SPECTRA: CASE STUDY ROUND

-> This is the document file containing all our research and data points we have gathered during the analysis of this case study. We have found many useful insights from this data and used them in the final PPT.

Approach towards the PROBLEM:-

- Filled the missing SKUs in the data
- Revenue column = volume_sales / pack size * cost (price per carton (carton size =1))
- Splitted the data between company and competitor
- Groupby SKUs -> revenues - > top SKUs revenue wise
- Groupby SKUs -> volume_sales- > top SKUs revenue wise
- Groupby Brands -> To see which brand is performing better under company or competitor
- SKUs analysis
- Segment wise distribution of the market, market share …Economy, L Mainstream, U Mainstream, Premium
- Optimal Pricing strategy: Compared revenue sales vs price, analyzing the data identifying the peak where revenues peak considering the segment also
- Assumptions : Breweries manufacturer
- Data clean, sku filled , revenue = volume_sales / pack size * cost

RELATIONSHIP WITH PRICE AND DEMAND ACROSS SKUs:-

General Analysis and Top Generating SKUs:-

GLBT - Bottle Beverages (two sizes S and L) S - [250ml, 330 ml] L- 650ml

CAN - Cans (two sizes S and L) S - 330 ml , L = 500ml

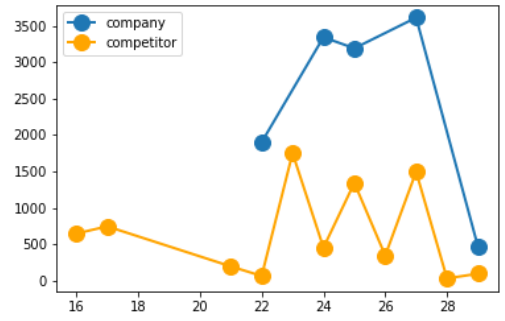
SKU	revenue_market	revenue_company	%revenue_market_company	revenue_competitor	%revenue_market_competitor
GLBTL007	6084843082	6073845164	99.81925716	10997918	0.180742837
GLBTL002	2831115919	680508315	24.0367521	2150607604	75.9632479
GLBTL003	2461449771	2278229499	92.55640825	183220272	7.443591747
GLBTL009	2028159748	2008662941	99.03869471	19496807	0.961305293
GLBTL006	1288985961		0	1288985961	100
GLBTL004	1127096897	947679051	84.0814178	179417846	15.9185822
GLBTL008	1070102806	51692335	4.83059522	1018410471	95.16940478
GLBTL001	919502640	495066643	53.84069838	424435997	46.15930162
CANL007	844436624	844436624	100	0	0
GLBTL005	679731113	550080827	80.92623928	129650286	19.07376072
CANL005	217429867	158604742	72.94524169	58825125	27.05475831
CANL006	213465336		0	213465336	100
CANL003	123436770	123436770	100	0	0
CANL001	96351662	62829858	65.20889904	33521804	34.79110096
CANS009	30959687	30959687	100	0	0
CANS001	28649308	6078600	21.2172664	22570708	78.7827336
CANL002	22005852		0	22005852	100
CANS005	21397076	21397076	100	0	0
GLBTS001	20172150	20172150	100	0	0
CANL004	16179678		0	16179678	100
CANL008	11590791		0	11590791	100
CANS007	4128311	4128311	100	0	0
CANS002	3993243		0	3993243	100
CANS004	2095838		0	2095838	100
GLBTS006	0	0	NA	0	NA

SKU	demand	company_demand	%Volume_market_share_company	competitor_demand	%Volume_market_share_competitor
GLBTL007	1343334.62	1339192.83	99.69167846	4141.79	0.308321541
GLBTL002	804991.7	171013.59	21.24414326	633978.11	78.75585674
GLBTL003	706147.21	656084.99	92.91051224	50062.22	7.089487757
GLBTL009	507574.6	500089.35	98.52529067	7485.25	1.474709333
GLBTL006	359211.31		0	359211.31	100
GLBTL008	356388.84	10064.66	2.824067106	346324.18	97.17593289
GLBTL004	329690.34	281852.75	85.49014509	47837.59	14.50985491
GLBTL001	228550.53	99615.1	43.58559134	128935.43	56.41440866
CANL007	188800.62	188800.62	100	0	0
GLBTL005	180133.09	147147.46	81.68818955	32985.63	18.31181045
CANL005	58057.18	42652.44	73.46626205	15404.74	26.53373795
CANL006	53965.52		0	53965.52	100
CANL003	30574.14	30574.14	100	0	0
CANL001	19717.77	12516.54	63.47847652	7201.23	36.52152348
CANS009	6688.02	6688.02	100	0	0
CANL002	5838.85		0	5838.85	100
CANL004	3913.86		0	3913.86	100
CANS001	3152.04	675.4	21.42739305	2476.64	78.57260695
CANL008	2906.96		0	2906.96	100
CANS005	2853.48	2853.48	100	0	0
GLBTS001	2149.64	2149.64	100	0	0
CANS007	540.85	540.85	100	0	0
CANS002	381.35		0	381.35	100
CANS004	202.23		0	202.23	100
GLBTS006	0	0			100

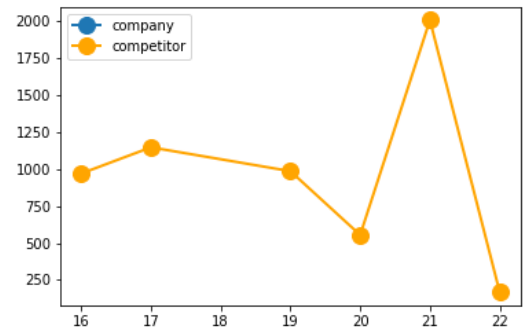
- GLBTL002 -> Competitor has major portion of market revenue share
- GLTBTL006 -> A new SKU can be introduced as it generates a major chunk of revenue but the competitor has 100% of the market revenue share
- GLBTL008 -> Competitor has 95.2% of the revenue market against
- GLBTL007 is the highest revenue generating SKU.
- CANL006 can generate a considerable amount of revenue. Company should introduce a new sku in this segment.
- CANS001 - cash cow
- CANL002,CANL004,CANL008,CANS002,CANS004 -> In these SKUs, lag behind competitor's revenue generation.
- CANS007 -> Despite being an upper mainstream product, it is not able to generate much revenue. Not so promising
- GLBTS001 , CANS005 -> These SKUs are not so promising.
- GLBTS5006 generates lower revenue although with higher volume_sales.
- In generally , bottles are more profitable than cans

-> This is the relationship between price and demand (volume sales). On Y-Axis, we have the volume sales and on X-Axis, we have the pricing of the respective products. Through, this we can analyze how the demand of a particular product varies according to the pricing.

