



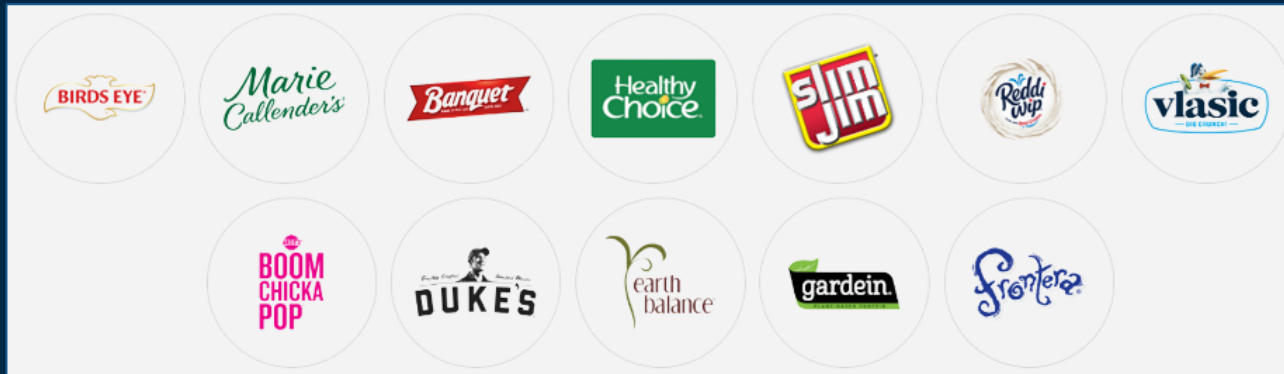
Opportunity Assessment for Conagra in Tablespreads category and building strategies

Group 35

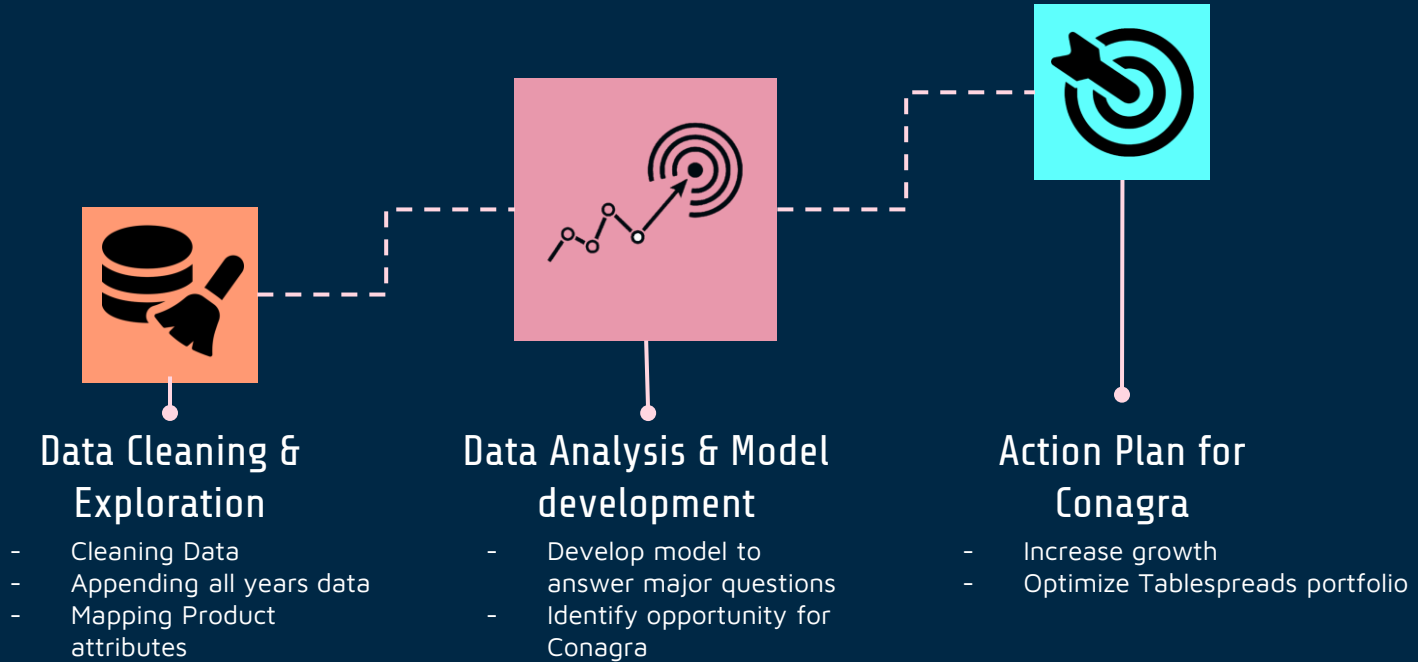
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Background

- Conagra founded in 1919 by Frank Little and Alva Kinney
- Currently Conagra is also present in international markets like Canada, Mexico
- Conagra logged \$11.5B revenue in 2022 and 3.14% YoY growth. [Link](#) to Conagra Annual 2022 Report
- Conagra's iconic brands, such as Birds Eye®, Duncan Hines®, Healthy Choice®, Marie Callender's®, Reddi-wip®, and Slim Jim®, as well as emerging brands, including Angie's®, BOOMCHICKAPOP®, Duke's®, Earth Balance®, Gardein™, and Frontera®, offer choices for every occasion



