes, **Household focus** will be towards 1 and 2 since they make up more than %50 of the households population in this simulation.
- Focusing on the **Regions** Southeast, Central, and West will target the majority of the geographical demand.
    - I will keep the same regions for Year 3 as I plan to focus more on adjusting Price and Volume to increase profits.
    - Northeast was not added because it is by far the smallest region to market towards.
- From the Year 2 data, focusing on **Age** has worked well. The demand for Blue with consumers under the age of 35 and age of 35-44 are within the top 2 positions.
    - I am adding ages 45-54 since they consume more TV (I am putting %45 of my media spend into TV ads) than other channels.

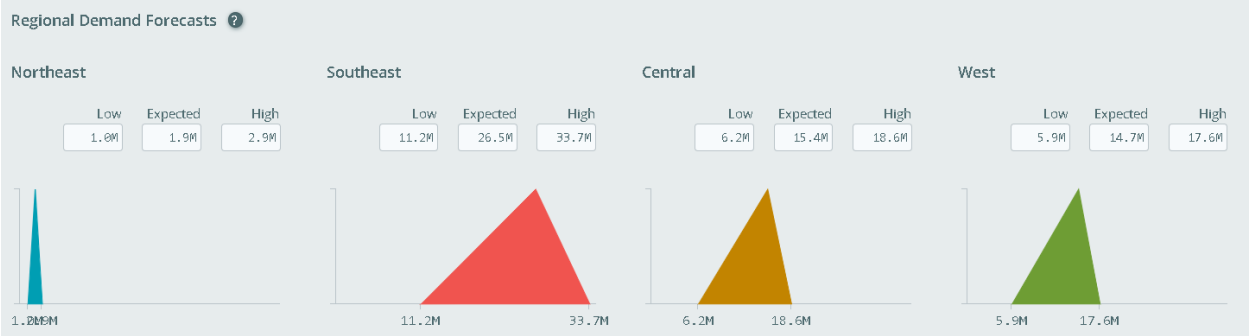
Units to Produce

The amount of units to produce is 68 million.

Strategy

- When I changed Blue's price to $6.50 in Year 1, the demand shot up from 32 million to 55 million. However, in Year 2 I did not change Blue's price but competitors lowered theirs. This increased their demand and took some demand away from Blue (55 million to 48 million)
- The the rationale in **Competitor Analysis** and **Price**, I strongly suspect that the competitors will not drastically (more than 75 cents) alter their prices for Year 3 so I have full advantage to lower my prices to gain the most demand and sales

    - For these reason, **I project demand for Blue to increase at least ~12 million for Year 3**
    - I need to make sure I produce enough units to meet demand.
- In Year 2, the current unit cost for Blue is $5.11. We made an operating profit of $67 million (from $38 million!)
- After playing around with the unit cost calculations and unit cost changes in my Excel sheet, with a **higher volume at 68 million**, Blue will produce their Pods at a **unit cost of $4.54**
    - With this number of units, the values I will list from the **Forecast Demand Tool** tab will be the **most likely forecasted average values**
        - From looking at the **regional demand values**, adding the expected demand from each region will give ~47 million demand and the highest will be ~71 million
            - **I need to make sure I will produce enough units to meet demand, but obviously I do not expect to reach maximum demand for each region.**
        - Here are the Low, Expected, and High demand values for each region. Southwest, Central, and West are projected to be higher since I plan to focus in those areas.



    - Demand: 51,756,441
    - Sales: 51,756,441
    - Revenue: $336,416,866
    - Total Costs: $255,391,806
    - Operating Profit: $81,025,061
    - On my **Excel** sheet with projects with volume as 68 million and price at $6.25, here are my projected values
        - Revenue: $425,500,000
        - Total Costs: $308,726,916.97
        - Operating Profit: $116,273,083.03
        - Comparing these values, my projected values from my Excel sheet are a bit higher than the average values stated from the **Demand Forecast Tool**
            - These values are close enough for me to feel comfortable setting the volume to 68 million.

In conclusion, the Year 2 analysis written in this document has been used to develop a strategy and their rationale for my Year 3 decisions.