Mastering Tableau Project

Analyzing Data for Superstore

Project Problem Statement: Mastering Tableau

Use your newly acquired Tableau skills to analyze, manipulate, wrangle, and visualize the data for a huge Superstore franchise. You will work with a dataset that covers features like product name, categories, regions, cities, and a whole host of other variables. Learn how to create business stories and build dashboards in this project.

Food Forecasting Analysis

Your client is a meal delivery company that operates in multiple cities. They have various fulfillment centers in these cities for dispatching meal orders to their customers. The client wants to help these centers with demand forecasting for upcoming weeks so that these centers will plan the stock of raw materials accordingly.
The replenishment of most raw materials is done every week and since the raw material is perishable, procurement planning is of utmost importance. Secondly, staffing of the Centre's is also one area wherein accurate demand forecasts are really helpful. We have the below information with us in the form of 3 different datasets:

- Historical data on demand for a product-Centre's combination
- Product (Meal) features such as category, sub-category, current price, and discount
- Information for fulfillment Centre like Centre's area, city information, etc

The dataset required has been provided along with this document.
You need to come up with a story in Tableau that talks about the level of demand in each Centers. This analysis needs to be granular enough to include product information as well. The the client wants an end-to-end report to understand which fulfillment areas are doing well and

which aren't. You can also talk about Centre's-meal combinations to add nuance to your final submission.

Client Requirements

- Analyzing the data provided client is a meal delivery company that operates in multiple cities.

- They have various fulfillment centers in these cities for dispatching meal orders to their customers.

- The client wants to help these centers with demand forecasting for upcoming weeks so that these centers will plan the stock of raw materials accordingly.

- Client wants to know the level of demand in each Centre. This analysis needs to be granular enough to include product information as well.

- Client wants an end-to-end report to understand which fulfillment areas are doing well and
which aren't

Project Overview

My newly acquired Tableau skills to analyze, manipulate, wrangle, and visualize the data for a huge Superstore franchise. I worked with a dataset that covers features like product name, categories, regions, cities, and a whole host of other variables. I created business stories and build dashboards in this project.

- The goal of this project aims to provide a comprehensive overview of the data and identify areas for further investigation.
- In this project I analyze data from multiple sources. This data is enough to create an interactive dashboard that will provide a clear picture of the data and allows users to explore the data further.
- The tableau is to create interactive visuals and dashboards to help illustrate the data and provide further insights.

- These visuals can be used to help stakeholders understand the data and identify areas for further investigation.
- I believe this project will provide a comprehensive overview of the data and help us gain insights and identify areas for further exploration.

Dashboards

- Tableau dashboards provide an efficient and interactive way to explore and visualize data. My dashboards make it easy to explore and analyze data quickly, allowing users to find actionable insights.
- With this dashboard, users can explore data and make decisions that drive business performance.