Objective



Roadmap for Conagra Opportunity Assessment



Market and Brand Research

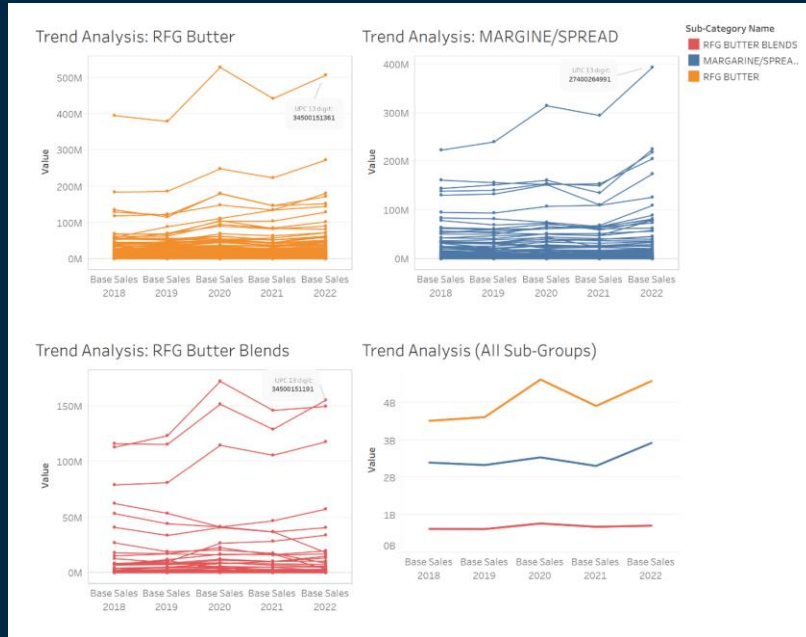
- Market

- Different variety of tablespreads available: Margarine (made from vegetable oil), Refrigerated butter (made from animal fat)
- Margarine
 - is more affordable, developed in 1800s, lower levels of saturated fat and cholesterol, high level trans fat
 - Global Margarine Market Size in 2019 as per Grand View Research is USD 3.64B and expected to grow to a CAGR of 2.2% from 2020 to 2027
- Butter
 - contains saturated fat and high cholesterol levels
 - Global Butter Market Size in 2021 as per Grand View Research is USD 51.61B and expected to grow to a CAGR of 2.6% from 2022 to 2028

- Brand

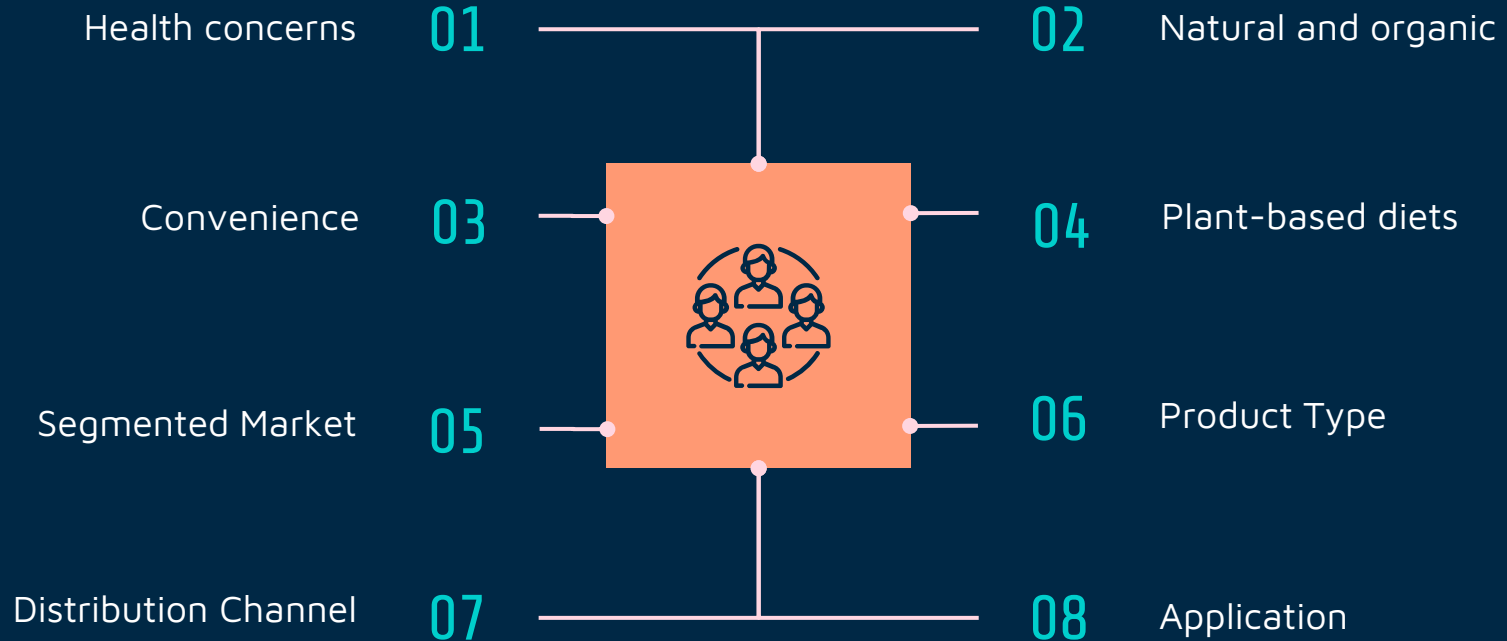
- Conagra in the market from more than 100+ years
- 60+ brands like SlimJim, Birds Eye, Swiss Miss etc.
- 2022 Fortune 500

