



Instacart Sales Dashboard Iterative Design Report

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Abstract

After delivering a mature product on the market, companies would still seek continuous modification and adjustment to their product and business strategy for sustainable development. After eight years of launch, Instacart is confronted with intense competition and requires new growing opportunities. This motivates us to design the interactive dashboard for Instacart to provide deeper insights of their annual sales to facilitate better data-driven decision making.

The dashboard contains the annual sales of Instacart in 2017, and the target users of this dashboard include the sales, marketing, data science and executive teams of Instacart. It has been organized into four tabs that each team could easily check through, and answer key questions regarding the business such as the customer segmentation strategy as well as the possible improvement for the data science recommendation algorithm. Five participants with various levels of data experience and backgrounds were engaged in the usability testing to enable better design of the user interface.

With insights obtained from the dashboard, our team provides recommendations to our four different target groups correspondingly and hopefully contribute to the future growth of Instacart.

Introduction

Since the 20th century, there have been lots of emerging online delivery businesses that gradually show up to the market and customers including Instacart. Among all, Instacart is a leading brand and service chain that are accessible and popular among Americans. Since the end of 2018, 80% of American households have been able to use Instacart. With the growing data, Instacart has their challenge: Monitor their sales performance periodically to understand the performance of their general business, every department's business and the popularity of every type of food. For Instacart's sales business teams, these kinds of performance data could help them make later decisions on their supply chain, business / sale strategies and many other aspects. Considering that, we take their open data challenge and design a dashboard using their provided data to help build a tool for their business teams to gain the expected data and insights from raw data in an easy way. The usability test for our Instacart Dashboard is necessary to help

designers and developers to figure out what kinds of functions are useful for their business team, and which one is tedious or useless. This report is relating to the usability test, which the main goal is to evaluate the advantage and drawback of our designed Dashboard before producing and shipping.

Area of Focus

Sales: We aim to answer questions of what days of a week and what times of a day have the most/least orders. The sales and marketing teams can make better decisions about how to promote sales based on the result of these questions.

Customer: We aim to classify customers into high/medium/low value customers based on their buying behavior in order to help the marketing team develop customized marketing strategies for different target segments.

Product: We aim to find the most popular products and the least popular products (based on #of sell) in each department in order to help executive team to decide which product they should have more/less inventory

