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# **MARKET ANALYSIS OF LAUNDRY DETERGENT BRAND PUREX**

PROJECT REPORT

GROUP 04

**PROJECT BY-**

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## INTRODUCTION

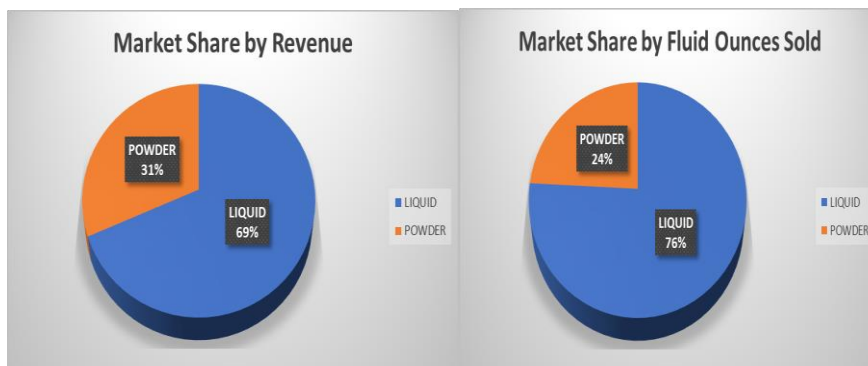
This Analysis is focused on to get useful insights from the US store level and Household level data on Laundry detergent products that can be leveraged by PUREX brand to ultimately boost their Sales and Market shares.

## Industry overview

We Started by analyzing the Laundry Detergent Market in USA and found that 31% of Market is divided as Powder Detergent and 69% as Liquid Detergent in terms of revenue.

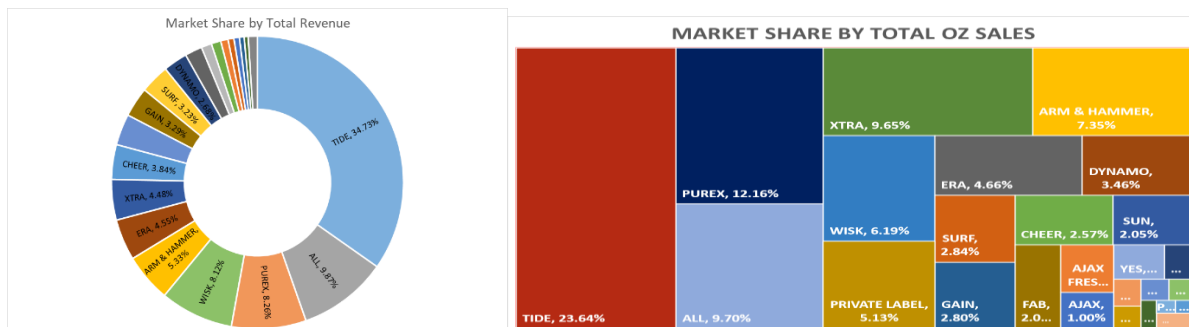
And 24% of the total fluid ounces of Detergents were sold in form of Powder whereas 76% of market is captured by Liquid detergent.

Clearly Among customers Liquid detergents is the popular form of detergent.



Here onwards we are narrowing our analysis on Liquid Detergent segment of the market.

Top Players in the Market are Revenue wise



Clearly Tide have the largest market share with 34.73% of Total sales and have a large margin over other brands. Followed by All with 9.87% Sales Shares. Purex and Wisk have 8.26% and 8.12% Sales Shares respectively.