Primary Dashboard
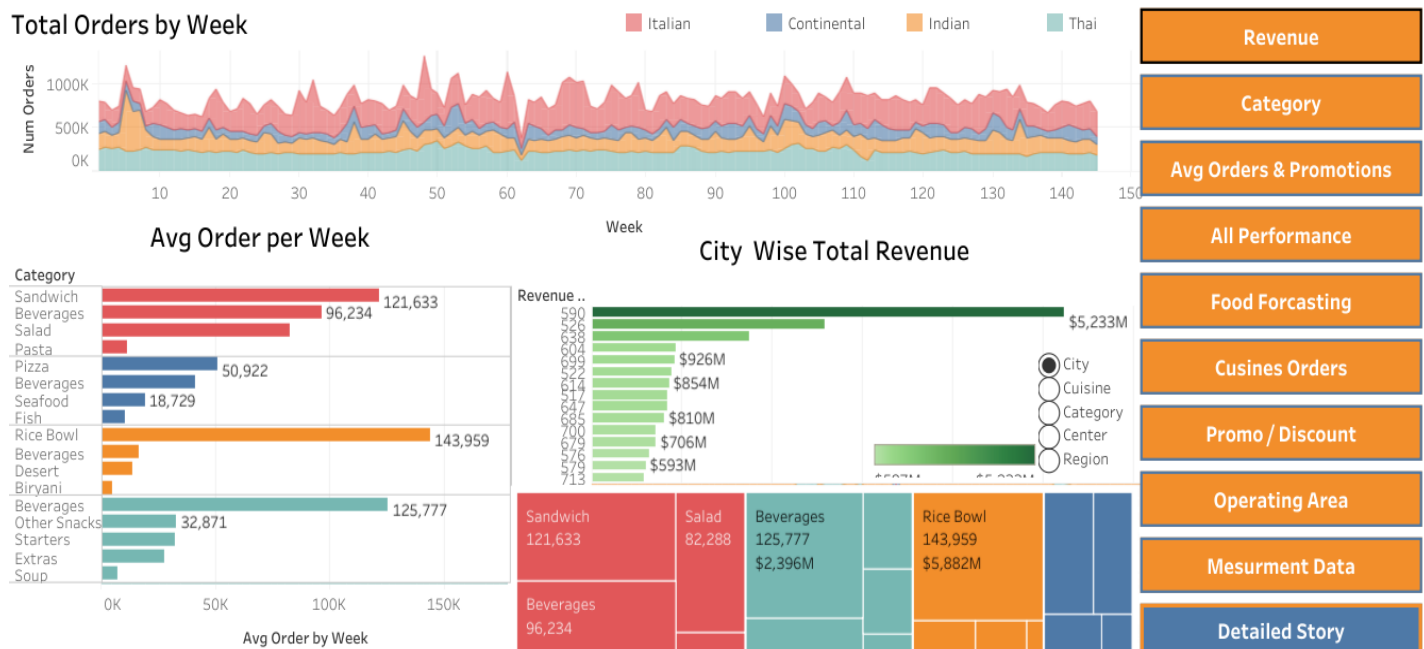
- In this dashboard Place the navigation buttons to the respective dashboard to view the corresponding data analysis
- Here I showed the Total Number of orders per week timeline area Chart which more accurately provides the visual performance of all cuisines
- Average order dashboard shows category-wise product Orders demand per week
- Revenue chart shows the high to low revenue generated by City, Cuisine, Category, Center, and Region wise parameters

- The last one is Tree Chart but not least. When we focus on the chart, we can easily grab the potential of all products and their sales as well as revenue.

  - ➢ Revenue Button navigate to the interactive dashboard where we can analyze the revenue-wise lead

  - ➢ Category Button navigate to the interactive dashboard to view all corresponding categories each by each sales order and relativity products

  - ➢ Avg Order and Promotion Button navigate to the interactive dashboard to find out the sale performance accordingly to promotional wise statements.

  - ➢ All Performance Button navigate to view high and low-performing Centre

  - ➢ Food Forecasting navigates to forecasting inch-by-inch data products and center-wise demand of raw materials for the upcoming weeks.

  - ➢ Cuisine Order navigate to cuisine-wise orders and focusing products

  - ➢ Promo & Discount navigate to show off which products and centers promoting ranges

  - ➢ Depends upon the operating areas in which the orders can change Operating area dashboard is used to show operating area-wise analysis.

  - ➢ The detailed Story tab is highlighted to show all your problem States and insights.