Summary Questions

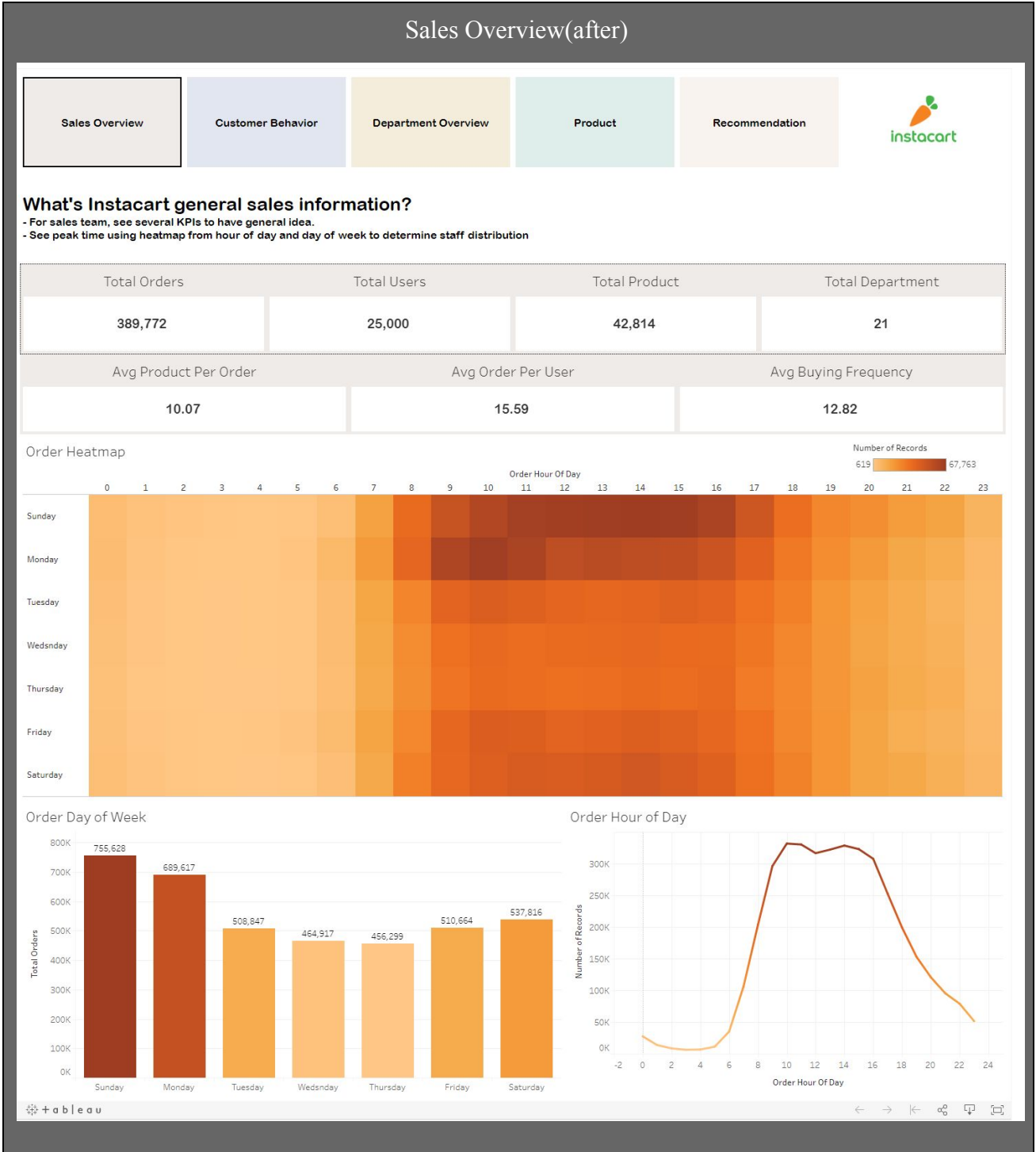
1. What's general sales information? e.g. What's the total order? What's the average order per user? What's the distribution of orders across day and hour?
2. How to segment users based on their buying frequency and total orders? What kind of marketing strategies can we perform?
3. How's each department's performance and what can we do with different products?
4. How should we deal with unpopular items, e.g. remove or cross sale? How should we deal with popular reordered items, e.g. sending promotion