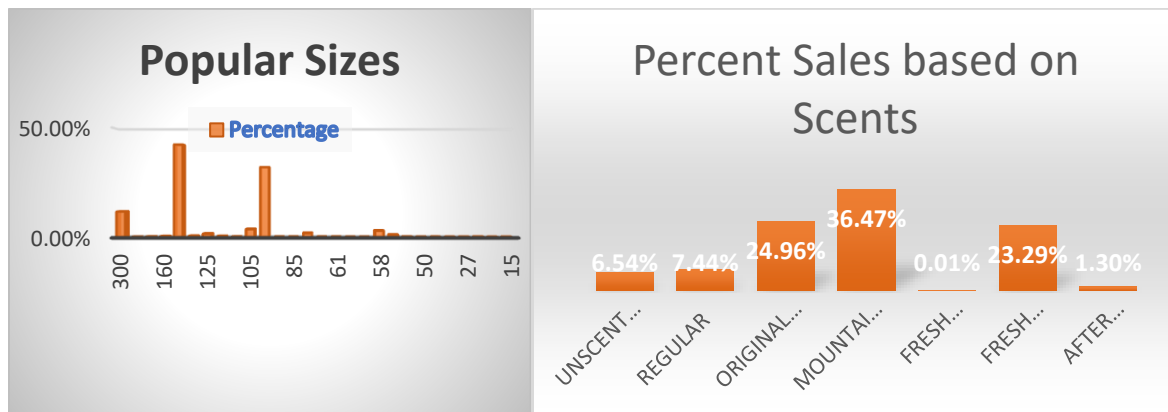
Total Fluid Ounce Sales share

- TIDE is still top, but its market share has dropped to 23.64% of Total Fluid Ounces sold
- Unit Sales wise PUREX is 2<sup>nd</sup> in the competition with nearly 12% of the Total Fl Oz sold

## Insights by looking at the Market share distribution

- Leader brand TIDE have accomplished to build their brand image as Premium brand as It sold fewer units yet managed to get a revenue much higher
- Where as PUREX have a market image of offering Low Costs variants as it must sell more to get more revenue

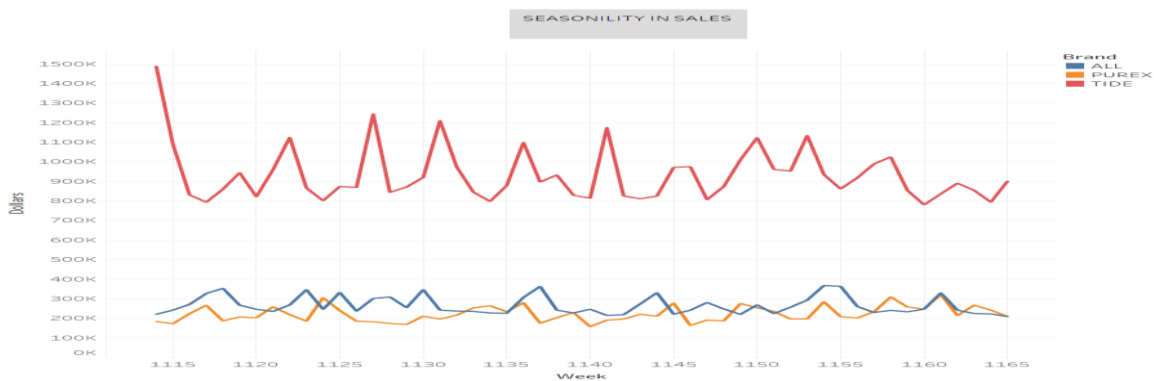
## Products offered by PUREX and their Sales Distribution



## Insights

- Customers gives preference to the additional features like Flavor and Scent.
- Looking at sales distribution its obvious that there are products that getting no customer responses and are better be delisted or relaunched.
- Customers prefers large Sizes of packages over smaller once

## Checking for Seasonality in Sales of Top 3 brands



- Looking at the sales pattern of Top 3 brands we can't find any seasonality in sales of the detergent.
- Although the market demands remain constant yearlong, we suspect the sharp spikes in sales of brands could be due to customers switching. To investigate further we created a customer loyalty model and understand the cause of spikes

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### Q1. Who are our customers and Potential Targets

To get the characteristics of our customers we began by segmenting customers based on their loyalty towards brands.

