Market Basket Analysis

GreenGrocer







Table of contents

01

Business Overview

02

Data Overview 03

Data Analysis

04

Modeling

05

Recommendations

06

Future Steps





Today the global Organic food market is worth \$176 billion and is estimated to grow at a CAGR of 12.1%, earning revenue of around \$553 billion by the end of 2033.

01 Business Overview



Overview

The organic grocery market is experiencing rapid growth, driven by increasing consumer awareness of health and sustainability. With the demand for organic products and online shopping on the rise, GreenGrocer wants to strategically position itself to tap into this expanding market by introducing

an Organic Grocery Delivery Service.

GreenGrocer wants to continue to elevate the customer experience and has tasked us to find key factors for predicting customer reorders to optimize marketing strategies and identify frequently purchased items for improved product recommendations and cross-selling opportunities.



02 Data Overview





Data Overview.

The dataset used comes from 3 million grocery orders from more than 200,000 Instacart users. The data was filtered down to only focus on Organic Products. The dataset includes information on the following:

- 190,000 users
- 2.3 million orders
- 5000 Organic products

03 Data Analysis



Organic Power!

320/0



Organic Products

Text



67º/o



Organic Reorders

Text

Predictive Insights

- Organic Produce
- Size of Shopping Cart
- Days Since Previous Order
- 2 Product Placement

Produce, Produce!

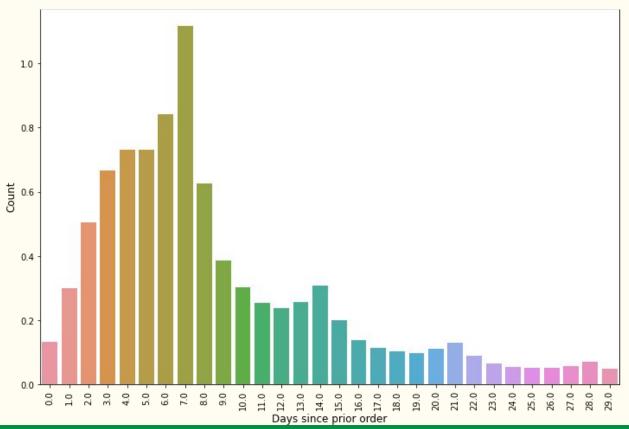


Push the Produce

Placeholder for Cart Size Reorders

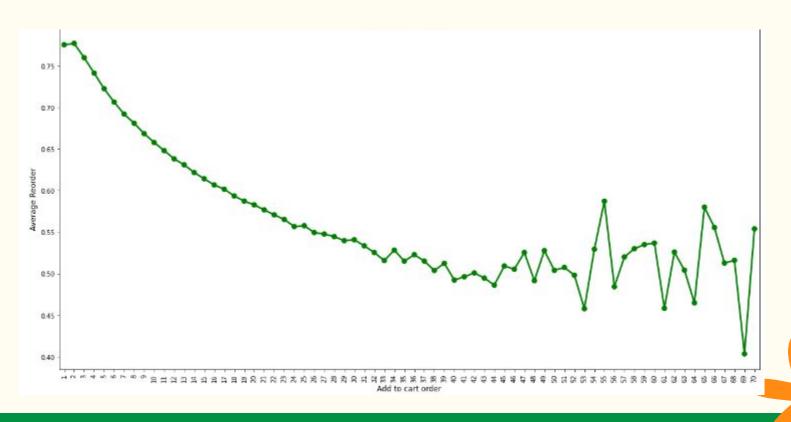


Engagement





You Only Get One Shot



04 Modeling



Results







Apriori & Association Rules

| A | В | Support | Lift |
|---------------------------|-------------------------|---------|------|
| Organic Bag of Bananas | Organic Hass Avocado | 0.02 | 1.8 |
| Organic Hass Avocado | Organic Strawberries | 0.02 | 1.7 |
| Organic Strawberries | Organic Baby Spinach | 0.02 | 1.4 |
| Organic Baby Spinach | Organic Avocado | 0.01 | 1.7 |



Cart Optimization

Bag of Organic Bananas

Organic Baby Spinach
Organic Hass Avocado
Organic Lemon
Organic Strawberries
Organic Yellow Onion

Organic Strawberries

Organic Hass Avocado
Bag of Organic Bananas
Organic Baby Spinach

Organic Raspberries

05 Recommendations



Recommendations

Promote Organic → 01 Produce

- Targeted marketing campaigns on organic products.
- Highlight the benefits of organic items to attract and retain customers.

Leverage Basket Size

- Implement strategies to encourage customers to add more items to carts
- Bundle related products
- Special deals for bulk purchases.

-Encourage Frequent Purchases

- Loyalty programs & Subscription options
- Personalized recommendations based on purchase history/frequent purchases

4 Enhance Product Placement

- Optimize the user interface for easier shopping
- Implement "quick add" or one-click reordering features

06 Future Steps



Future Steps



- Collect more data on Organic products and shoppers.
- Use Apriori and Association rule results to build a recommendation system.
- Explore alternative ways to handle class imbalance and engineer more features.
- Apply Deep Learning models to extract better insights from the data.
- Continuously monitor the impact of these recommendations and Use A/B testing to evaluate the effectiveness of the different strategies.

Thanks!

Do you have any questions?

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Appendix