Market Trends

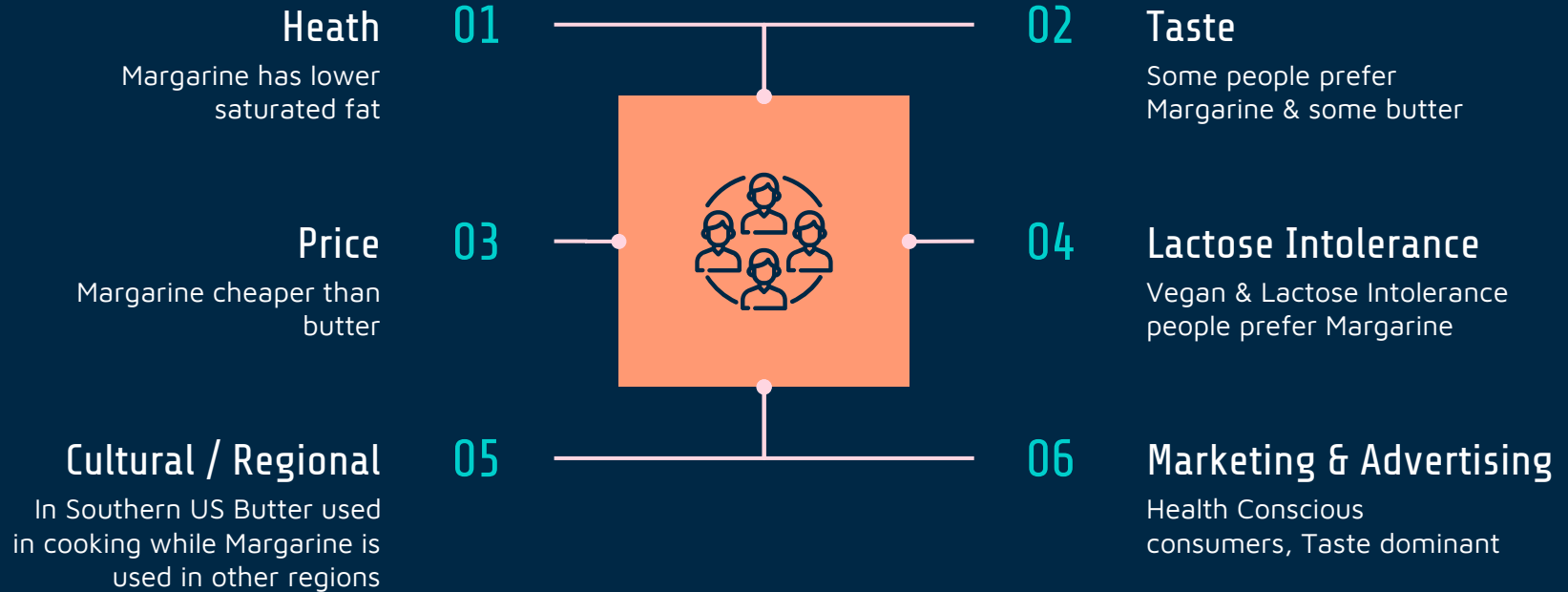


- According to the latest data from Statista, the US butter market size was valued at \$7.6 billion in 2020, and it is expected to grow at a compound annual growth rate (CAGR) of 3.8% from 2021 to 2028
- On the other hand, the US margarine market size was valued at \$1.7 billion in 2020, and it is expected to grow at a CAGR of 2.6% from 2021 to 2028