We have defined loyalty based on panels purchasing patterns

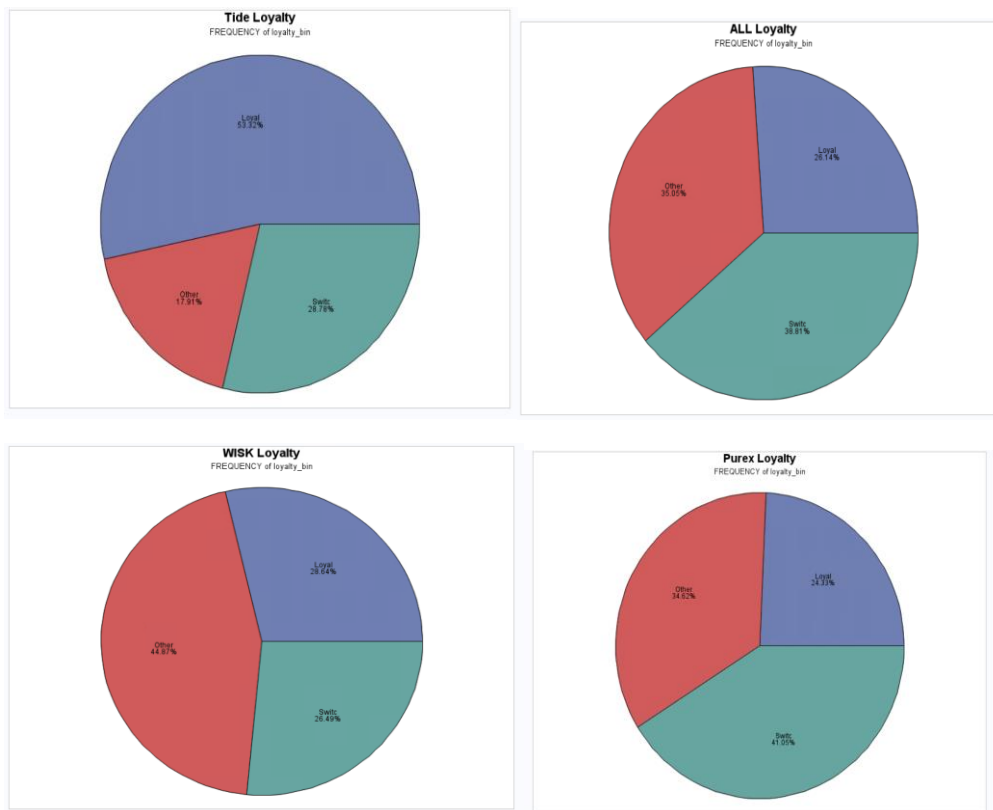
Who Qualifies as Loyal Customers

$$\text{Loyalty Points} = \frac{\text{Panel Transactions that involve a brand}}{\text{Total transaction made by Panel}}$$

Customer Segment	Qualifying Loyalty Points
Loyal Customers	100% to 70%
Brand Switchers	70% to 20%
Losing Customers	20% to 0%

We are interested in knowing more about customers that falls into brand switchers segment so that we can better target our marketing strategy and customers that are more likely to buy our products

Also, we know the value of Customer retention and thus also want to focus on our loyal customers so that they continue to stick with our brand



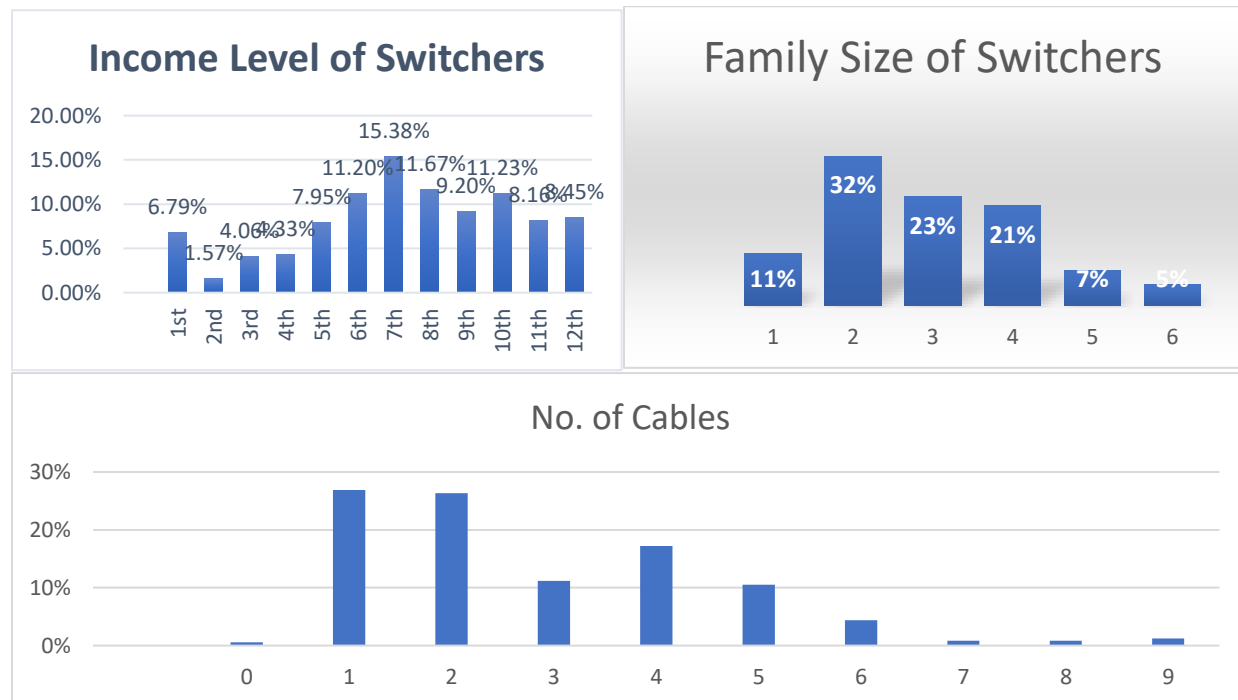
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As per the graphs its clear that only tide has a large base of Loyal customers nearly 53% and least in terms of customers leaving their Brand about 18%.