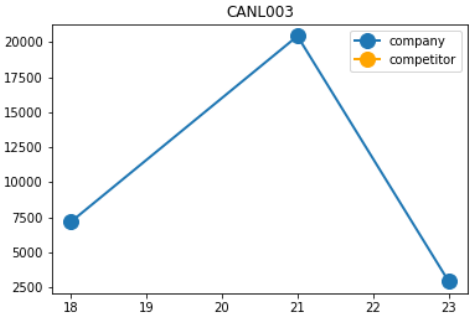
CANL001



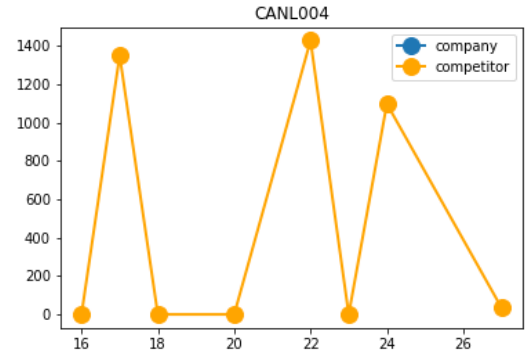
CANL002



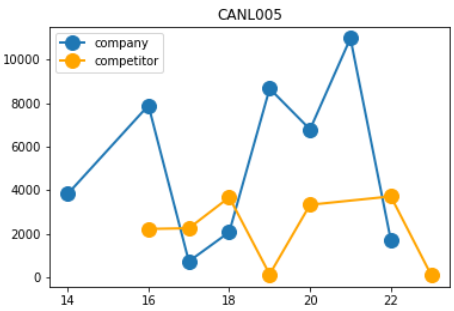
CANL003



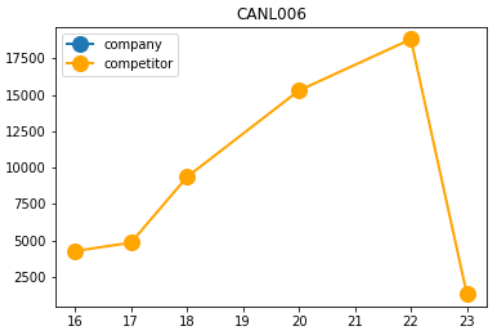
CANL004



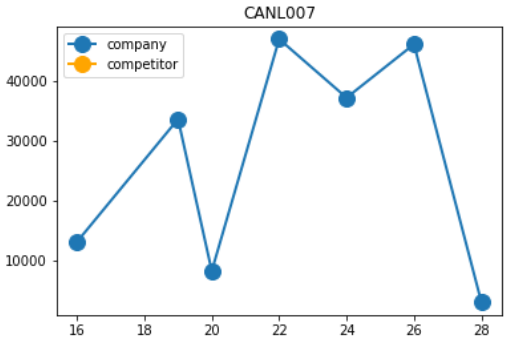
CANL005



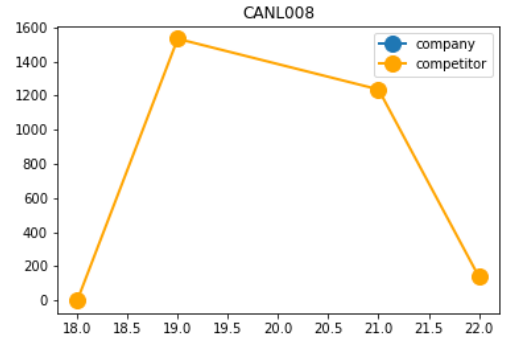
CANL006

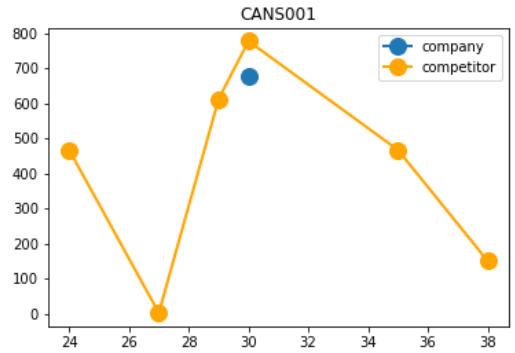


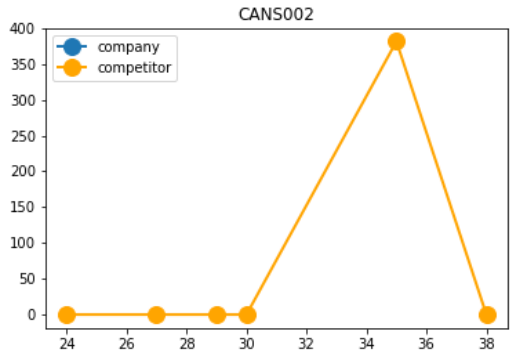
CANL007

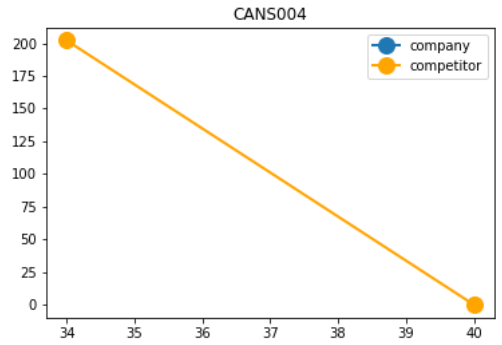


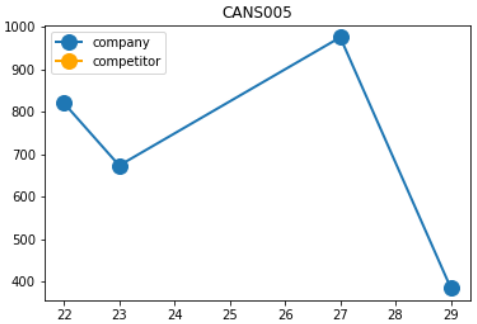
CANL008

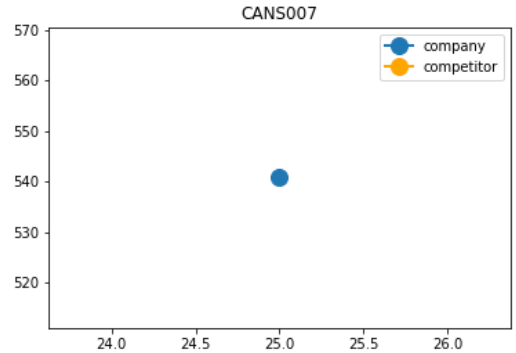


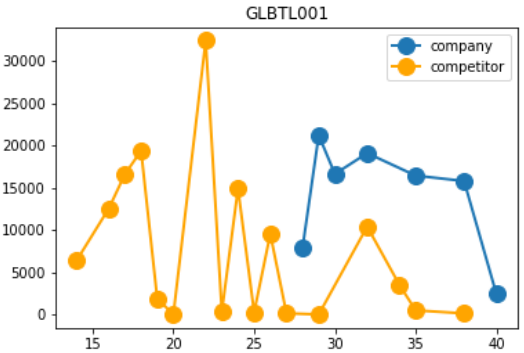

CANS001
company
competitor

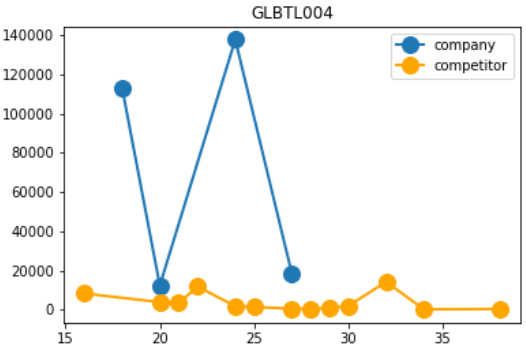

CANS002
company
competitor

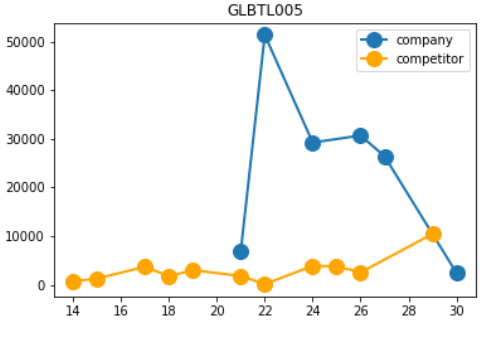

CANS004
company
competitor

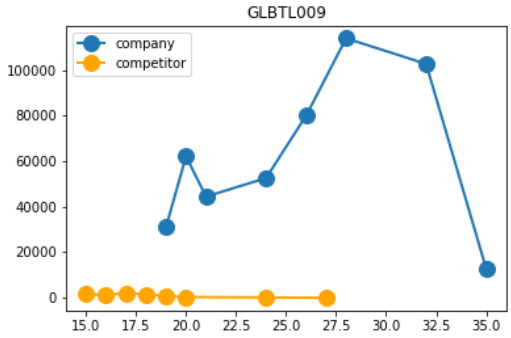

CANS005
company
competitor

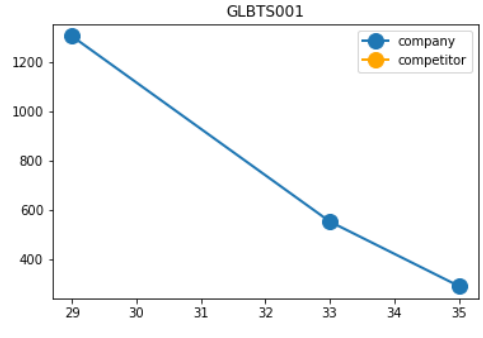

