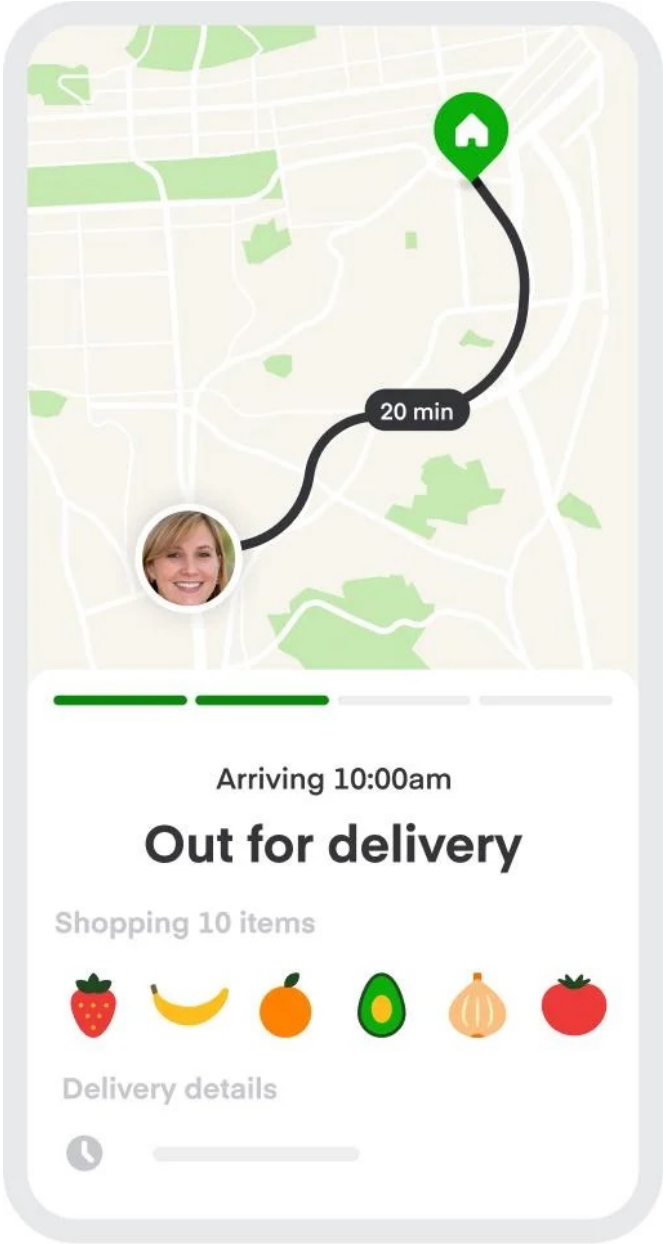
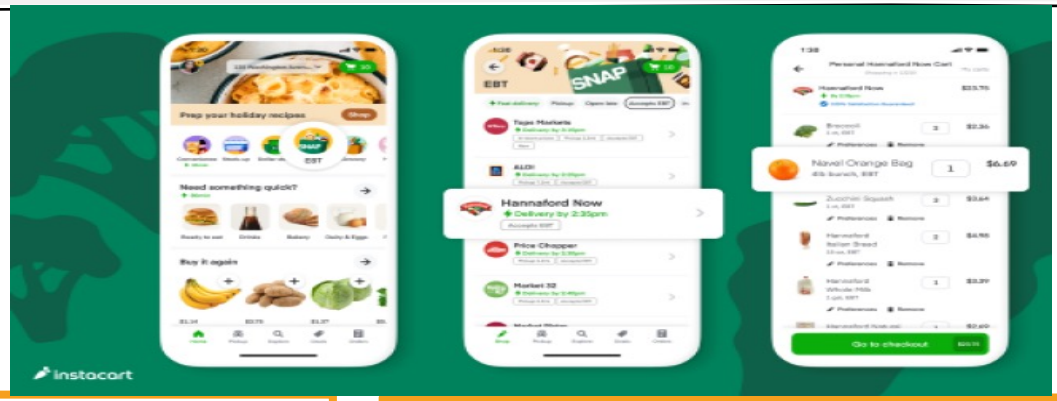
Market Basket Analysis

Done by: Han Nguyen

We, Instacart, delivery groceries to your door!!!