- Looking at next top 3 brands none of them have a large base of loyal customers
- For PUREX nearly 75% their revenues come from Switchers and Other Customers so it's Important that we should focus our analysis to attract switchers and at the same time not lose any loyal customers

Further we investigate on the Switcher Category of the top 4 brands as they are our most potential market segment

### Customers Demographics



### Insights

- Most of the Switcher falls in Mid to High income group
- Bachelors/ Singles and Large Households with Fam size more than 5 are less likely to Switch compared to Mid-Size Households
- 98% of the customers have access to TV and Cable connections. Thus, marketing our promotions and brand Image via TV can be an effective strategy
- Now that we know our target customers and effective marketing strategies to attract them lets now focus on the affects of displays and promotions on our sales

### Top Factors affecting brand switching for PUREX

#### 1. Brand Image and Perception

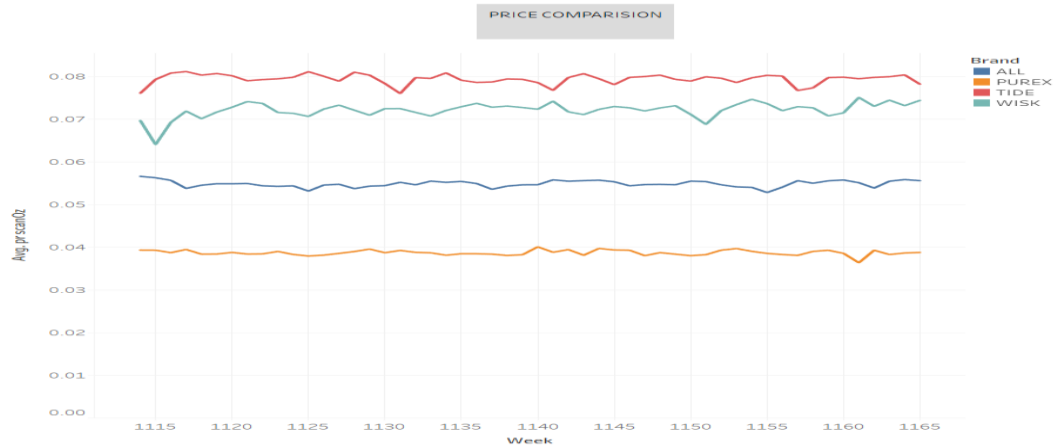
- PUREX mainly targets customers that are highly sensitive to prices. And by offering low cost substitutes for premium brands such as TIDE and WISK

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- PUREX will lose customers as its Brand Image is been made as an affordable substitute for premium brand like TIDE and WISK

### 2. Marketing Mix

Based on our analysis on Customer Demographics Its clear that we can't expect different segments of customers to buy the same products we have to offer.



Looking at the comparative prices of other brands, PUREX average prices are almost half of TIDE and thus, fails to grab its shares from potential premium product market. **Our recommendation is that we start offering some premium variants of our products.**

### 3. Marketing Communication

Most important roles of Marketing are to Attract new customers and Build our Brand. If our competitor is good at it, we will witness our customers shifting immediately. The only attack you can launch is to have equally cut-throat communication Strategy. This will help Purex to maintain brand equity and/or at least prevent churns.

The effects of displays and promotions on our sales

The SAS System			
The PANEL Procedure			
Wansbeek and Kapteyn Variance Components (RanOne)			
Dependent Variable: SALES			
Model Description			
Estimation Method		RanOne	
Number of Cross Sections		29	
Time Series Length		52	
Fit Statistics			
SSE	935119731.7	DFE	1356
MSE	689616.3213	Root MSE	830.4314
R-Square	0.5869		
Variance Component Estimates			
Variance Component for Cross Sections		51427.98	
Variance Component for Error		692649.9	
Hausman Test for Random Effects			
Coefficients	DF	m Value	Pr > m
16	16	12.94	0.6772