CANS007
company
competitor

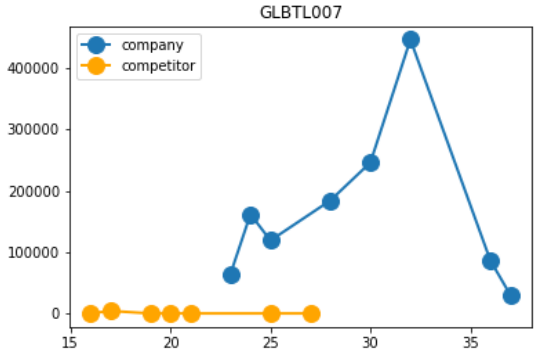

GLBTL001
company
competitor

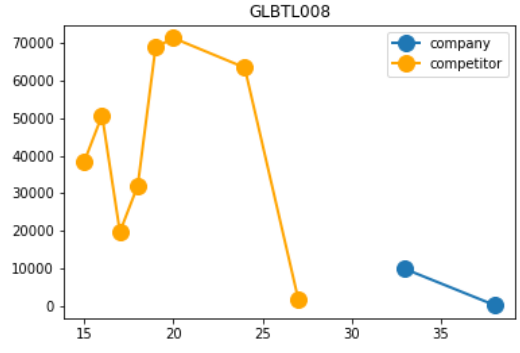

GLBTL004
company
competitor

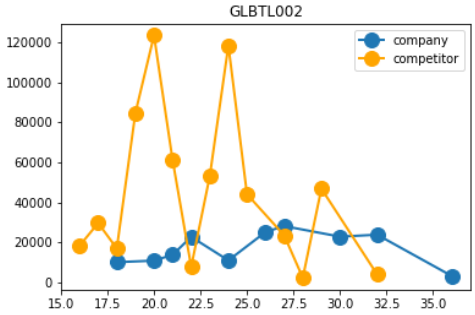

GLBTL005
company
competitor

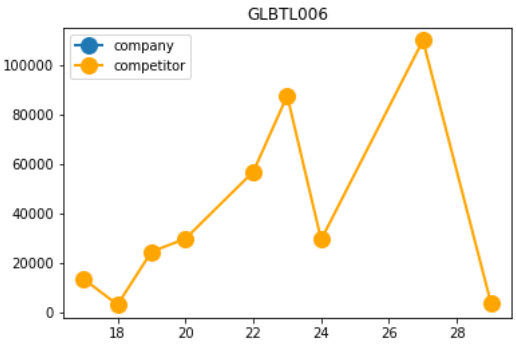

GLBTL009
company
competitor

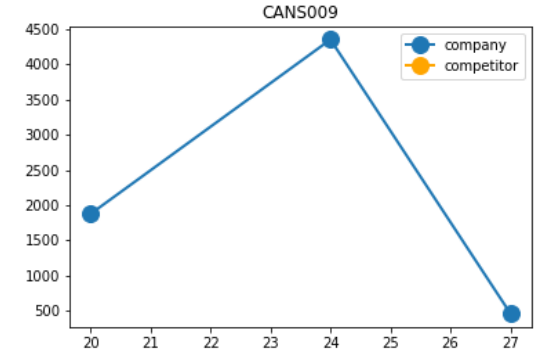

GLBTS001
company
competitor

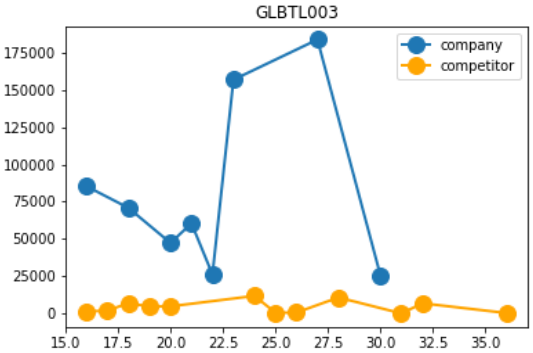

GLBTL007
company
competitor

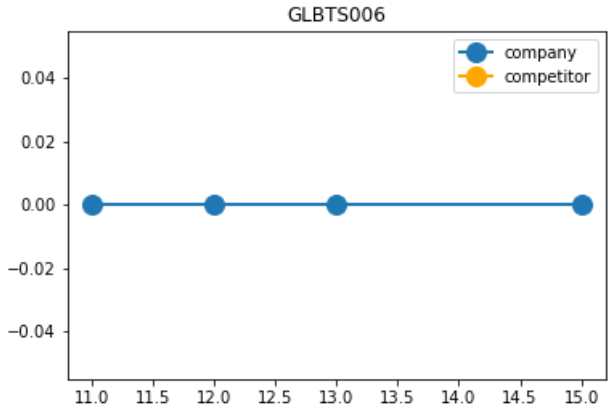

GLBTL008
company
competitor


GLBTL002
company
competitor


GLBTL006
company
competitor

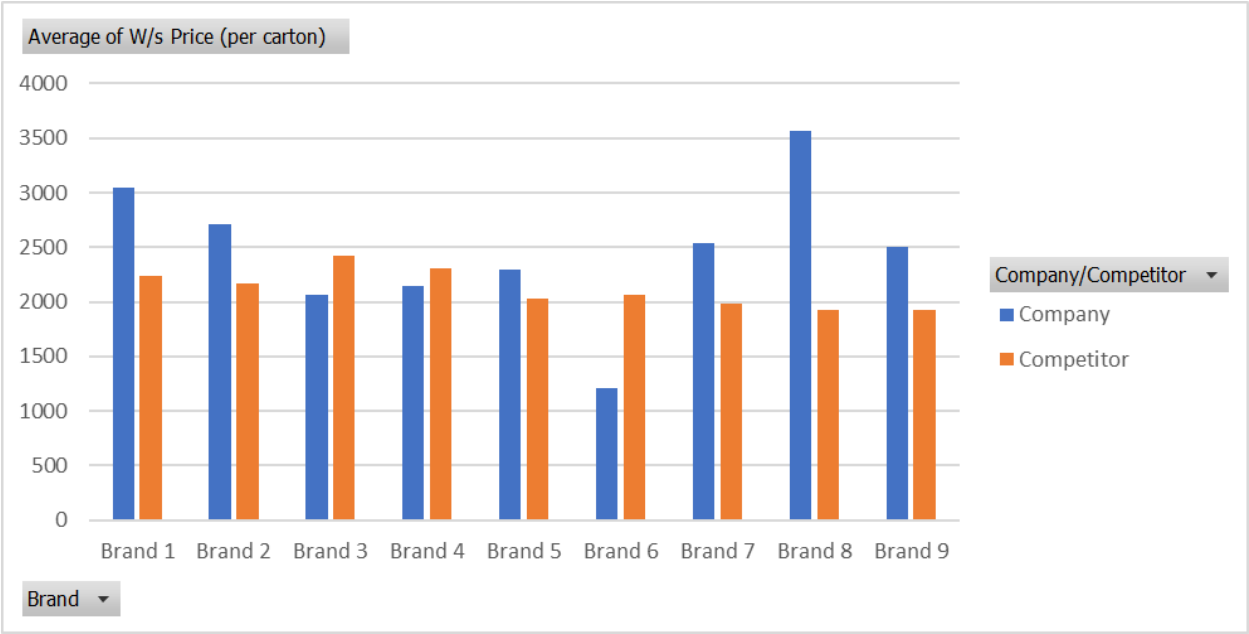

CANS009
company
competitor


GLBTL003
company
competitor



IMPACT OF COMPETITOR'S PRICE ON CUSTOMER's BRAND:-

This is the average price of the products under a particular brand under company and competitor profile.