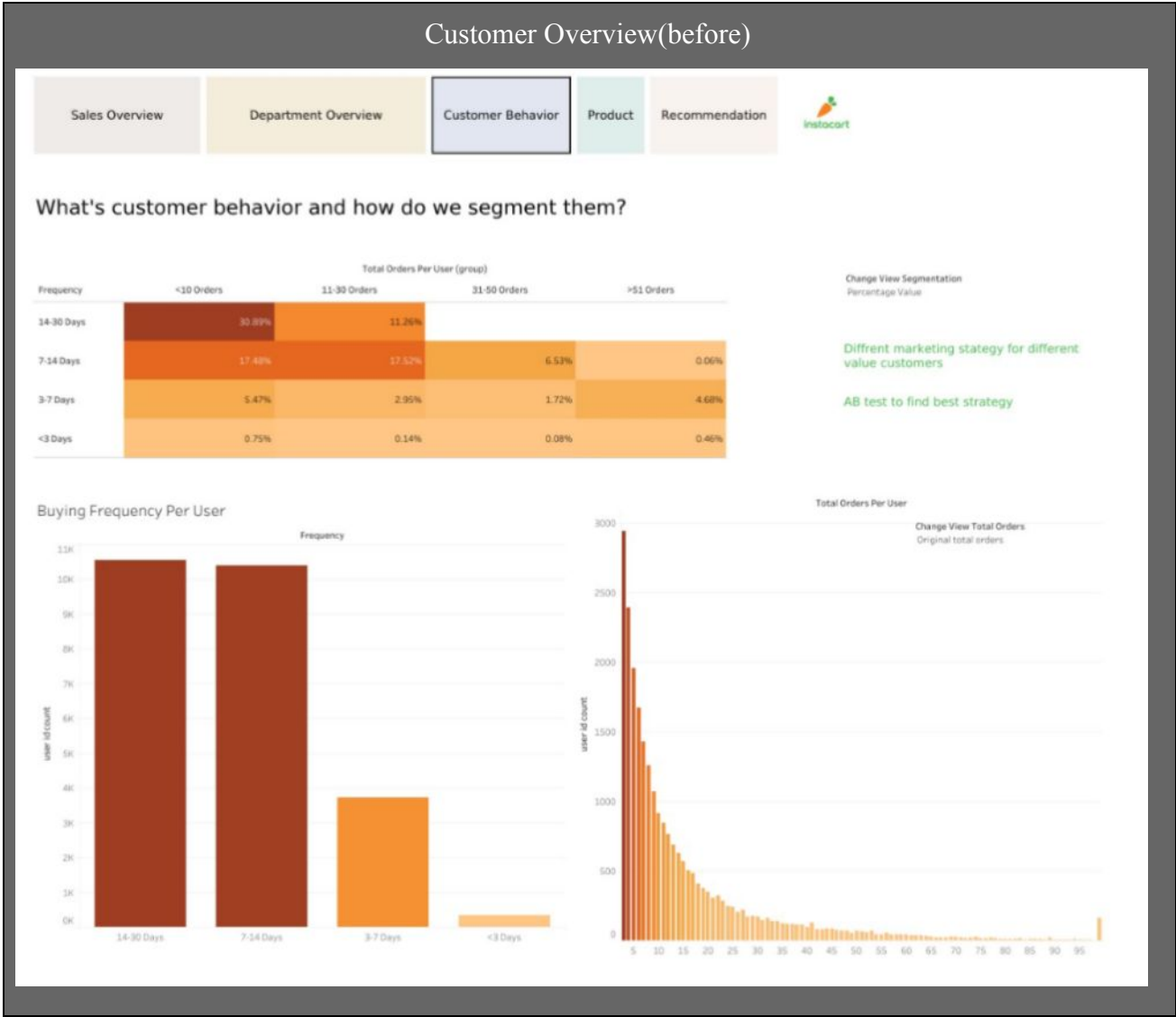
Motivation

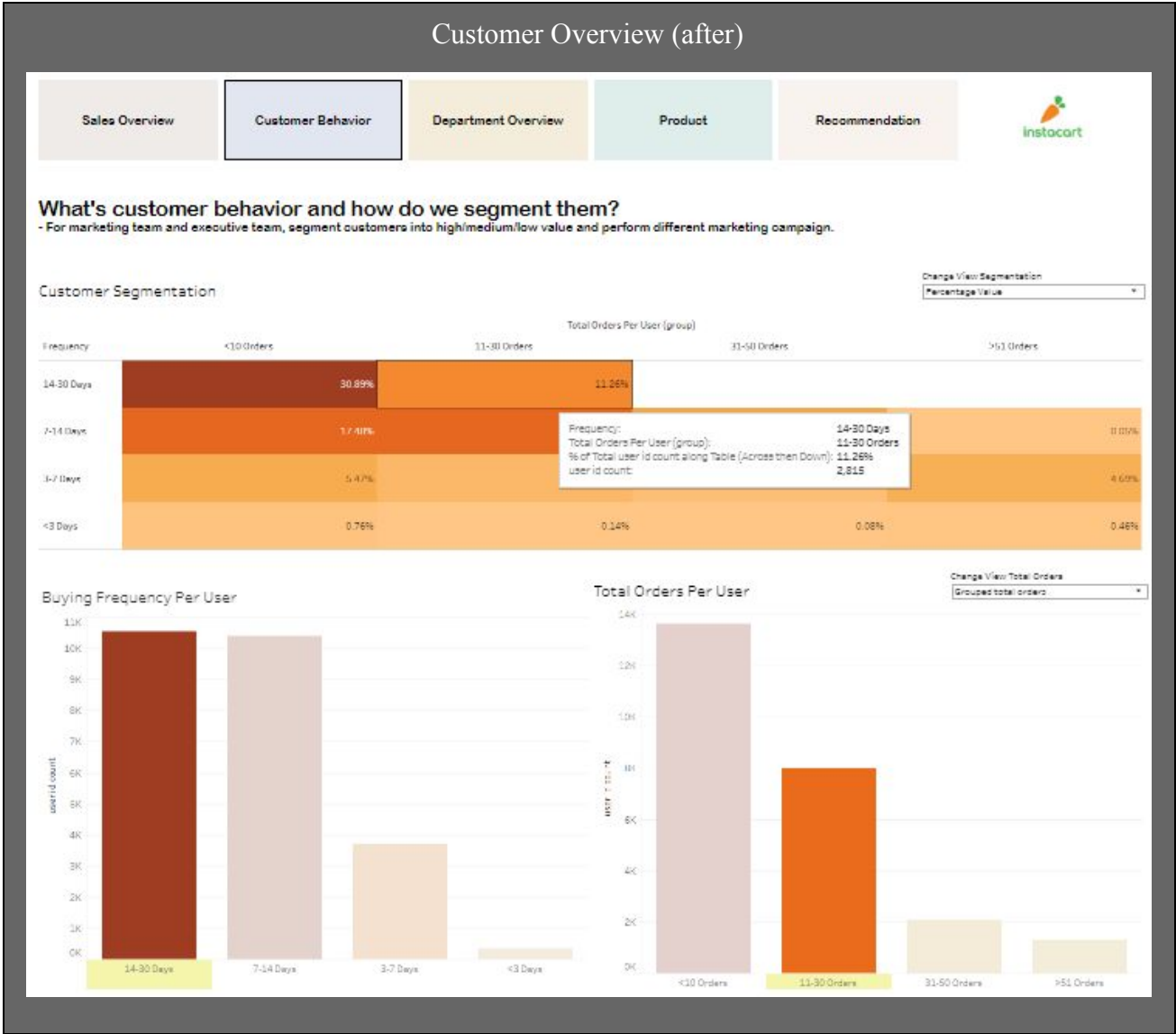
- Get involved in the development and modification of a trending business model
- Facilitate the data-driven decision making process for sustainable company growth