Revenue Dashboard
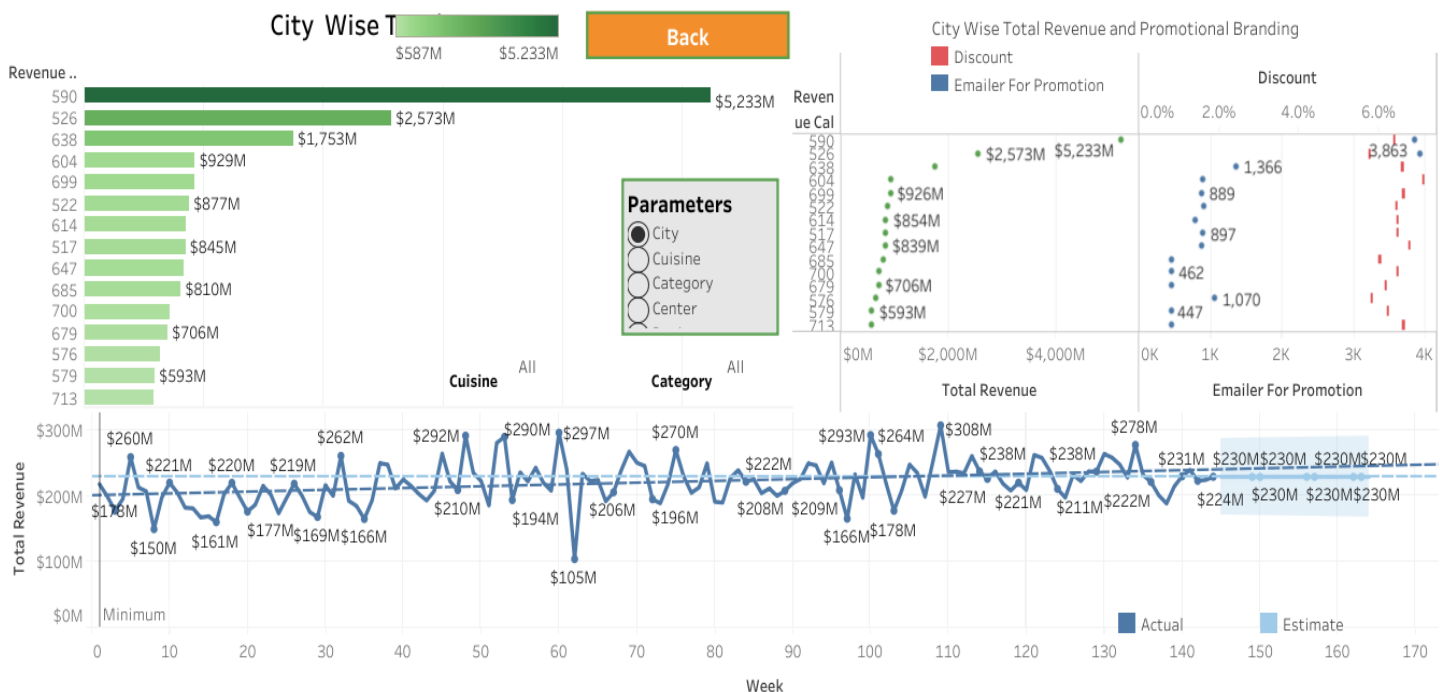
- ➢ The revenue button leads us to this dashboard

- ➢ Parameters are used to view data across the Revenue and promotional charts.

- ➢ The forecasting timeline chart is to show the Revenue overall from past periods and forecasts

  for further weeks

- ➢ The email Promotional and Discount chart is a dual-axis chart Gant bar shows discount values