This is the pivot table comparing the average price and volume sales across various brands under company and competitor

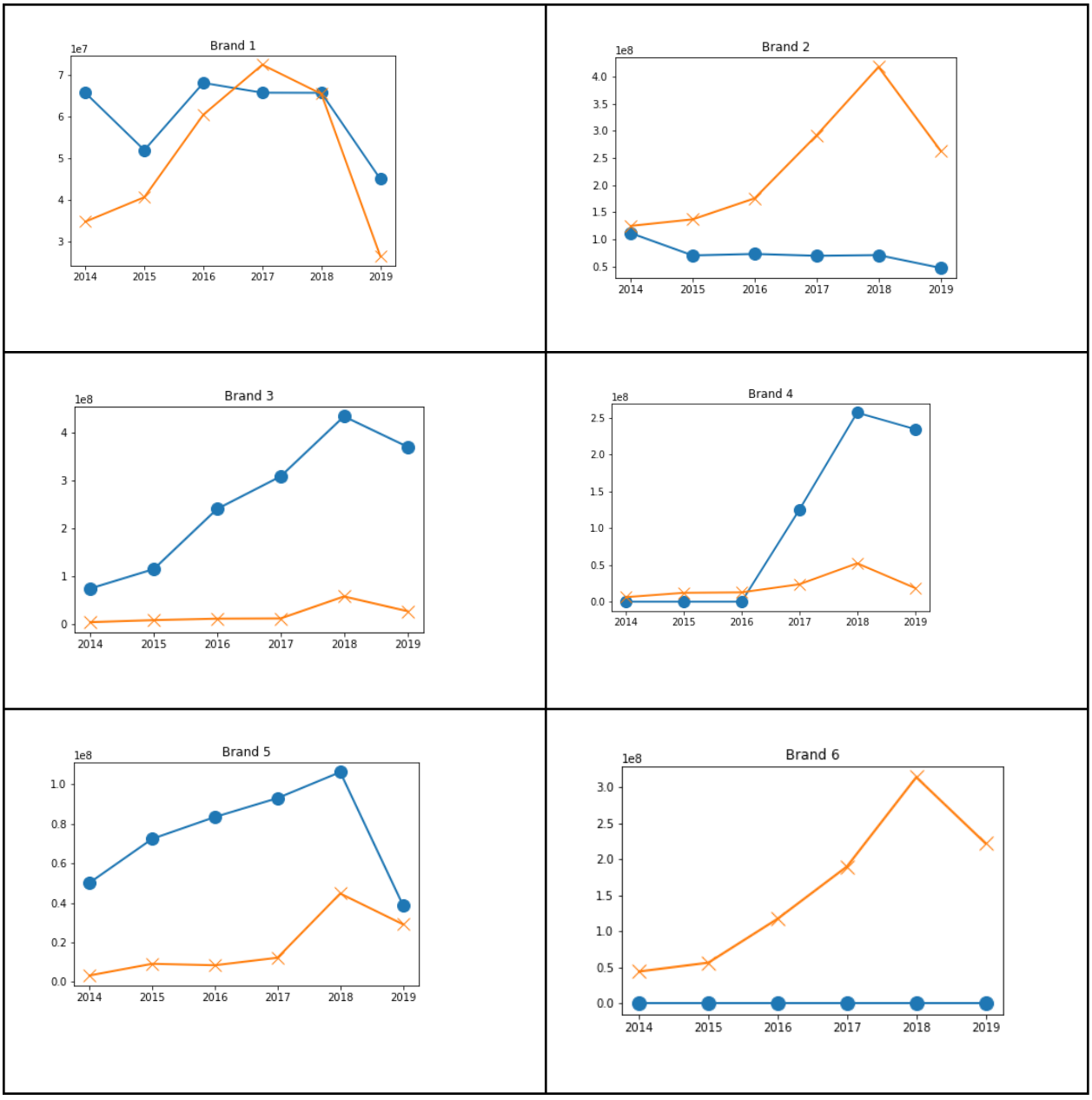
	Column Labels			
	Company		Competitor	
Row Labels	Average of W/s Price (per carton)	Sum of Volume Sales	Average of W/s Price (per carton)	Sum of Volume Sales
Brand 1	3046.92498	114956.68	2232.118631	138613.3
Brand 2	2710.794118	171013.59	2167.232133	640198.31
Brand 3	2062.649341	686659.13	2423.481237	50062.22
Brand 4	2140.133333	281852.75	2305.890183	51953.68
Brand 5	2298.5	192653.38	2026.024	48390.37
Brand 6	1207.932308	0	2060.7112	413176.83
Brand 7	2533.440147	1528534.3	1984.316765	4141.79
Brand 8	3560.615385	10064.66	1930.671111	349231.14
Brand 9	2505.834778	506777.37	1930.6825	7485.25
Grand Total	**2545.310836**	**3492511.86**	**2179.030154**	**1703252.89**