Instacart's Strategy



Competitive Advantage

"OneStopShop"
Groceries + Alcohol

User Engagement & Retention

$25K Competition:
New Recommender Model

Product Developments:
Alcohol Review&
Instacart Pickup

Expansion Outside US

Instacart Canada

?

Does our data support the alcohol expansion? If so, what marketing insights can we collect from data?

YES => Continue

NO => Pivot

THIS DATASET:

200K+ Users

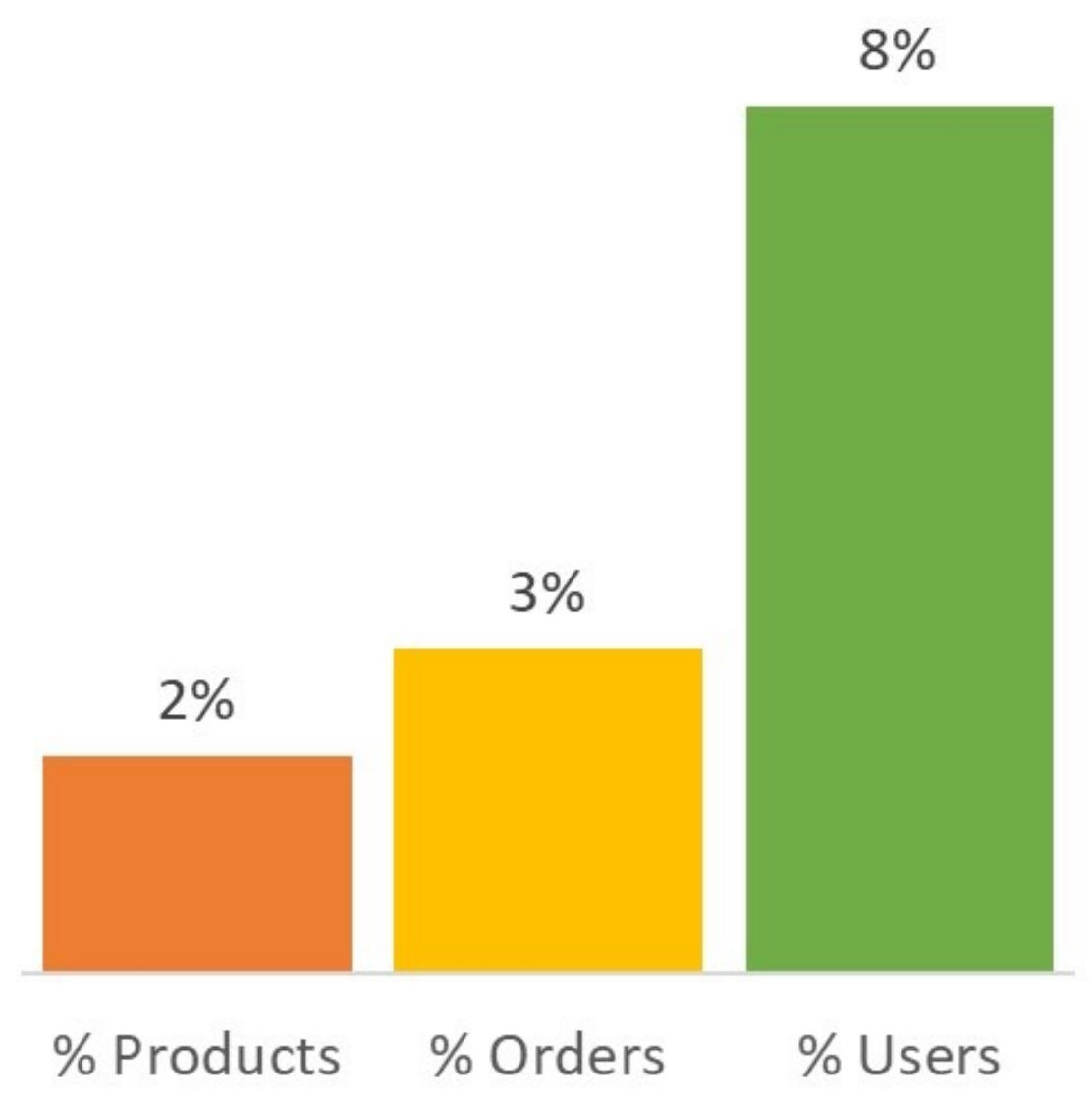
3+ Million Orders

SUMMARY STEPS

Step 1: Data Wrangling (Merge - SQL, Data upload (Jupyter Notebook), Data cleaning (Python), Storage (AWS)

Step 2: EDA (Visualization - Python, MS-Excel, PowerBI; Validation (SQL)

Step 3: Recommender Model (Python, Statistics)



How is alcohol segment performing?