  the and plot shows Email promotion according to the parameters

- ➢ The back button is used to navigate back to the primary dashboard

Category Dashboard
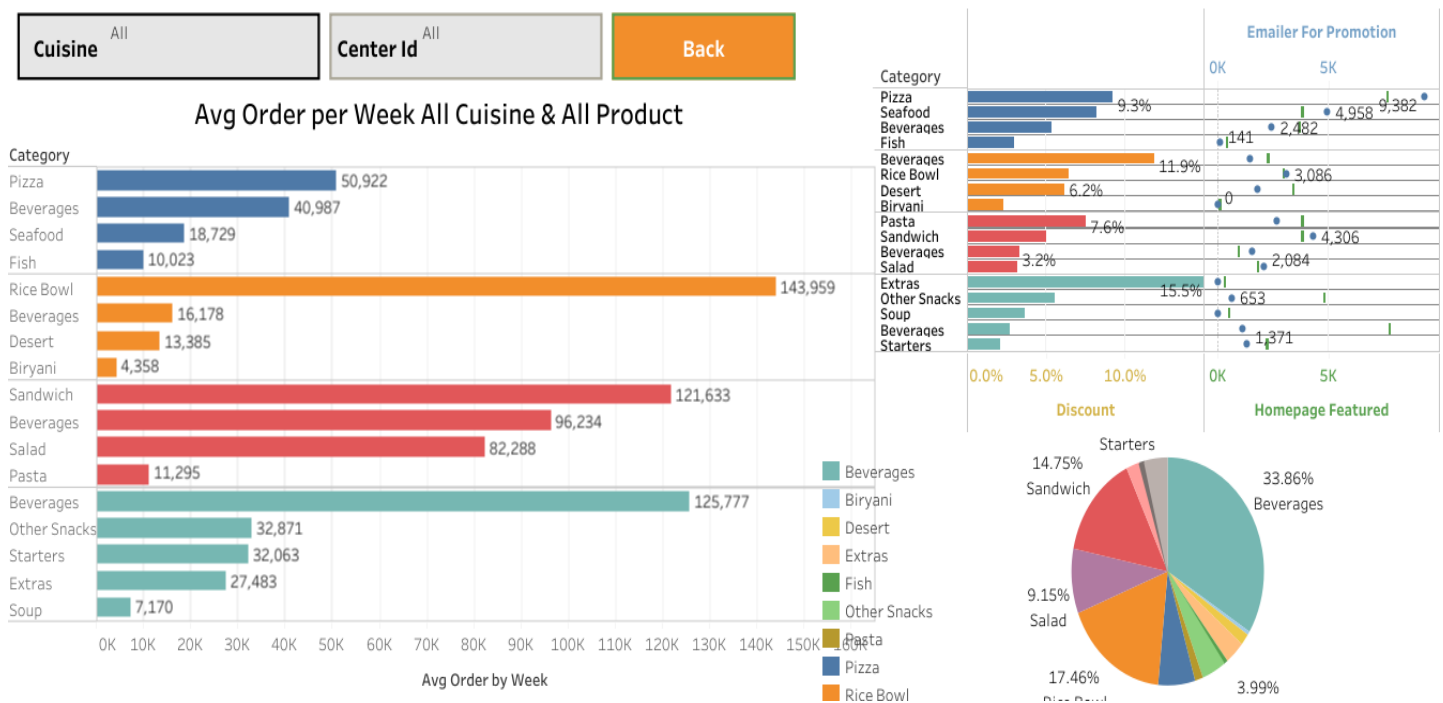

- ➢ The Category button navigate here to analysis category related fields

- ➢ Cuisines and Centre's ID filters are used for view charts in filtered fields

- ➢ Pizza is the highly promotional product

- ➢ Extras are highly discounted product

- ➢ Rice Bowl is the top most average order placed product and second, most are the Sandwich

  product

- ➢ Soup is the lowest average order placed

- A pie chart is used to differentiate the percentage how the categories well played in these areas

- The dual-axis chart is used to show Homepage Featured and Email promotions with the discount values. This one plays a very big role helpful to find out the difference in placing orders.