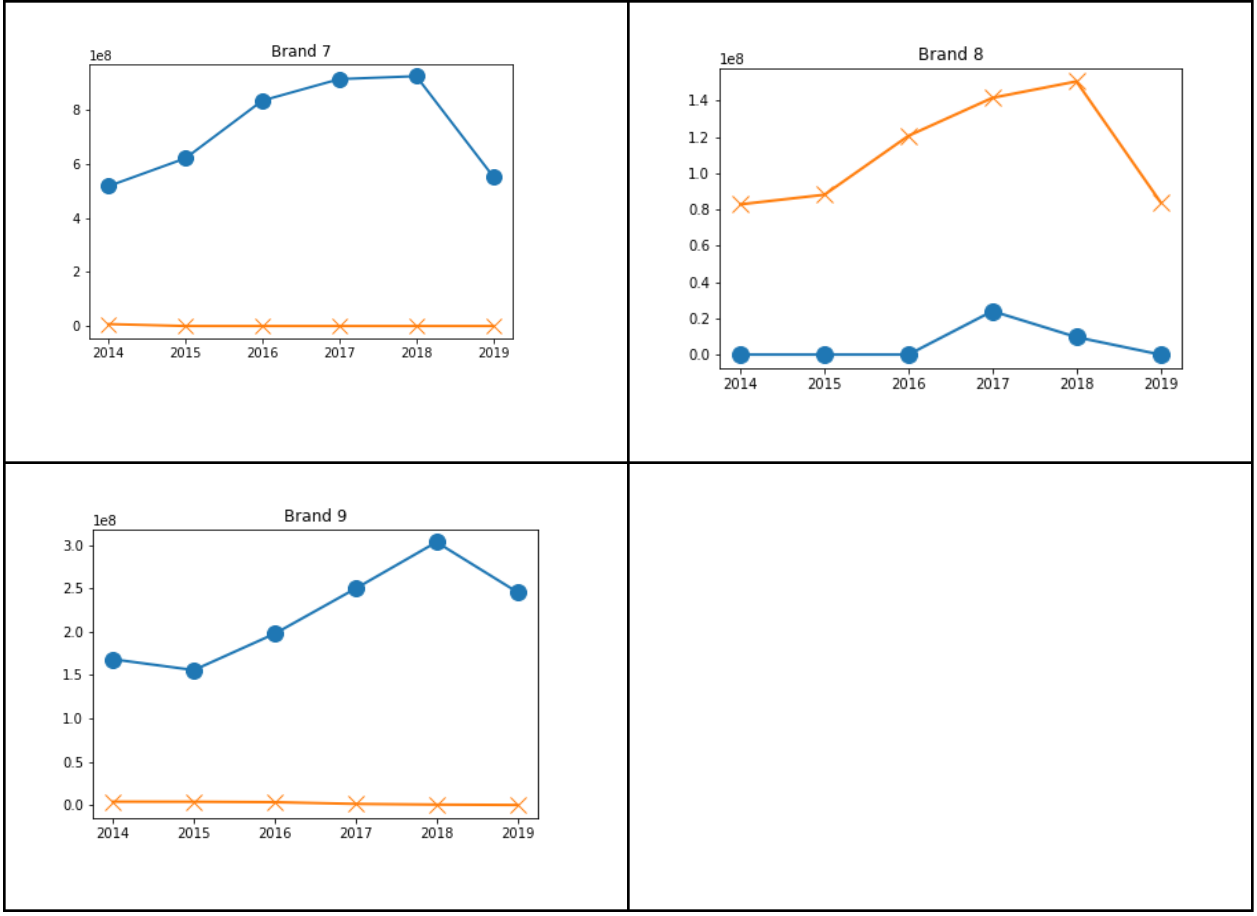
Brand 2 pricing needs to be adjusted . Competitor has a larger market share with lower price.

Brand 8 apparently is the costliest brand for the company. But competitor is able to generate larger volume sales at a lower average price.

Brand 6 is able to generate more revenue at a higher price. So, the company needs to adjust its target market and pricing in this case to be able to achieve more volume sales.

Brand Analysis:-





- The company is performing better in 1,3,4,5,7,9 and the competitor is performing better in 2,6,8.
- So the company can improve its revenue in 2,6,8

IMPACT OF PRICING ON MARKET SHARE - Segment analysis:-

-> Company dominates in premium and upper mainstream and lags in lower mainstream and economy

-> Company should focus on the increasing its share in lower mainstream and economy and maintaining its lead in premium segment and upper mainstream market.

```
# print(f"Company revenue from bottle : {revenue_by_company_bottle} \nCompany revenue from Can : {revenue_by_company_can} \nCompetitor Reve
# print("\n")
print(f"Company premium market share : {(revenue_premium_company*100 )/ (revenue_premium_company+revenue_premium_competitor)}")
print(f"Company economy market share : {(revenue_economy_company*100) / (revenue_economy_company+revenue_economy_competitor)}")
print(f"Company U Mainstream market share : {(revenue_U_main_company*100) / (revenue_U_main_competitor+revenue_U_main_company)}")
print(f"Company L Mainstream market share : {(revenue_L_main_company*100) / (revenue_L_main_company+revenue_L_main_competitor)}")
```

[48] ✓ 0.1s Python

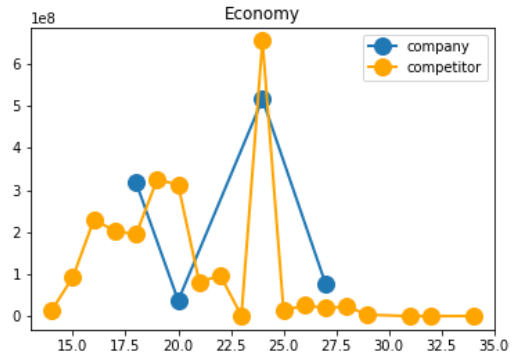
```
Company premium market share : 100.0
Company economy market share : 29.327765954751513
Company U Mainstream market share : 98.07464248087636
Company L Mainstream market share : 48.747457946233226
```

According to Can Segments:-

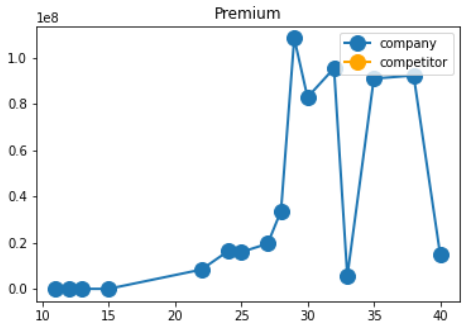
In Premium, Company has 100% market share, in U mainstream market, 67% , in L mainstream market, 29% in L mainstream market and 0% in economy

Plots for Pricing vs Revenue in each market segment:-

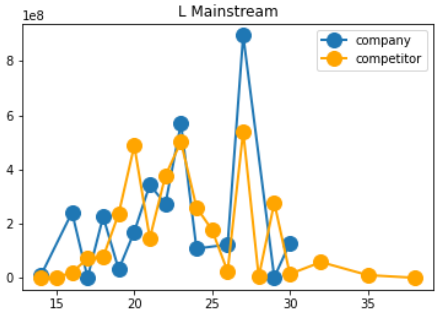
For this, we splitted the data according to the market segment and then compared it using pricing vs revenue and generated key insights from it



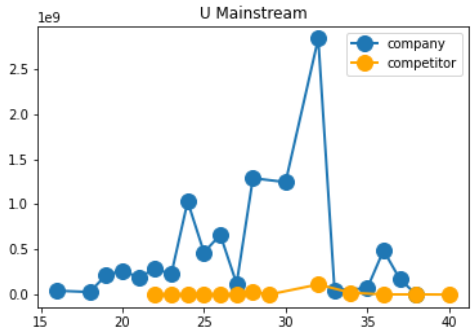
In the economy segment, the company only has 29.32% of market share. Company needs to improve its marketing strategies and pricing points in this segment. The optimal price point for this segment should be around Rs 2400.



In Premium, the company commands a 100% market share. The company here has a complete monopoly and should try to maintain that by maintaining the optimal price point.



In L mainstream, the company commands a 48% market share. Here, the company needs to improve its marketing strategies, market recognition and run out experiments to better its revenue. The optimal price for this is around 2700



In the U mainstream, the company commands a 98% market share. The company here has a complete monopoly and should try to hover around the optimal price point.

```
revenue_by_company_bottle= dfCompany[dfCompany['PackType']=='Bottle']['revenue'].sum()
revenue_by_company_can= dfCompany[dfCompany['PackType']=='CAN']['revenue'].sum()
revenue_by_competitor_bottle= dfCompetitor[dfCompetitor['PackType']=='Bottle']['revenue'].sum()
revenue_by_competitor_can= dfCompetitor[dfCompetitor['PackType']=='CAN']['revenue'].sum()
```

✓ 0.1s Python

```
print(f"Company revenue from bottle : {revenue_by_company_bottle} \nCompany revenue from Can : {revenue_by_company_can} \nCompetitor Revenu
print("\n")
print(f"Company bottle market share : {(revenue_by_company_bottle*100 )/ (revenue_by_company_bottle+revenue_by_competitor_bottle)}")
print(f"Company can market share : {(revenue_by_company_can*100) / (revenue_by_company_can+revenue_by_competitor_can)}")
```

[45] ✓ 0.8s Python

```
Company revenue from bottle : 8512403913.019892
Company revenue from Can : 620563156.8479998
Competitor Revenue from Bottle : 3507484045.6646705
Competitor Revenue from Can : 186560396.84311393


Company bottle market share : 70.81932828558142
Company can market share : 76.8857697201449
```

In Bottle Market, Company has 70.81% market share whereas competitor has 73% market share.