Consumer Trends



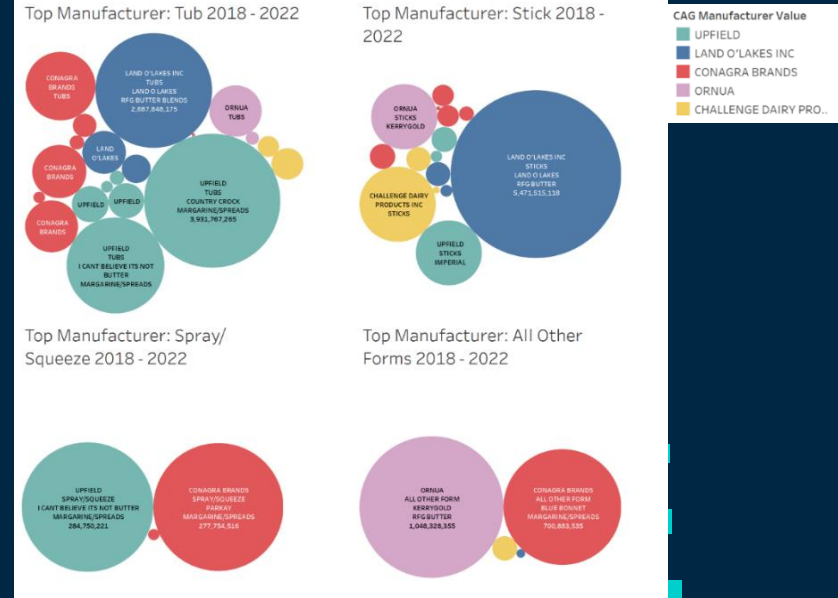
US Market prefer Margarine over Butter



Competitor Assessment

- Lot of major competitors in market like: Land O'Lakes, Unilever, Private Label, Kraft Foods, and Nestle
- Conagra brands in Tablespreads category: Blue Bonnet, Earth Balance, Parkay, Smart Balance, Smart Beat, Nucoa, Move over Butter, Felischmanns
- Sale Dollar Market Share: Private Label (24.59%), Land O' Lakes (23.46%), Upfield (21.58%), Conagra (8.28%) and all other brands (22.09%)

Table 1: Sales split by Form Value and categorized by CAG Manufacturer displaying Top 5 Manufacturers in 2018-2022 (Excluding Private Label)



Competitor Assessment (Cont.)

- Based on the Comparison Histograms, Conagra has opportunities to release a Super Premium version in its already Popular forms such as TUB, ALL OTHER FORMS, and STICK.
- Additionally, the Stick form has opportunities for Conagra to add additional sales in all Regions of the United States.

Figure 2: (TOP 5 BRANDS ONLY) In the below Histograms Stick Sales in the Mid-South are most significant and are predominantly sold with Mainstream brands. Tubs are also very significant sellers in the Mid-south so predominantly with Value brands.

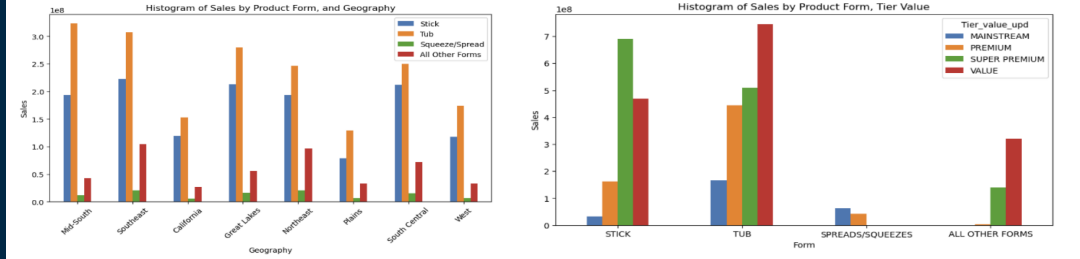
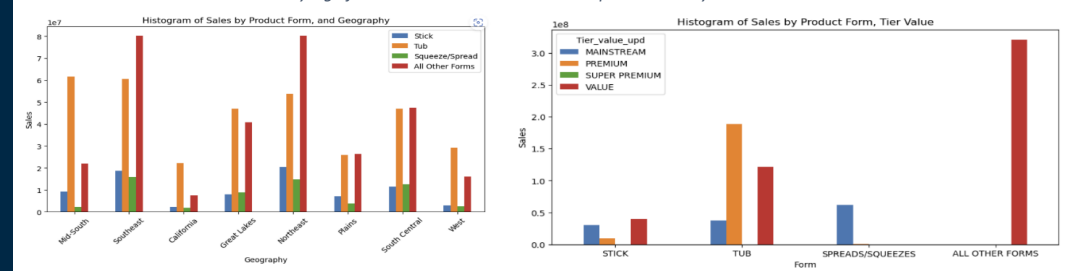


Figure 3: (CONAGRA ONLY) In the below Histograms Stick Sales in the Mid-South are most significant and are predominantly sold with Mainstream brands. Tubs are also very significant sellers in the Mid-south so predominantly with Value brands.



SWOT Analysis



Data Cleaning & Data Exploration

- Checked for duplicate records
- Appended all years data in Python and mapped all product attributes for ease in downward processing
- Either used US geography total or only regional nos. to come up with total sales
- 8 regions: West, California, Plains, South Central, Southeast, Mid South, Great Lakes, Northeast
- Forms of tablespread present in data: Tubs, Sticks, Spray/Squeeze and all other forms
- 3 Tiers: Value, Mainstream and Premium

Major Questions

- 1) Where are the opportunities for Conagra to expand their brands in terms of product form throughout the major regions of the United States? More specifically, which combination of form factor and tier value has the best unit sales per geographical location out of top 5 Manufacturers?
- 2) What is Conagra's ideal product? What is the optimal combination of Sub-Category, Price, and Tier Value in terms of most Unit Sales?
- 3) What is the ideal price for Conagra to sell product form factors based on major US regions Total Unit Sales?
- 4) Is there any variation in sales before and after Covid in terms of changes in regional sales, price per unit, and Total Dollar Sales? Where can Conagra target its operations?