All Performance Dashboard
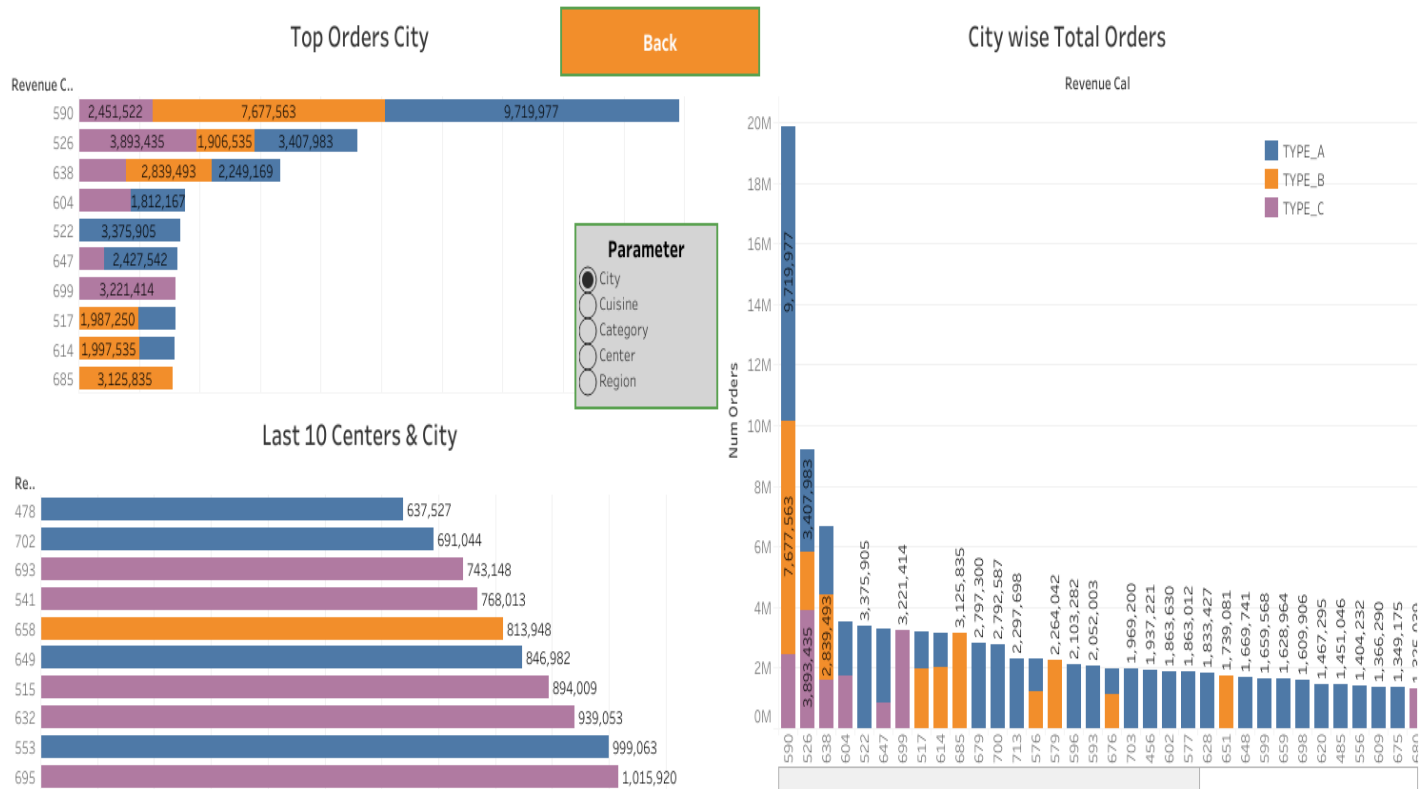
- All Performance button leads us to this Dashboard.

- This Dashboard shows the Top and Last performers by Order wise in various parameters are shown.

- The colors shown here are Center Type. Type A, Type B, and Type C

- City code 590 is a Rank 1 performer

- Cuisine Italian is a Rank 1 performer

- Category Beverages shows Top but a Total of 4 beverages are in all cuisines, Rice Bowl is the alone Rank 1 and Sandwich is Rank 2 performer