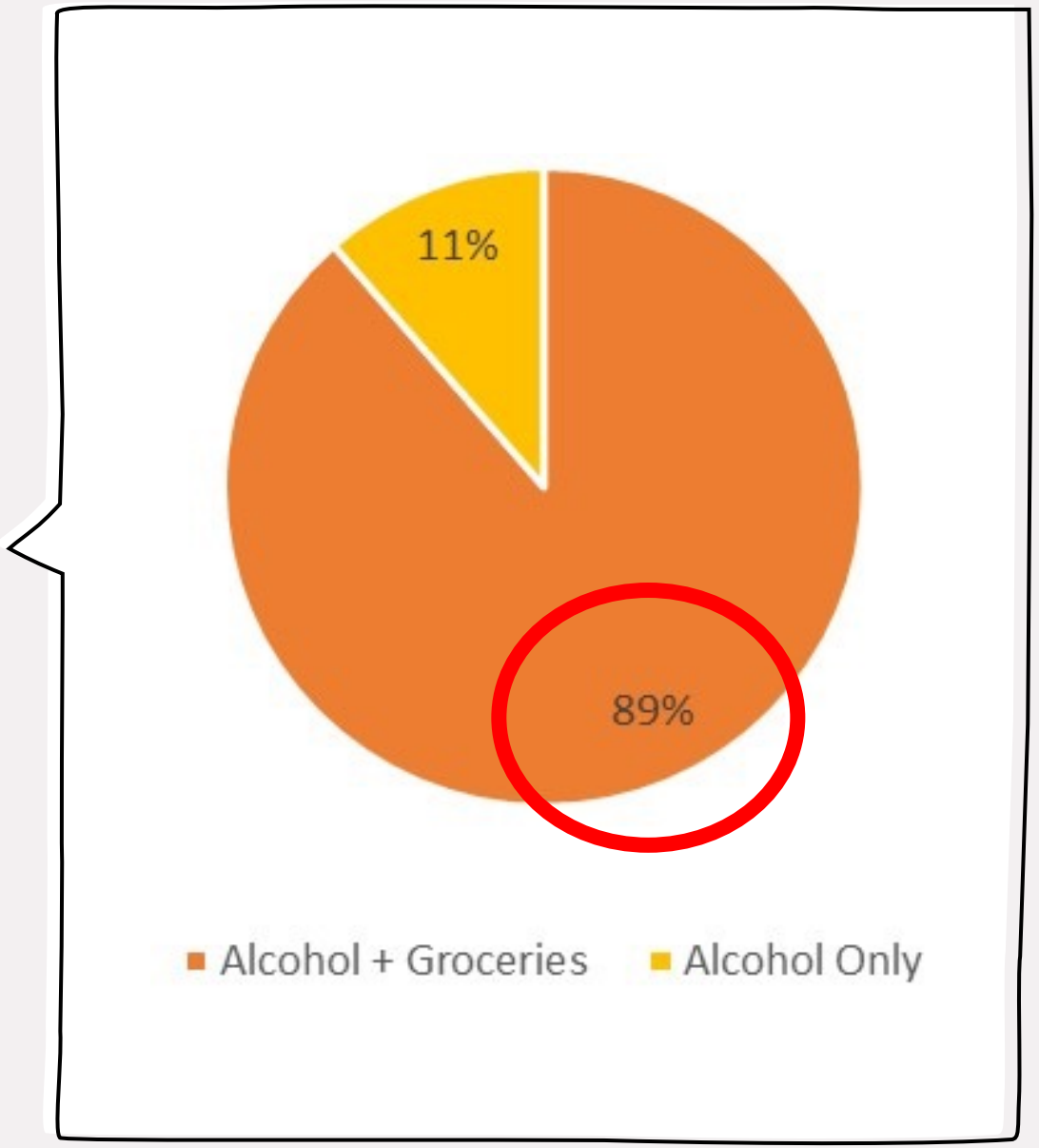
Alcohol Proportion to Totals
Despite 2%

Inventory 8% Users buy Alcohol

Low Supply
HIGH Demand

89% *of orders with alcohol, also have groceries*