1) Opportunities for Conagra in terms of Product form & Region

- The analysis compares categorical variables between Conagra and the Top 5 brands, interpreting the largest coefficients as variables with the most impact on Total Unit Sales. The intercept variables are Northeast Region and Stick.
- Conagra's 'All other Forms' products have the largest impact on Total Unit Sales compared to the intercept variables Northeast and Stick, with significant regional variations. The interactions between the 'All other Forms' category and different regions provide further insights.
- The analysis identified the top greatest differences in form offering between Conagra and the Top 5 brands, suggesting that Conagra relies heavily on its 'All Other Form' products compared to the overall Top 5 Manufacturers, which are more equally distributed in product offering in the specific locations with major differences in coefficients.

1) Opportunities for Conagra in terms of Product form & Region (Cont.)

- Conagra has established a strong presence in 'ALL OTHER FORMS' and 'SPRAY/SQUEEZE' form types, as evidenced by large coefficients in the Generalized Linear Regression analysis of Model 1.
- Histogram comparison also supports Conagra's significant market share in these form types.
- There is an opportunity for Conagra to capitalize on stick sales across all regions of the United States.
- The positive coefficient for the Southeast region indicates a strong positive effect on stick sales, suggesting that Conagra's stick products are performing well in that region.
- Weaker coefficients for stick sales in some regions, such as California, the Great Lakes, Plains, and West, do not necessarily mean that there is no market for sticks in these areas.
- Targeted marketing and sales strategies could be implemented to further enhance stick sales in these regions.
- Conagra has the potential to leverage its strengths and expand its market share in stick products.

2) Identifying Optimal combination of Sub-Category, Price, & Tier Value in terms of Unit Sales

MNLogit Regression Results						
Dep. Variable:	CAG_Form_Value	No. Observations:	100256			
Model:	MNLogit	Df Residuals:	100229			
Method:	MLE	Df Model:	24			
Date:	Fri, 28 Apr 2023	Pseudo R-squ.:	0.2508			
Time:	01:04:39	Log-Likelihood:	-82190.			
converged:	False	LL-Null:	-1.0970e+05			
Covariance Type:	nonrobust	LLR p-value:	0.000			
=====						
CAG_Form_Value=SPRAY/SQUEEZE	coef	std err	z	P> z	[0.025	0.975]
const	-24.7599	1160.539	-0.021	0.983	-2299.375	2249.856
price_medium	0.2047	0.073	2.807	0.005	0.062	0.348
price_high	-2.3384	0.145	-16.095	0.000	-2.623	-2.054
Tier_MAINSTREAM	6.0982	0.710	8.587	0.000	4.706	7.490
Tier_PREMIUM	6.7764	0.711	9.537	0.000	5.384	8.169
Tier_SUPER_PREMIUM	5.1503	0.720	7.156	0.000	3.740	6.561
Sub-Cat_MARGARINE/SPREADS	18.8871	1160.539	0.016	0.987	-2255.728	2293.502
Sub-Cat_RFG_BUTTER	14.3298	1160.539	0.012	0.990	-2260.285	2288.945
Sub-Cat_RFG_BUTTER_BLENDS	15.4940	1160.539	0.013	0.989	-2259.121	2290.109
=====						
CAG_Form_Value=STICKS	coef	std err	z	P> z	[0.025	0.975]
const	-1.1318	0.109	-10.389	0.000	-1.345	-0.918
price_medium	0.3518	0.027	12.901	0.000	0.298	0.405
price_high	0.2127	0.027	7.989	0.000	0.160	0.265
Tier_MAINSTREAM	1.2070	0.053	22.620	0.000	1.102	1.312
Tier_PREMIUM	0.2901	0.054	5.346	0.000	0.184	0.396
Tier_SUPER_PREMIUM	-0.8981	0.055	-16.342	0.000	-1.006	-0.790
Sub-Cat_MARGARINE/SPREADS	1.9476	0.110	17.640	0.000	1.731	2.164
Sub-Cat_RFG_BUTTER	1.4898	0.111	13.365	0.000	1.271	1.708
Sub-Cat_RFG_BUTTER_BLENDS	-0.8001	0.143	-5.599	0.000	-1.080	-0.520
=====						
CAG_Form_Value=TUBS	coef	std err	z	P> z	[0.025	0.975]
const	-1.1406	0.105	-10.898	0.000	-1.346	-0.935
price_medium	0.2217	0.029	7.766	0.000	0.166	0.278
price_high	-0.0898	0.028	-3.166	0.002	-0.145	-0.034
Tier_MAINSTREAM	1.2750	0.050	25.718	0.000	1.178	1.372
Tier_PREMIUM	0.8848	0.051	17.476	0.000	0.786	0.984
Tier_SUPER_PREMIUM	0.5111	0.051	9.985	0.000	0.411	0.611
Sub-Cat_MARGARINE/SPREADS	3.1439	0.104	30.243	0.000	2.940	3.348
Sub-Cat_RFG_BUTTER	-0.1367	0.104	-1.315	0.188	-0.340	0.067
Sub-Cat_RFG_BUTTER_BLENDS	2.7165	0.110	24.795	0.000	2.502	2.931
=====						

- The model is a multinomial logistic regression with CAG_Form_Value as the dependent variable and 24 independent variables, estimating the probability of each level of CAG_Form_Value for a given combination of independent variable values
- The coefficients indicate the change in log-odds of being in a particular level of CAG_Form_Value associated with a one-unit increase in the independent variable, while holding other independent variables constant.