- Center 13 is the Rank 1 performer

- Region 56 is the Rank 1 performer and so on…

Food Forecasting
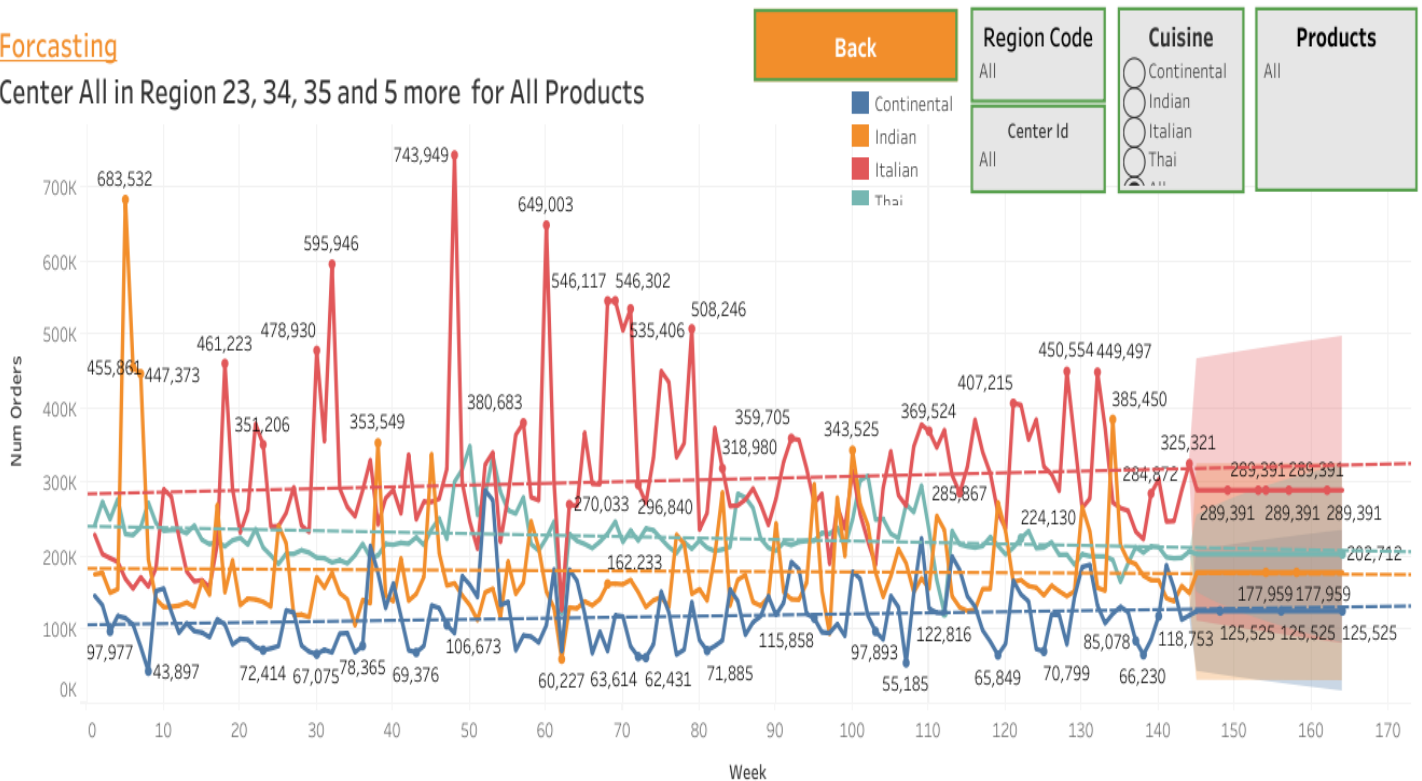
- This Food Forecasting is used to predict upcoming weeks' order demand.

- This Dashboard is fully interactive and functional. It helps to find by Region, Center, Cuisine, and

  Product wise forecasting.