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Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Pr >  t
Intercept	1	1350.46	508.7	2.65	0.0080
AVG_PR_TIDE	1	-236.623	291.3	-0.81	0.4167
AVG_PR_ALL	1	431.8401	343.5	1.26	0.2089
AVG_PR_PUREX	1	-1473.64	290.4	-5.08	<.0001
AVG_PR_WISK	1	-108.6	206.9	-0.52	0.5998
AVG_FEAT_TIDE	1	37.29119	218.6	0.17	0.8646
AVG_FEAT_ALL	1	115.336	196.1	0.59	0.5565
AVG_FEAT_PUREX	1	947.2575	132.4	7.15	<.0001
AVG_FEAT_WISK	1	511.2346	234.8	2.18	0.0296
AVG_DISP_TIDE	1	-232.294	183.5	-1.27	0.2058
AVG_DISP_ALL	1	88.40784	128.7	0.69	0.4923
AVG_DISP_PUREX	1	547.5892	98.1723	5.58	<.0001
AVG_DISP_WISK	1	170.992	107.1	1.60	0.1106
INT_TIDE	1	156.0362	296.8	0.53	0.5992
INT_ALL	1	-148.272	245.1	-0.60	0.5453
INT_WISK	1	-775.038	270.5	-2.87	0.0042
INT_PUREX	1	1910.536	180.0	10.61	<.0001

The Hausman's test fails to reject the Null hypothesis. There is no correlation between error term and dependent(X) variables, hence we use the Fixed Effects model.

The model has an R-square of 58% for factors effecting Sales in panel data. This is a good value due to multiple factors affecting Sales of a product.

- Average price of Purex per week has a negative impact on Sales. Increase of price by 1 dollar on average in a week results in decrease of Sales of Purex by 1473\$ on average per week.
- Feature and Display of Purex have a positive impact on Net weekly sales of Purex. If Purex has been featured over the week, the average sales of Purex increases by 947\$ in that week.
- If there has been a display advertisement of Purex in the week, the average sales of Purex increases by 547\$ in that week.
- The combined effect of Feature and display of Purex is significant. If there has been a display ad and feature for Purex, then the average sales of Purex increases by 1910\$ in that week.

#### 4. Brand Fatigue

Ultimately all customer start questioning "Is there something new out there".

When Customers want to try something new in the market, they do brand switch.

Now there can be two types of customers

- 1) Customers try new product/brand but ultimately comes back to buying PUREX

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In our case these customers lie in range 70% to 99% Loyalty Points  
They don't create dent on our sales.

### 2) Customers switch and doesn't return

To retain customers, we need to keep introducing new products  
And understand the factors affecting the choice of Brand Chosen

(MDC Output and interpretation)

Conditional Logit Estimates

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	Approx Pr >  t
br2	1	0.8222	0.1502	5.47	<.0001
br3	1	0.4598	0.1485	3.10	0.0020
br4	1	-0.1523	0.1922	-0.79	0.4282
br5	1	-2.9716	0.3762	-7.90	<.0001
price	1	-5.2084	2.2596	-2.31	0.0212
display	1	-0.0662	0.0565	-1.17	0.2414
feature	1	-0.3733	0.0627	-5.95	<.0001
promotion	1	-0.0240	0.0602	-0.40	0.6898
inc2	1	0.0745	0.008007	9.31	<.0001
inc3	1	0.0381	0.008832	4.32	<.0001
inc4	1	0.0642	0.0106	6.04	<.0001
inc5	1	0.0432	0.0223	1.93	0.0533
famsize2	1	-0.2099	0.0212	-9.90	<.0001
famsize3	1	-0.2166	0.0239	-9.07	<.0001
famsize4	1	-0.2870	0.0297	-9.68	<.0001
famsize5	1	-0.0511	0.0583	-0.88	0.3803
kid2	1	-0.001991	0.0119	-0.17	0.8670
kid3	1	0.0102	0.0135	0.76	0.4487
kid4	1	0.0220	0.0168	1.31	0.1904
kid5	1	0.0635	0.0350	1.81	0.0696

The SAS System

The MEANS Procedure

BRAND	N Obs	Variable	Mean
PUREX	14568	own_price_elasticity	-0.1636280
		cross_elasticity	0.0460576

The following are inferred from the Multinomial Conditional Logit performed on the Laundry data:

- We can say that the demand for Purex over the other four competitors is increasing as Family size increases. So, to improve the sales we can focus on the households with bigger family size
- Also, we observe that Purex is preferred over Gain, Tide & All brand detergents are preferred over Purex.
- Featuring is not making a significant impact on households choosing Purex detergents. So, we recommend retrospectively what is going wrong and come up with better featuring plans which can improve sales



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Based on the own price elasticity, we can infer that 1% increase in price of Purex detergent will reduce the probability of Purex detergent being chosen by 0.163%.

From cross price elasticity, we can infer that 1% increase in price of any other brand among the 4 competitors will increase the probability of Purex being selected by 0.046%