HIGH Cross-Selling between alcohol & nonalcohol products

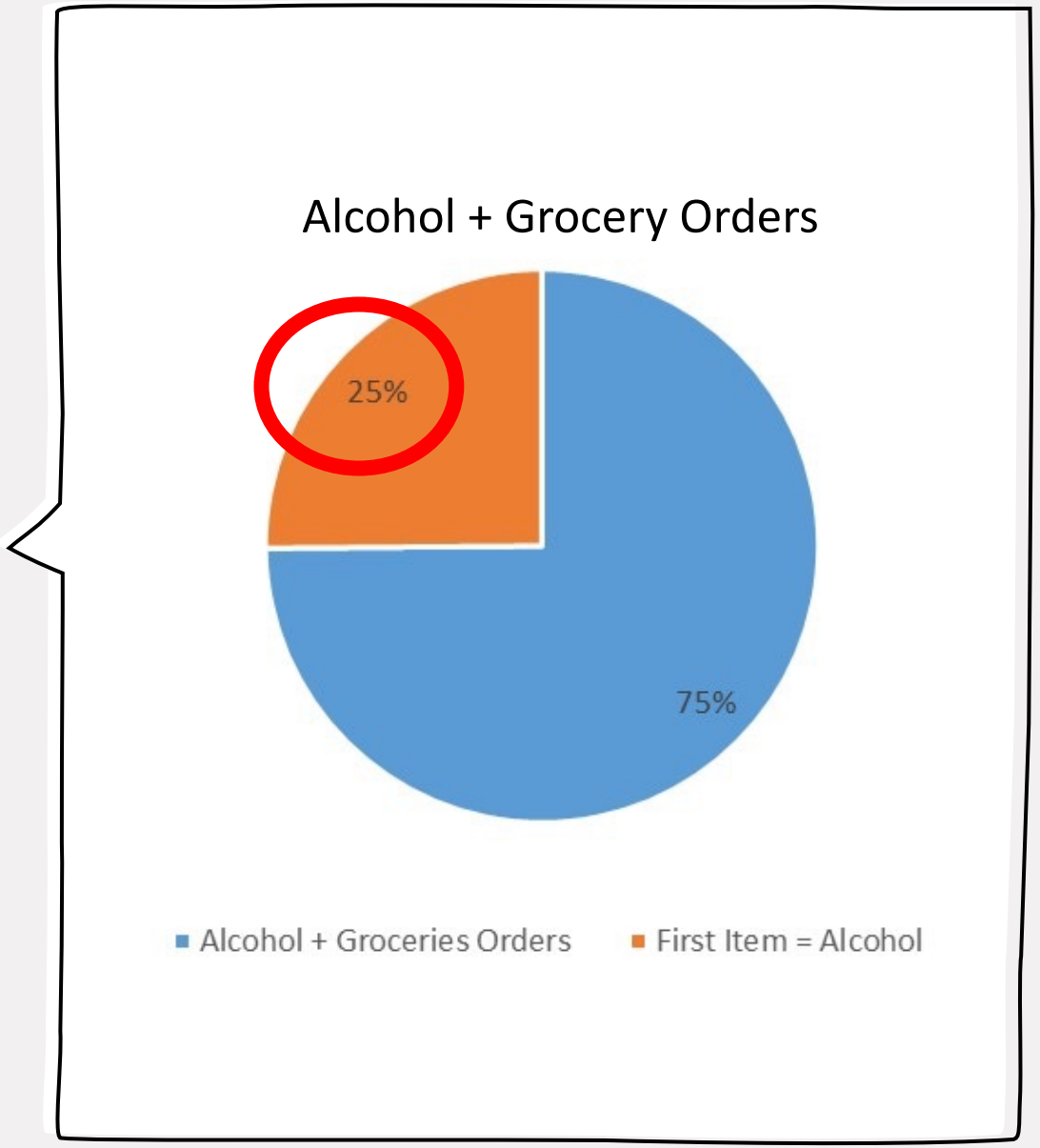


Up Selling !!!!

25% Orders where user chose <u>alcohol first,</u> then added groceries.