2) Identifying Optimal combination of Sub-Category, Price, & Tier Value in terms of Unit Sales (Cont.)

- Multinomial logistic regression analysis suggests Conagra should focus on medium-priced TUB form category with a MAINSTREAM tier value positioning.
- Consumers are more likely to choose a medium-priced product over a low-priced one.
- Consumers in this market segment are more likely to choose a product with a mainstream tier value.
- Offering high-quality margarine and spread products in the medium-priced TUB form category with a mainstream positioning can capture a significant market share and drive growth and profitability in the long run.
- Avoid positioning products as premium or super premium to ensure they remain affordable for the target market.
- The coefficient for price_medium is statistically significant for all levels of CAG_Form_Value, except for SPRAY/SQUEEZE form, indicating its importance in the marketing strategy.

3) Ideal Price of Products for Conagra

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Optimization terminated successfully.
Current function value: 1.028396
Iterations: 7

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MNLogit Regression Results
=====
Dep. Variable: price_buckets No. Observations: 701796
Model: MNLogit Df Residuals: 701768
Method: MLE Df Model: 26
Date: Fri, 28 Apr 2023 Pseudo R-squ.: 0.06369
Time: 15:19:17 Log-Likelihood: -7.2172e+05
converged: True LL-Null: -7.7082e+05
Covariance Type: nonrobust LLR p-value: 0.000

=====
price_buckets=2
=====

```

	coef	std err	z	P> z	[0.025	0.975]
const	-2.1453	0.065	-32.896	0.000	-2.273	-2.018
Form_TUBS	-0.0541	0.008	-6.434	0.000	-0.071	-0.038
Form_ALL OTHER FORM	-0.2955	0.009	-32.295	0.000	-0.313	-0.278
Form_SPRAY/SQUEEZE	1.5060	0.051	29.585	0.000	1.406	1.606
Sub-Cat_MARGARINE/SPREADS	3.4237	0.065	52.722	0.000	3.296	3.551
Sub-Cat_RFG_BUTTER	1.7917	0.065	27.664	0.000	1.665	1.919
Sub-Cat_RFG_BUTTER_BLENDS	2.9885	0.066	45.581	0.000	2.860	3.117
Geo_California - IRI Standard - Multi Outlet + Conv	-1.8591	0.014	-73.164	0.000	-1.888	-1.031
Geo_Great Lakes - IRI Standard - Multi Outlet + Conv	-0.3227	0.013	-25.227	0.000	-0.348	-0.298
Geo_Mid-South - IRI Standard - Multi Outlet + Conv	0.0837	0.013	6.492	0.000	0.058	0.109
Geo_Northeast - IRI Standard - Multi Outlet + Conv	-0.3139	0.012	-25.600	0.000	-0.338	-0.290
Geo_Plains - IRI Standard - Multi Outlet + Conv	-0.3319	0.014	-24.429	0.000	-0.359	-0.305
Geo_Southeast - IRI Standard - Multi Outlet + Conv	-0.1423	0.013	-10.636	0.000	-0.168	-0.116
Geo_West - IRI Standard - Multi Outlet + Conv	-0.6203	0.014	-45.232	0.000	-0.647	-0.593