Screenshots before and after test

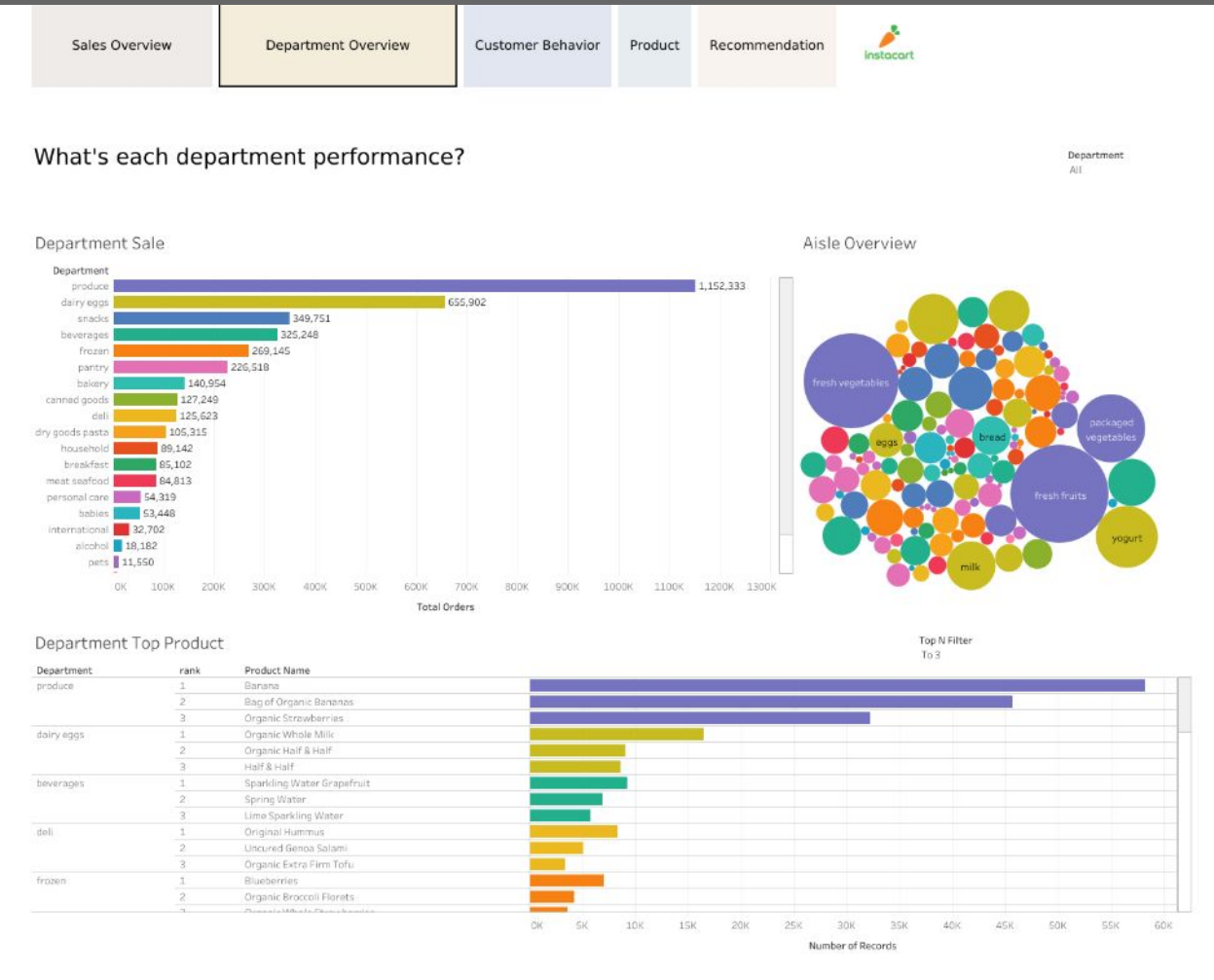


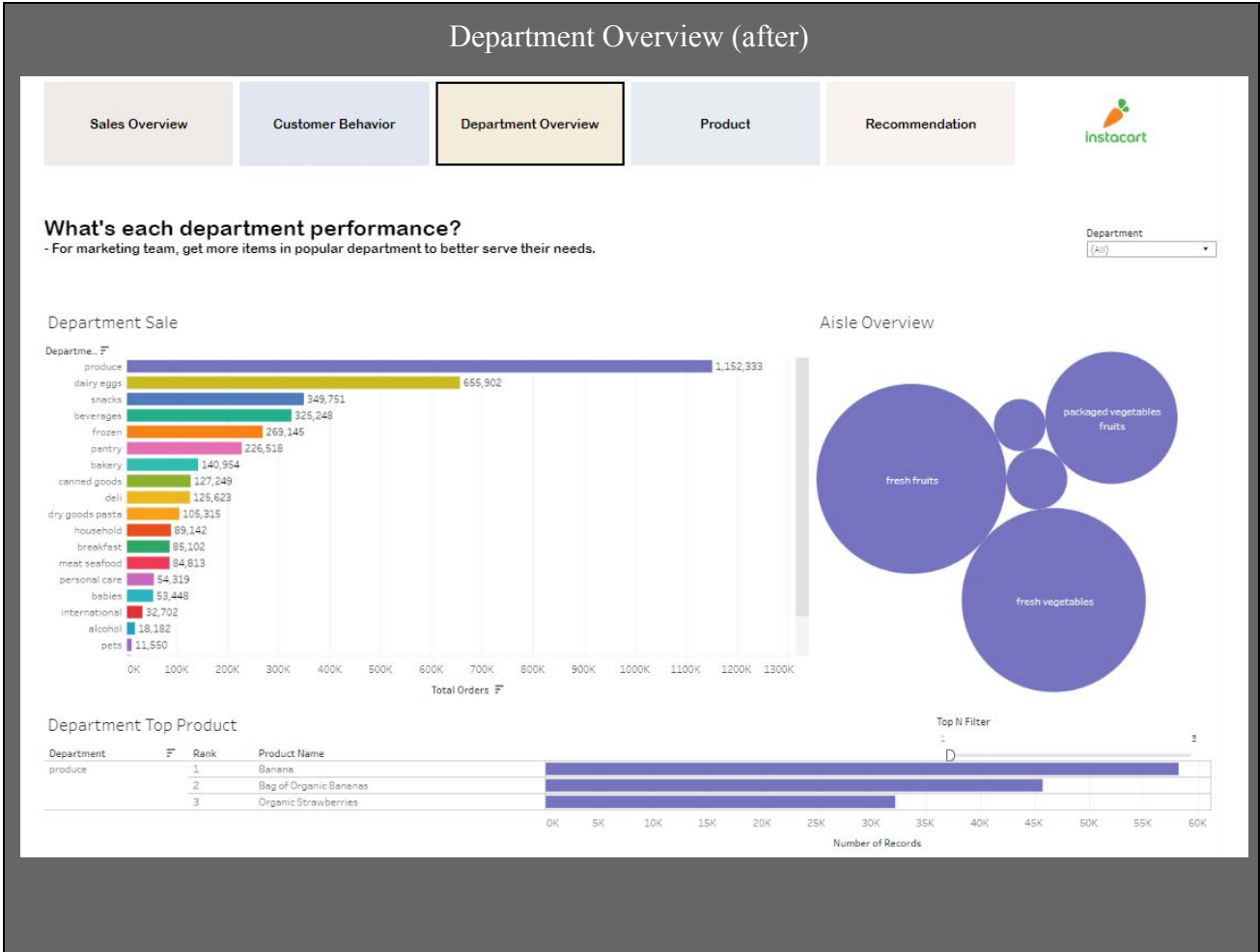


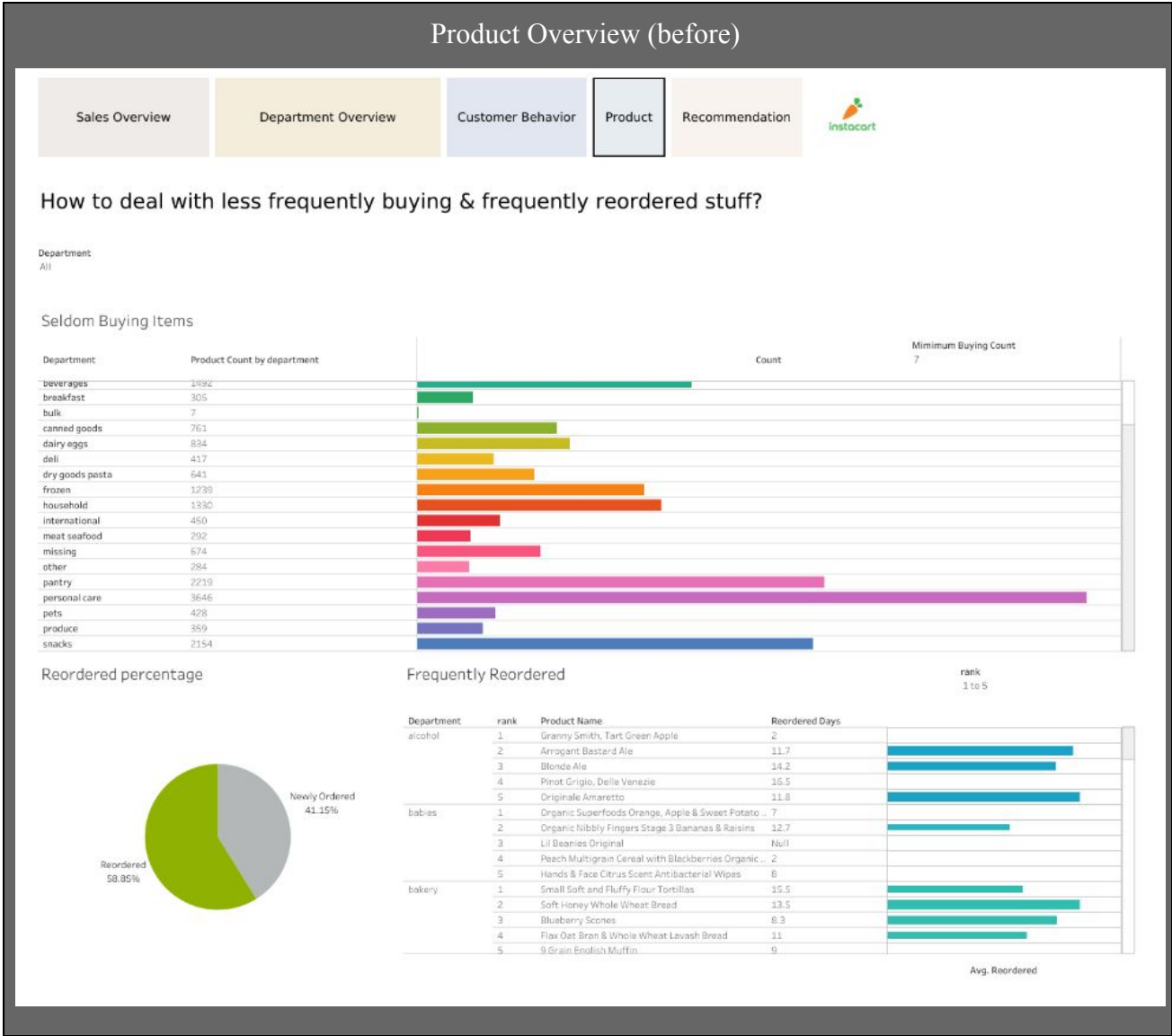




Department Overview(before)









Result & Recommendation

Sales Dashboard:

The target user for this dashboard is the sales team. They can have a general idea of sales performance in different time periods and monitor KPI. From the dashboard we can conclude that Sunday, Saturday and Monday have the most orders placed and most orders are placed

between 9am-4pm every day. As a result, our recommendation is to increase website capacity for weekend peak time to fulfill the increasing demand. Sending promotion and running banner ads during weekdays to promote off-peak time sales.

We changed the order of navigation bars to put icons more related to each other and users could easily navigate between different tabs. We change color in the week of day chart to make it unified with the whole dashboard. Lastly, we change the size of heatmap, which makes it easier for users to look at the whole dashboard without drag a lot.

Customer dashboard:

This dashboard is mainly for marketing and executive teams to segment customers into high/medium/low value customers based on their activities on Instacart. From the dashboard we can see several customer segmentation that is categorized by buying frequency and the