145,889 grocery units gained

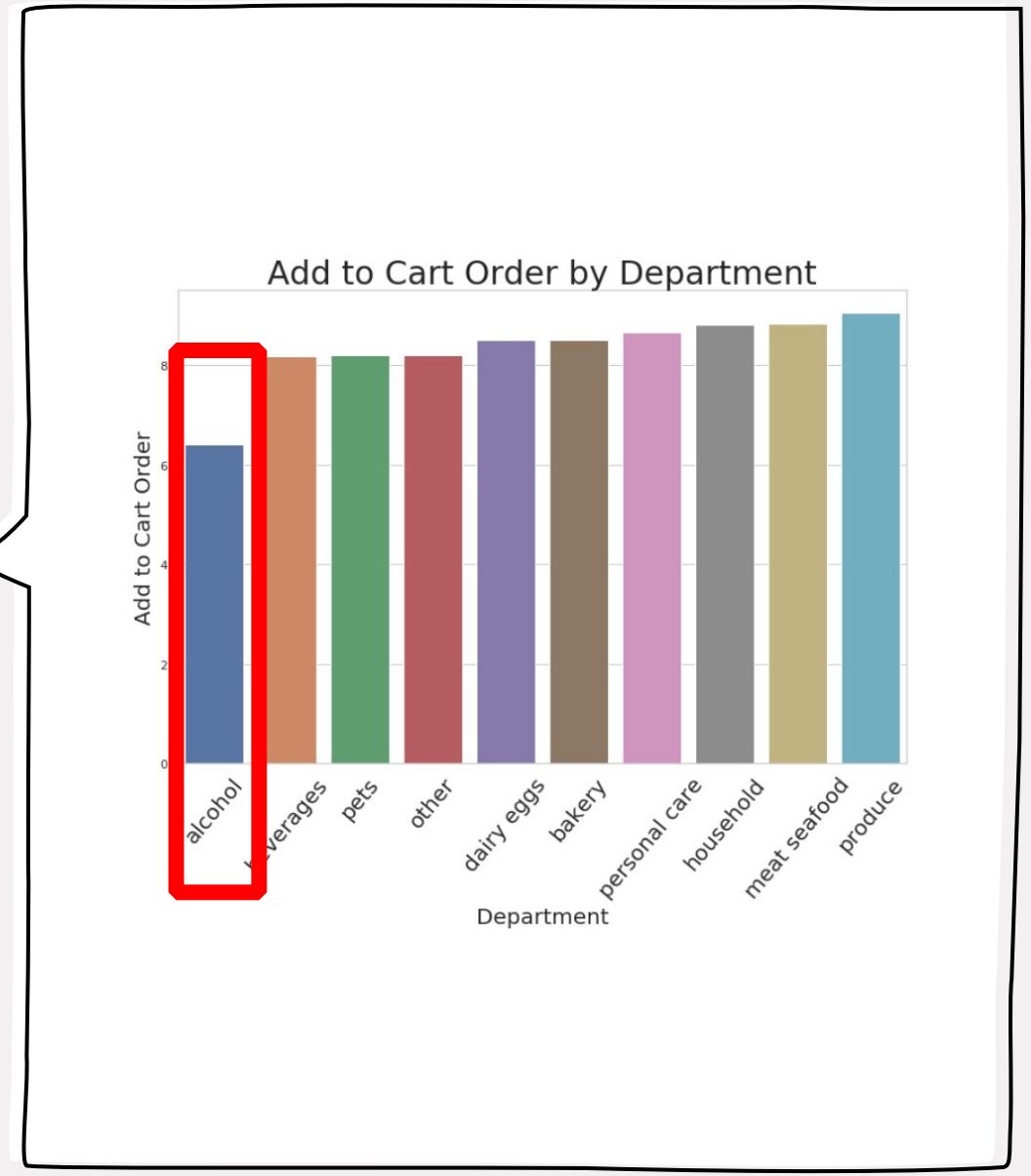
HIGH selling potiental



POSITION IN CART →

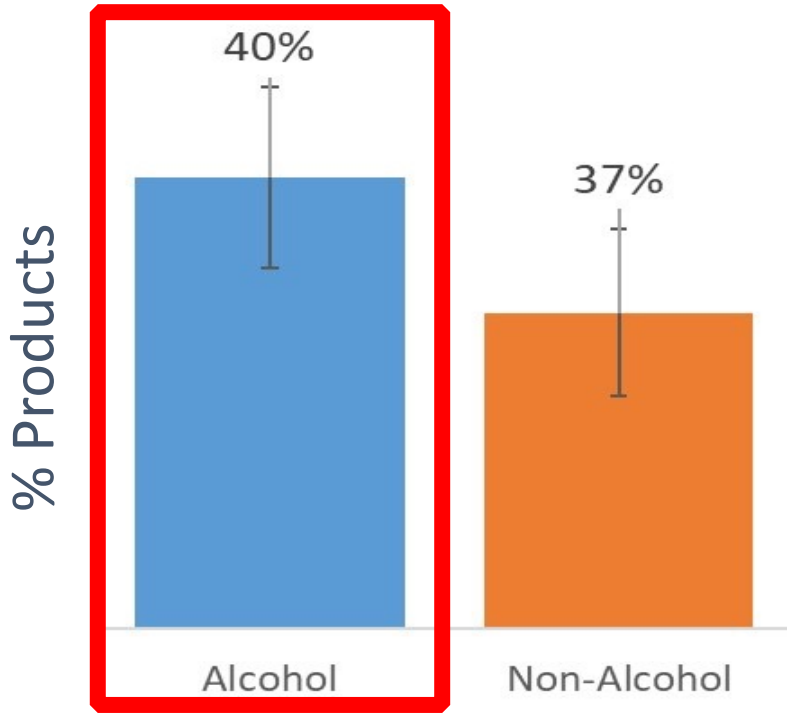
LOWEST **“add to cart order”**

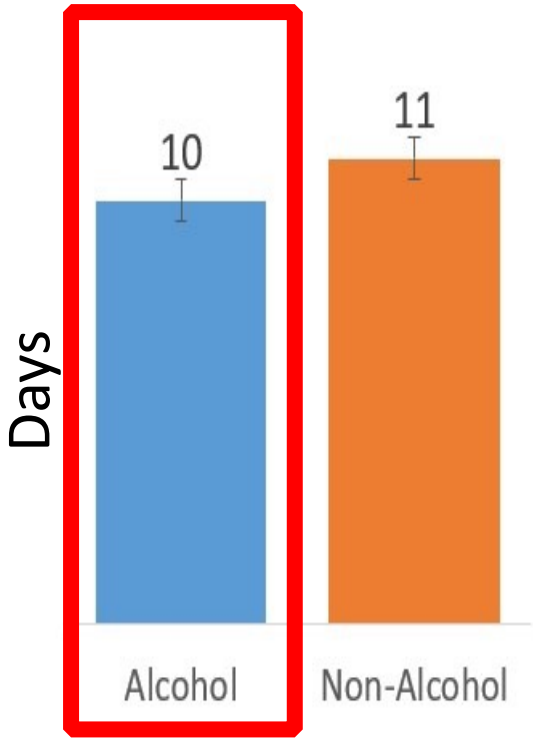
Alcohol is one of the first items in cart



Alcohol products 3% higher Alcohol orders made 1 day earlier reordered ratio

Gap of Reordered Ratio Order





Does the data support the alcohol expansion?

✓ Cross-Selling ✓ Up-Selling ✓ Demand (8% Users)

✓ Position in Cart ✓ Reordered Ratio ✓ Order Gap

Any marketing insights / opportunities discovered?