In Can Market, Company has 76.8857% market share whereas competitor has 60% market share.

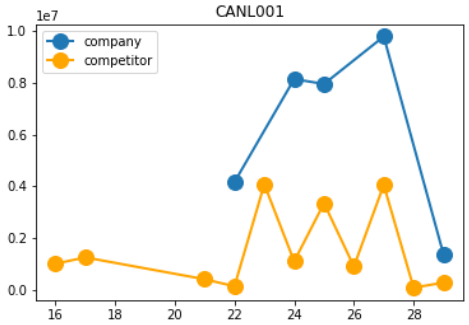
OPTIMAL PRICE POINT FOR SKUs:-

This is the data dictionary for the SKUs

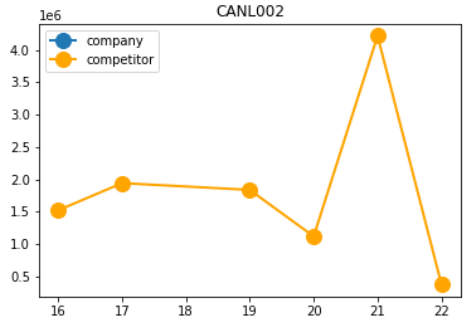
```
{'GLBTL001': array(['Premium', 'Economy', 'L Mainstream', 'U Mainstream'], dtype=object),
 'CANL001': array(['Premium', 'Economy', 'U Mainstream'], dtype=object),
 'GLBTL002': array(['U Mainstream', 'Economy', 'L Mainstream'], dtype=object),
 'GLBTL003': array(['L Mainstream', 'Economy', 'U Mainstream'], dtype=object),
 'GLBTL004': array(['Economy', 'U Mainstream', 'L Mainstream'], dtype=object),
 'CANL003': array(['L Mainstream'], dtype=object),
 'GLBTS001': array(['Premium'], dtype=object),
 'GLBTL005': array(['L Mainstream', 'Economy'], dtype=object),
 'CANS001': array(['Premium', 'L Mainstream'], dtype=object),
 'CANL005': array(['L Mainstream'], dtype=object),
 'CANS005': array(['L Mainstream'], dtype=object),
 'GLBTS006': array(['Premium'], dtype=object),
 'GLBTL007': array(['U Mainstream', 'Economy'], dtype=object),
 'CANS007': array(['U Mainstream'], dtype=object),
 'CANL007': array(['U Mainstream'], dtype=object),
 'GLBTL008': array(['U Mainstream', 'Economy'], dtype=object),
 'GLBTL009': array(['U Mainstream', 'Economy'], dtype=object),
 'CANS009': array(['U Mainstream'], dtype=object),
 'CANS002': array(['L Mainstream'], dtype=object),
 'CANS004': array(['U Mainstream'], dtype=object),
 'CANL004': array(['L Mainstream', 'Economy'], dtype=object),
 'GLBTL006': array(['L Mainstream', 'Economy'], dtype=object),
 'CANL006': array(['L Mainstream'], dtype=object),
 'CANL008': array(['Economy'], dtype=object),
 'CANL002': array(['Economy', 'L Mainstream'], dtype=object)}
```

SKUs revenue vs pricing point:-

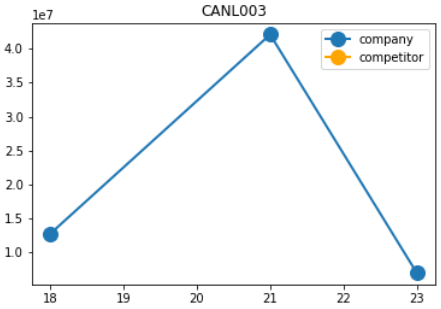
Here, we plot the revenue (on y-axis) against the price point(on x-axis) for individual SKUs. Through this, we try to reach on the optimal price point for each of the SKUs by tracking peak revenue point and drawing insights on that



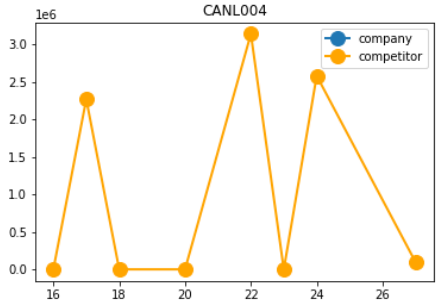
Belongs to Eco, U Mainstream, Premium, price can be upper than peak, 2700-2750



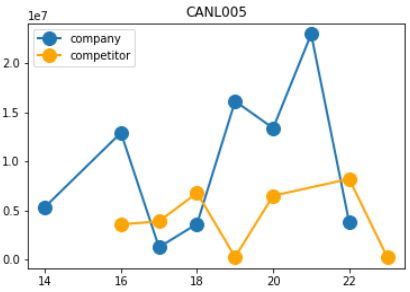
Belongs to Eco, L Mainstream, price can be lower than peak, 2050-2100



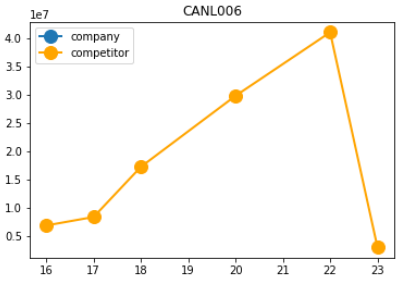
Belongs to L Mainstream, price can be lower than peak, 2050-2100



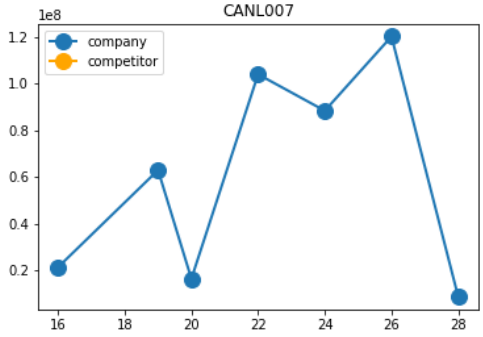
Belongs to Eco, L Mainstream, company can enter from lower price point 2100-2150



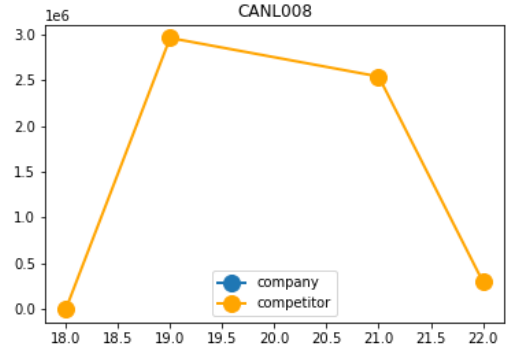
Belongs to L Mainstream, company has better product quality, price can be raised to 2100-2150



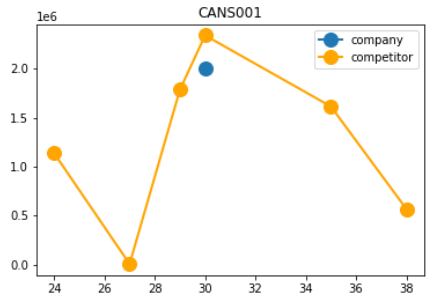
Belongs to L Mainstream, company can enter from lower price point 2150-2200



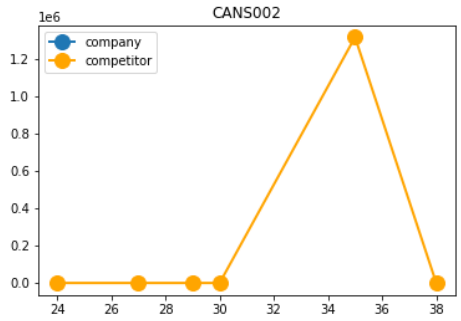
Belongs to U Mainstream, only product price can be 2550-2600.