```

=====
price_buckets=3
=====

```

	coef	std err	z	P> z	[0.025	0.975]
const	-1.0315	0.039	-26.404	0.000	-1.108	-0.955
Form_TUBS	0.0498	0.008	6.141	0.000	0.034	0.066
Form_ALL OTHER FORM	-0.2872	0.008	-35.757	0.000	-0.303	-0.271
Form_SPRAY/SQUEEZE	2.0843	0.051	41.015	0.000	1.985	2.184
Sub-Cat_MARGARINE/SPREADS	1.3679	0.039	35.357	0.000	1.292	1.444
Sub-Cat_RFG_BUTTER	1.1273	0.038	29.495	0.000	1.052	1.202
Sub-Cat_RFG_BUTTER_BLENDS	1.5437	0.040	38.923	0.000	1.466	1.621
Geo_California - IRI Standard - Multi Outlet + Conv	-0.5796	0.013	-43.320	0.000	-0.606	-0.553
Geo_Great Lakes - IRI Standard - Multi Outlet + Conv	-0.1717	0.012	-13.795	0.000	-0.196	-0.147
Geo_Mid-South - IRI Standard - Multi Outlet + Conv	-0.0117	0.013	-0.914	0.361	-0.037	0.013
Geo_Northeast - IRI Standard - Multi Outlet + Conv	-0.2824	0.012	-23.433	0.000	-0.306	-0.259
Geo_Plains - IRI Standard - Multi Outlet + Conv	-0.1501	0.013	-11.430	0.000	-0.176	-0.124
Geo_Southeast - IRI Standard - Multi Outlet + Conv	-0.1112	0.013	-8.391	0.000	-0.137	-0.085
Geo_West - IRI Standard - Multi Outlet + Conv	-0.3154	0.013	-24.183	0.000	-0.341	-0.290

- The model is Multinomial Logistic Regression for predicting the probability of a product falling into different price buckets based on various independent variables such as form, sub-category, and geographic region
- The "price buckets=2" suggests that this model is predicting the probability of a product falling into range of 34%-66% price bucket
- The coefficients represent the estimated effect of each independent variable on the log-odds of a product falling into price bucket 2
- The standard errors of the coefficients, and the "P>|z|" column gives the p-values for the coefficients, which indicate whether each variable is statistically significant in predicting the price bucket.

4) Covid Impact on Sales

Major_Brands_upd+EARTH BALANCE					
	coef	std err	z	P> z	[0.025 0.975]
const	-0.2495	0.052	-7.721	0.000	-0.313 -0.186
covid_segree	0.2373	0.000	12.613	0.000	0.217 0.257
Geo_California - IRI Standard - Multi Outlet + Conv	0.6593	0.042	15.518	0.000	0.576 0.743
Geo_Great Lakes - IRI Standard - Multi Outlet + Conv	0.4509	0.040	11.220	0.000	0.372 0.530
Geo_Mid-South - IRI Standard - Multi Outlet + Conv	0.4294	0.040	10.718	0.000	0.351 0.508
Geo_Northeast - IRI Standard - Multi Outlet + Conv	0.5389	0.040	13.510	0.000	0.461 0.617
Geo_Plains - IRI Standard - Multi Outlet + Conv	0.175	0.042	7.643	0.000	0.236 0.399
Geo_Southeast - IRI Standard - Multi Outlet + Conv	0.2638	0.041	6.491	0.000	0.184 0.343
Geo_West - IRI Standard - Multi Outlet + Conv	0.4142	0.042	9.969	0.000	0.333 0.496
Major_Brands_upd+SMART BALANCE					
	coef	std err	z	P> z	[0.025 0.975]
const	0.3401	0.010	11.669	0.000	0.288 0.404
covid_segree	-0.2025	0.019	-10.502	0.000	-0.240 -0.165
Geo_California - IRI Standard - Multi Outlet + Conv	0.1174	0.042	2.799	0.005	0.035 0.200
Geo_Great Lakes - IRI Standard - Multi Outlet + Conv	0.3886	0.038	10.318	0.000	0.315 0.462
Geo_Mid-South - IRI Standard - Multi Outlet + Conv	0.3335	0.038	8.860	0.000	0.260 0.407
Geo_Northeast - IRI Standard - Multi Outlet + Conv	0.4335	0.038	11.548	0.000	0.360 0.507
Geo_Plains - IRI Standard - Multi Outlet + Conv	0.1592	0.039	4.055	0.000	0.082 0.236
Geo_Southeast - IRI Standard - Multi Outlet + Conv	0.3279	0.038	8.727	0.000	0.254 0.402
Geo_West - IRI Standard - Multi Outlet + Conv	0.1787	0.040	4.512	0.000	0.101 0.256
Major_Brands_upd+PARKAY					
	coef	std err	z	P> z	[0.025 0.975]
const	-0.3268	0.055	-9.335	0.000	-0.394 -0.258
covid_segree	-0.0644	0.024	-2.718	0.007	-0.111 -0.018
Geo_California - IRI Standard - Multi Outlet + Conv	-0.2420	0.054	-8.164	0.000	-0.348 -0.136
Geo_Great Lakes - IRI Standard - Multi Outlet + Conv	-0.0471	0.046	-1.026	0.305	-0.137 0.043
Geo_Mid-South - IRI Standard - Multi Outlet + Conv	-0.0624	0.046	-1.363	0.173	-0.152 0.027
Geo_Northeast - IRI Standard - Multi Outlet + Conv	0.1942	0.044	4.376	0.000	0.107 0.281
Geo_Plains - IRI Standard - Multi Outlet + Conv	0.0705	0.046	1.528	0.128	-0.011 0.149
Geo_Southeast - IRI Standard - Multi Outlet + Conv	0.1047	0.045	2.349	0.019	0.017 0.192
Geo_West - IRI Standard - Multi Outlet + Conv	0.0509	0.047	1.089	0.276	-0.041 0.142
Major_Brands_upd+PRIVATE LABEL					
	coef	std err	z	P> z	[0.025 0.975]
const	2.5122	0.023	107.832	0.000	2.467 2.558
covid_segree	0.0015	0.016	0.098	0.922	-0.029 0.032
Geo_California - IRI Standard - Multi Outlet + Conv	-0.0741	0.033	-2.248	0.025	-0.139 -0.009
Geo_Great Lakes - IRI Standard - Multi Outlet + Conv	0.0280	0.030	12.163	0.000	0.308 0.426