TIME

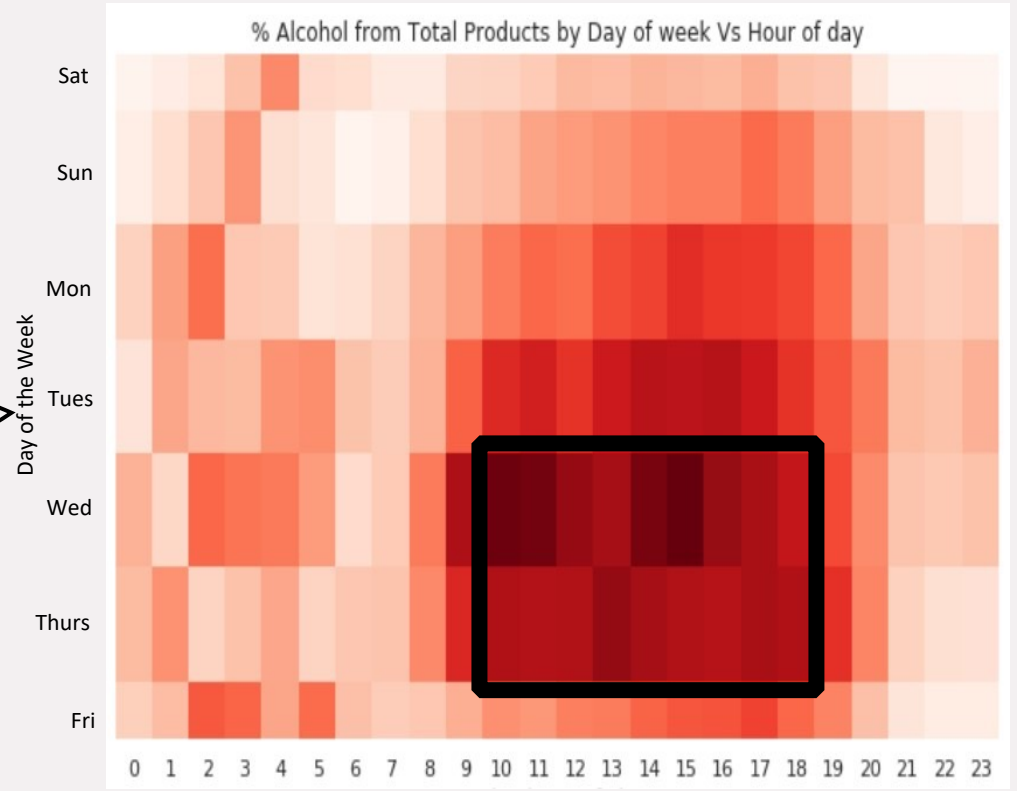
<u>General Order Peak:</u> Weekends AM

<u>Alcohol Peak:</u> Wednesday -

Thursday PM

<u>Marketing:</u> Outreach timing

<u>Retails</u>: Off peak hours

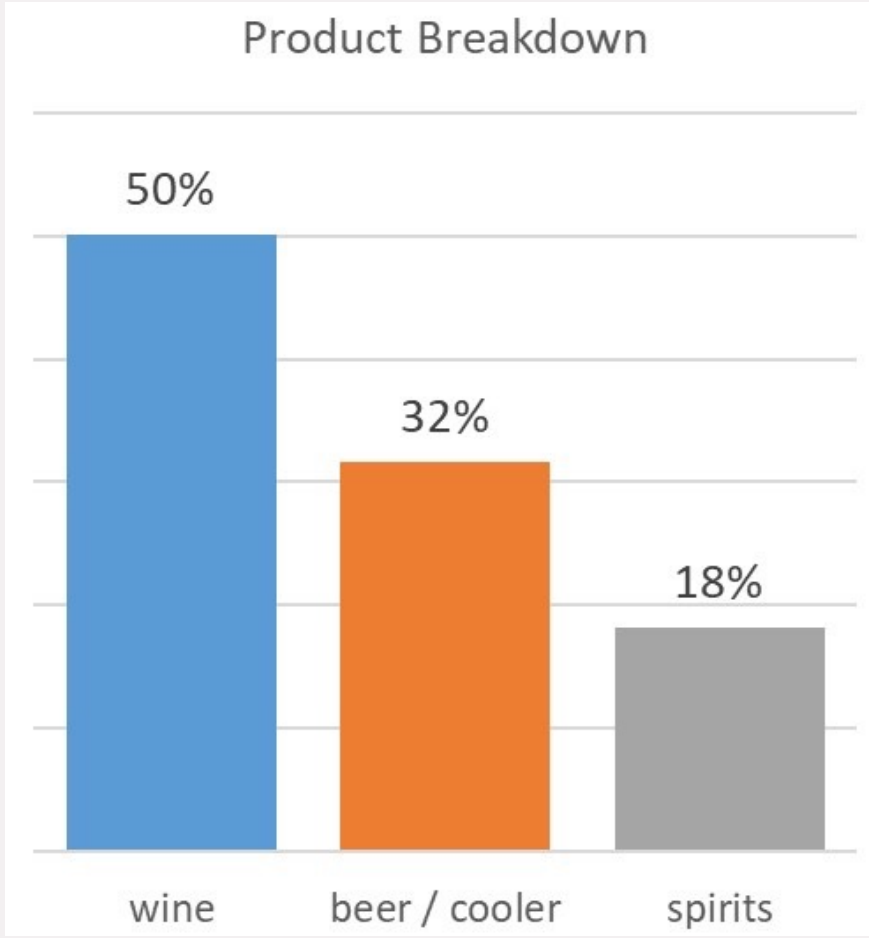


BEST SELLERS

1 Wine
2 Beer & Coolers
3 Spirits

Marketing: Wine & Food Pairings

Retailer:
Inventory



Alcohol + Grocery Pairings (Recommender Model)

Tool: Machine Learning Method (Association Rule Learning)

Output: Product pairs by correlation within an order

User behavior supports vision (Competitive advantage)

- **Marketing**
- **Customer Segmentation**
- **Advertising Ideas (Romantic Dinners, Parties, Recipes)**

=> Potential Partnerships

WINE	BEER	SPIRITS
Watermelon	**Ice Bag**	Mixers
Cheese	Soda	**Lemons**
Salami	Tortilla Chips	**Paper Towel**
Avocado	Hummus	Sour Cream
Carrots	Bread	Avocado

CONCLUSION

Does the data support the alcohol expansion? ---> YES

✓Demand (8% Users) ✓Cross-Selling
✓Up-Selling. ✓Position in Cart ✓Reordered Ratio
✓ Order Gap

What marketing insights can collect from data?

- TIMING
- BEST SELLERS
- Alcohol & Grocery Pairs (Recommendation Model)