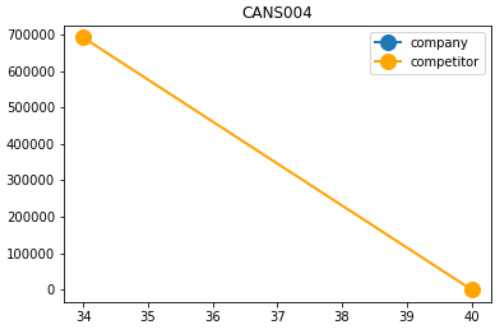
Belongs to Economy, company can enter from lower price than peak, 1875-1900



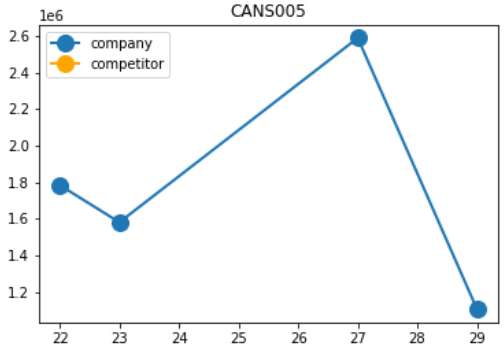
Belongs to Premium, L Mainstream, price can be lower than peak, product quality must be increased, 2900-3000.



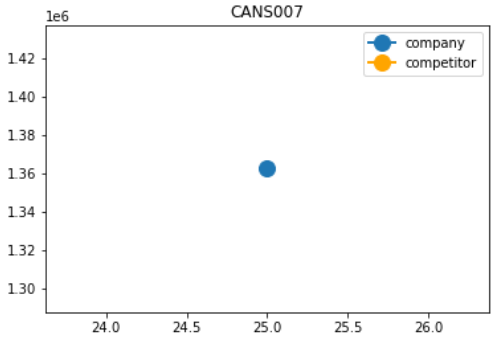
Company can enter from lower than competitor 3400-3600, belongs to lower mainstream



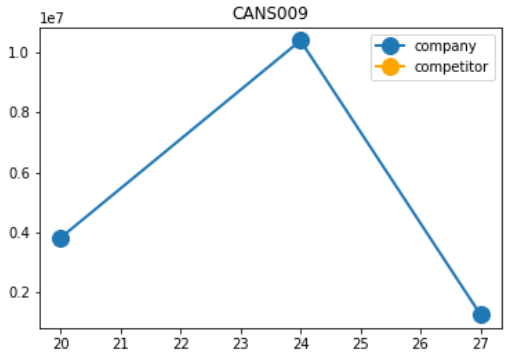
Belongs to U Mainstream, the company can enter from lower price point 3300-3400.



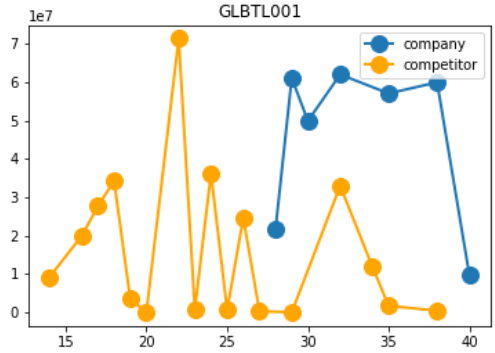
Belongs to L Mainstream, only product, price can be increased to 2700-2750.



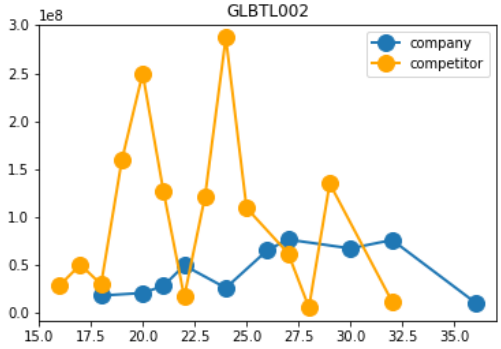
Belongs to U Mainstream, only product, price can be increased to 2500-2550.



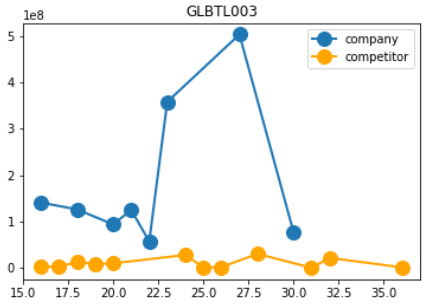
Belongs to U Mainstream, only product, price can be increased to 2450-2500.



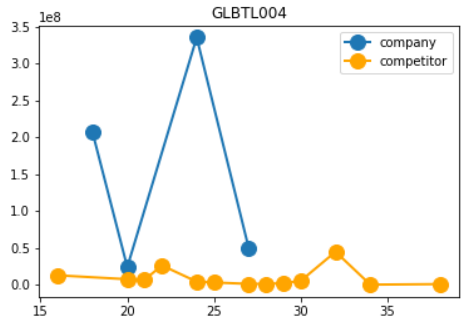
Belongs to Eco, L&M Mainstream, Premium, company has better product quality, price can be 3000-3100.



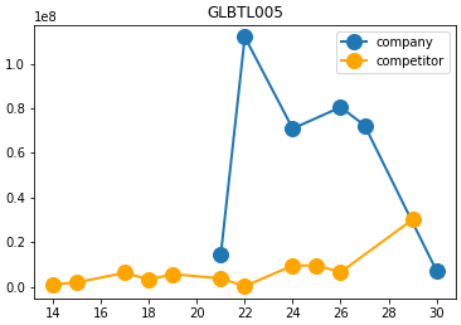
Belongs to Eco, L&M Mainstream, poor product quality, price can be near peak, 2500-2600



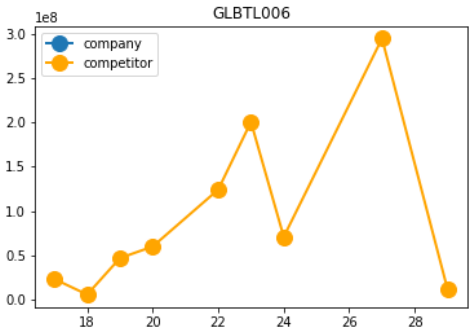
Belongs to Economy, U&L Mainstream,better product quality, price can be lower than peak, 2600-2500,



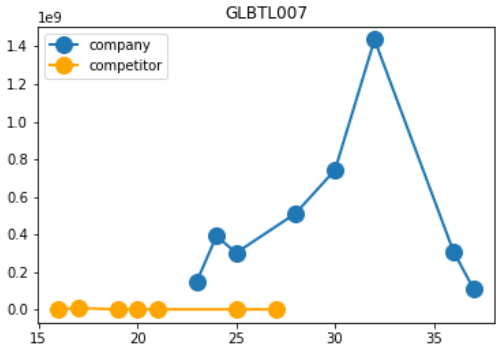
Belongs to Economy, U&L Mainstream, better product quality, price can be lower than peak, 2400-2500