total order of each user. The users who buy more frequently and have more total order are considered as higher value customers. We can conclude that currently, most users buying frequencies are 7-14 and 14-30 days, and not many users buying frequency less than 7 days. Additionally, most users have less than 10 orders in total and only a small portion of users has more than 30 total orders.

As a result, our recommendation is to give different market campaigns for different customer segmentation, for example, low frequency but high total order customer segment may indicate that the user has used Instacart for a long time but not always makes orders. Emailing ads to remind users about new products or new promotions, offering loyalty programs may better encourage buying actions for this group category. Whereas high frequency but low total order customer segments may indicate that users just joined Instacart and they like Instacart. Emailing to encourage subscription, or for example offering free shipping if ordering 3 times a week may retain their high activities on Instacart.

We remove some green characters to iterate the design of our dashboard to be more clear. We also add interaction here that if you hover on the main sheet, graphs below could highlight accordingly. Also, we change the name of graphs for easy understanding.

Department Dashboard:

This dashboard is mainly for marketing teams to learn what items sell the best in each department and aisle on Instacart. From the dashboard we can use both filter and hover function to just see the top selling items in the aisle by telling how big the circle area is. The top products part can be done with the top N filter, which users could enter a number by their own to adjust to a number they are interested in. They can also see how many times each item is sold, which bar gives a direct feeling.

Based on the usability test, we change the interaction function that after hover we keep all values there, which allows the user to explore more. We also add our target user group and potential insights they could find.

Product Dashboard:

This dashboard is mainly for marketing teams and ranking algorithm teams. It's been divided into two parts: popular and unpopular products. In the unpopular items part, we could see which department has more and hover to see detailed information. In the popular items part, we care more about reordered items and the ranking team could build a better searching algorithm to prioritize frequently reordered items.

Based on feedback we add numbers into seldom buying items and sort it by count, which gives people a more intuitive sense of each department's unpopular items distribution. Also, we remove the size on the bar to keep every row the same thickness.