



Poly Pantry Data Dashboard and Visualization

Julia Silva, Department of Industrial and Manufacturing Engineering

Mentor: Dr. Greg Placencia

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Background

- Poly Pantry is a program at California State Polytechnic University Pomona that serves students impacted by food insecurity. The Program provides access to food, hygiene supplies, and community-based resources
- It works as a customer-choice pantry where individuals are free to shop for what they need, in order to meet their needs
- The program provides a variety of different products to students that vary according to the number of students participating in the program, their needs, and the season. The high amount of variation causes unpredictability to the program



Figure 1: Poly Pantry product variety and availability

Objectives

- This project aims to improve the unpredictability of the Poly Pantry Program by using data visualization to better perform the program's operations.
- The objectives of this project are:
 - Create key performance indicators (KPIs) that can be used to monitor Poly Pantry operations more efficiently
 - Establish a Dashboard that will enable Poly Pantry administrators to monitor their operations KPIs more effectively

Methods

- The first step of the project was to identify and understand the current data of Poly Pantry. This data reflected the program's member personal information (that was changed and encrypted for privacy and security), demographics, service frequency, product availability, and product selection
- Next the data obtained was cleaned to improve accuracy, increase efficiency, obtain better insights and representation, and improve credibility
- With the data cleaned, multiple analysis was performed to better choose the key performance indicators that would be measured and tracked
- After analysis and meetings with the Poly Pantry team the key performance indicators were selected to better assist with their operations planning
- The following indicators were selected:
 - Students served
 - Household members served
 - Product turnover
 - Members' Net Promoter Score (NPS)
- KPIs are critical in measuring and improving the performance of the program and will help the Pantry in decision-making, resources allocation, supply chain management, and progress tracking toward goals



Figure 2: Poly Pantry event on campus

Results

- To better visualize the key performance indicators and better monitor the Poly pantry operations an excel dashboard was created.
- A dashboard visualization provides a consolidated view of the key metrics and will allow the program to make more informed decisions, it will reduce the time and effort required to find analyzed data, increasing efficiency and productivity.
- The Dashboard contains demographic data from members (like gender, location, etc), the total number of household members served, and top products per category per month, to indicate the products with high demand.

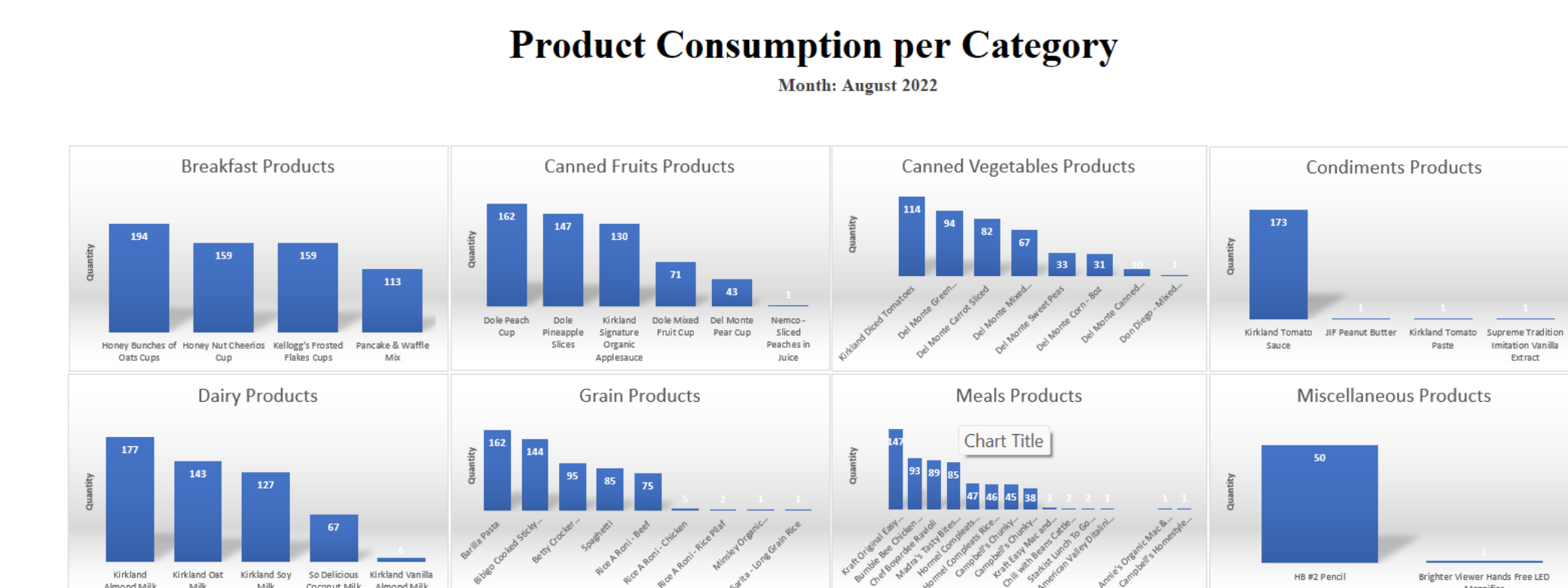


Figure 3: Bird-eye view of part of the Dashboard created to visualize the top products per category per month

Product Consumption Filter

| Item Type | Sum of Quantity |
|---------------------------------------|-----------------|
| Del Monte Pear Cup | 43 |
| Dole Mixed Fruit Cup | 71 |
| Dole Peach Cup | 162 |
| Dole Pineapple Slices | 147 |
| Kirkland Signature Organic Applesauce | 130 |
| Nemco - Sliced Peaches in Juice | 1 |
| Grand Total | 554 |

Figure 3: Inventory management filter in the dashboard created

References

- "Poly Pantry." ASI, Cal Poly Pomona, <https://asi.cpp.edu/poly-pantry/>.