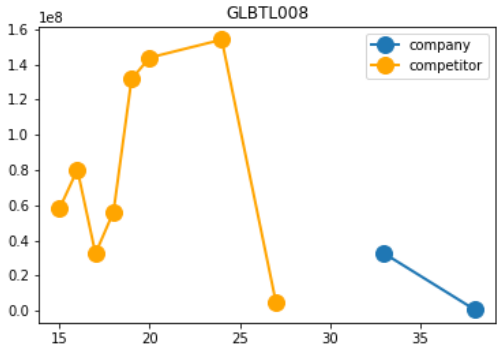
Belongs to L Mainstream, Economy, better product quality, price must be lower than peak, 2100-2200



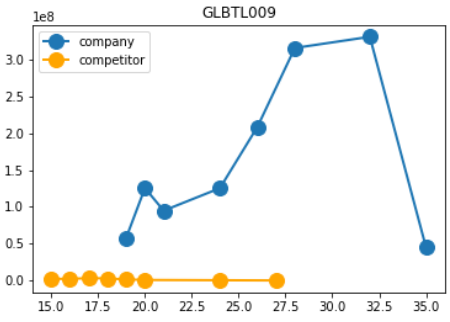
Belongs to L Mainstream, Economy, price must be lower than peak, 2600-2700



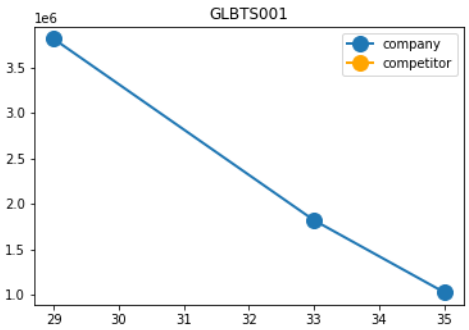
Belongs to U Mainstream, Economy, price must be near peak, 3100-3200



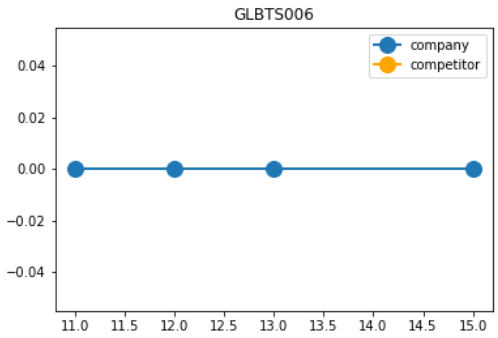
Belongs to U Mainstream, Economy, price should be moderate at peak, 2300-2400



Belongs to U Mainstream, Economy, better product quality, price must be moderate near peak, 3100-3300

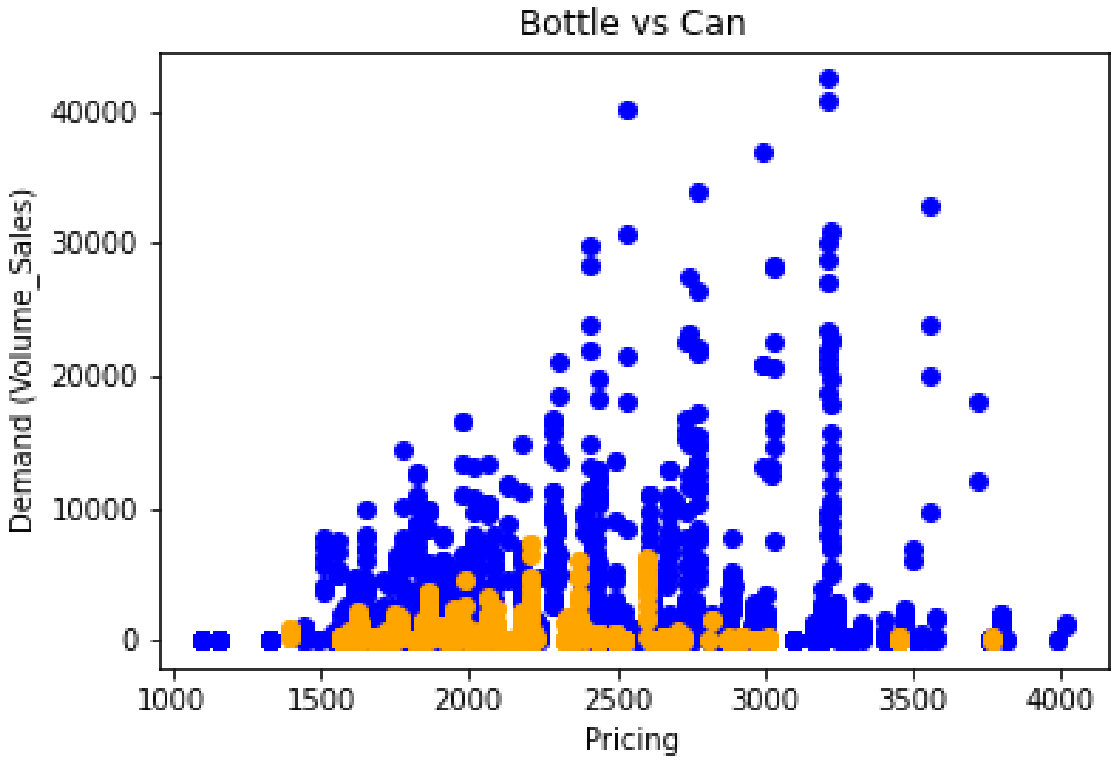


Belongs to premium, price must be higher than peak, 2900-2950

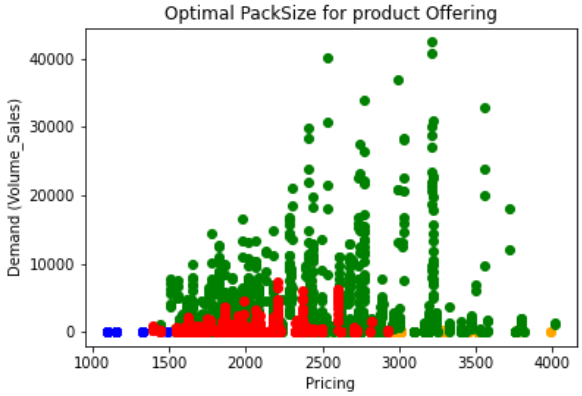


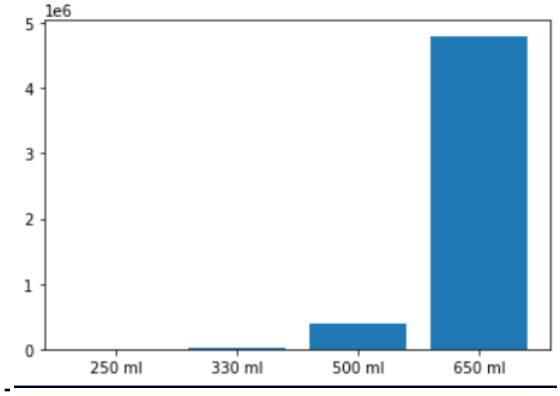
Optimal Pricing Point: 2600-2700

ABILITY TO SIMULATE IMPACT OF PRICE LEVERS ON DEMAND



Bottle should be more preferred over cans so as to capture more volume sales in the market.





250 -> Blue

330- > Orange

500 -> Red

650 -> Green

Product offering -> 650 ml bottles are in more demand in the market. Company should try to offer that 650ml products to get a better volume_sales.