Geo_Mid-South - IRI Standard - Multi Outlet + Conv	0.7087	0.030	23.705	0.000	0.650 0.767
Geo_Northeast - IRI Standard - Multi Outlet + Conv	0.0957	0.030	23.466	0.000	0.047 0.145
Geo_Plains - IRI Standard - Multi Outlet + Conv	0.1601	0.031	5.178	0.000	0.100 0.221
Geo_Southeast - IRI Standard - Multi Outlet + Conv	0.2604	0.030	8.683	0.000	0.202 0.319
Geo_West - IRI Standard - Multi Outlet + Conv	0.1087	0.031	3.472	0.001	0.047 0.170
Major_Brands_upd+LAND O LAKES					
	coef	std err	z	P> z	[0.025 0.975]
const	1.3767	0.025	54.908	0.000	1.328 1.426
covid_segree	-0.0002	0.017	-0.013	0.990	-0.033 0.033
Geo_California - IRI Standard - Multi Outlet + Conv	-0.2728	0.035	-7.782	0.000	-0.342 0.204
Geo_Great Lakes - IRI Standard - Multi Outlet + Conv	0.1205	0.032	3.710	0.000	0.057 0.184
Geo_Mid-South - IRI Standard - Multi Outlet + Conv	0.1076	0.032	3.330	0.001	0.044 0.171
Geo_Northeast - IRI Standard - Multi Outlet + Conv	0.4545	0.032	14.762	0.000	0.391 0.518
Geo_Plains - IRI Standard - Multi Outlet + Conv	0.0777	0.033	2.338	0.019	0.013 0.143
Geo_Southeast - IRI Standard - Multi Outlet + Conv	0.0755	0.032	2.338	0.019	0.012 0.139
Geo_West - IRI Standard - Multi Outlet + Conv	0.1283	0.034	3.824	0.000	0.063 0.194
Major_Brands_upd+OTHER					
	coef	std err	z	P> z	[0.025 0.975]
const	3.0673	0.023	133.773	0.000	3.022 3.112
covid_segree	0.0475	0.016	3.061	0.002	0.017 0.078
Geo_California - IRI Standard - Multi Outlet + Conv	-0.4343	0.032	-13.427	0.000	-0.371 0.408
Geo_Great Lakes - IRI Standard - Multi Outlet + Conv	0.4728	0.030	15.910	0.000	0.415 0.531
Geo_Mid-South - IRI Standard - Multi Outlet + Conv	0.1601	0.030	5.401	0.000	0.102 0.218
Geo_Northeast - IRI Standard - Multi Outlet + Conv	0.6195	0.030	20.529	0.000	0.581 0.658
Geo_Plains - IRI Standard - Multi Outlet + Conv	0.2794	0.030	9.187	0.000	0.220 0.339
Geo_Southeast - IRI Standard - Multi Outlet + Conv	0.0752	0.030	2.541	0.011	0.017 0.133
Geo_West - IRI Standard - Multi Outlet + Conv	0.1220	0.031	10.472	0.000	0.262 0.382

- To identify covid impact, we ran a multinomial Logistic Regression. Model shows Brand choice has a significant impact on COVID-19 severity, with Earth Balance associated with lower COVID-19 severity compared to other brands
- The Southeast region has the highest impact on increasing COVID-19 severity, followed by California and other regions to a lesser extent
- Total dollar sales and price per unit are both positively associated with COVID-19 severity, indicating that higher sales and higher prices per unit are associated with a higher probability of having higher COVID-19 severity
- The relationship between price per unit and COVID-19 severity is non-linear, with the square of price per unit having a negative coefficient.

Conclusion



1. Questions 1 and 2 solutions are the most valuable to Conagra as they compare product offerings and provide specific categorical combinations for multiple price ranges.
2. Optimal combinations of product features can give insights into where Conagra can improve their product offerings and capture increased market share.
3. Opportunities for Conagra to increase unit sales include market share arbitrage in Tub and Stick form factors and offering Mainstream and Super Premium products.
4. TUB has been a consistent top recommendation in regression outputs.
5. A Medium priced, Mainstream, Margarine/Spread offering for TUB is the most competitive option for gaining market share and increasing sales.
6. Conagra has a great opportunity to provide a Mainstream version of its already popular premium products to diversify its current product offerings.
7. Conagra has the greatest opportunity to increase Tub Sales in the West and California Regions.
8. Focusing on producing products with specific features such as Tub form can help Conagra capitalize on market trends and increase its sales and profitability.
9. Conagra could introduce a tub form butter product with a garlic or herb flavor or added nutritional benefits such as omega-3 fatty acids or vitamins.
10. Conagra should implement a targeted marketing and advertising campaign in the Mid-South region, promoting the benefits of Spray/Squeeze form products and highlighting their convenience and health benefits.

The background is a solid dark blue. It is decorated with various geometric elements: small squares in pink, orange, and cyan; thin white vertical lines; and a larger cyan square. The text "Thank you!" is centered in a white, sans-serif font.

Thank you!