- As per customer requirements, this dashboard was created using two parameters and a more

  responsive

- X axis is Week, the data available 145 weeks further is a forecasting

- Y axis is the number of orders

Cuisine Order

Total Number of Orders by All Cuisine

- **Back**
- **Region ..** All
- **Cuisine** All
- ■ Continental
- ■ Indian
- ■ Italian
- ■ Thai

Bar chart values:
- Italian: 44,172,832
- Thai: 32,677,670
- Indian: 25,792,544
- Continental: 16,914,439

Area chart values: 743,949; 258,588; 325,321; 228,389; 224,675; 225,517; 223,412; 223,843; 224,310; 122,816; 206,403

Pie chart:
- 36.95% Italian
- 27.33% Thai
- 14.15% Continental
- 21.57%
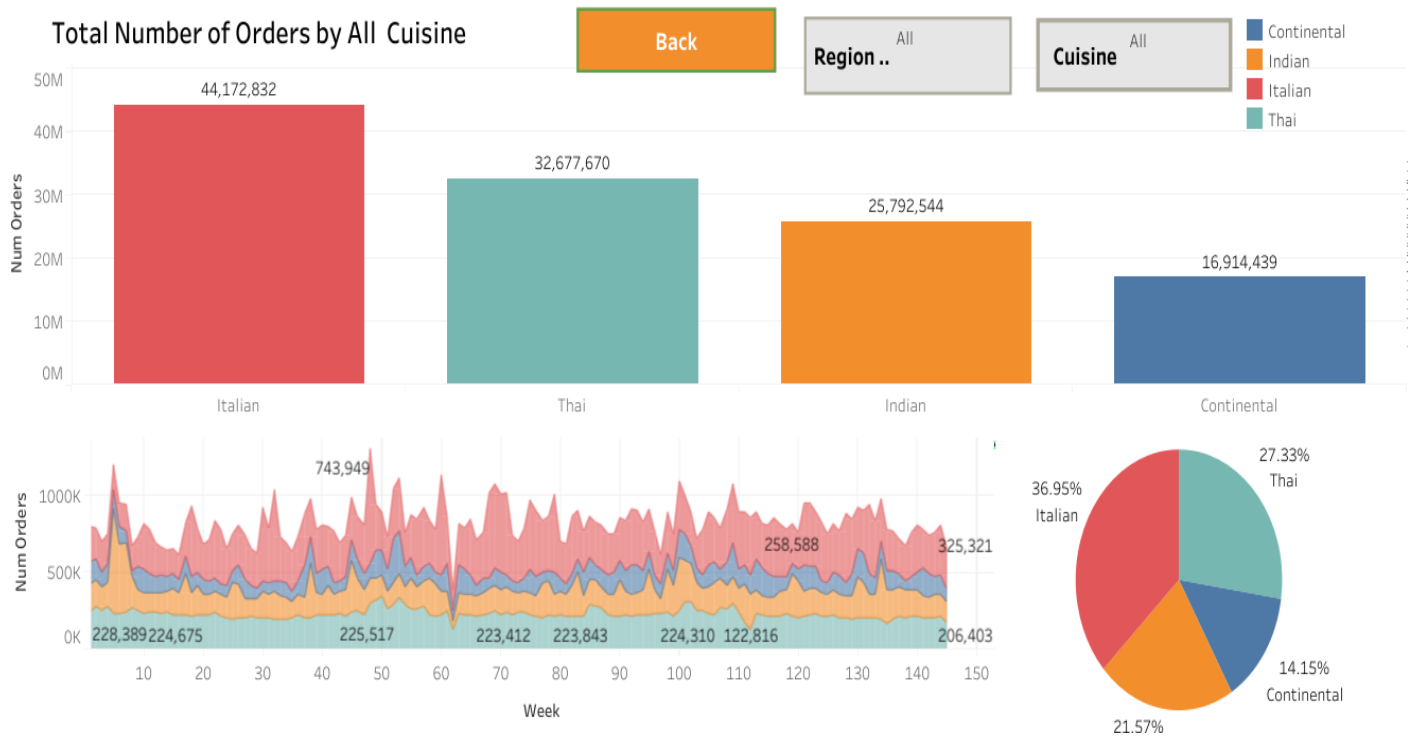
➢ This interactive dashboard shows three different charts Bar Charts, Pie Charts, and Area Chart

➢ These all charts perform the same action by different points of visualization.

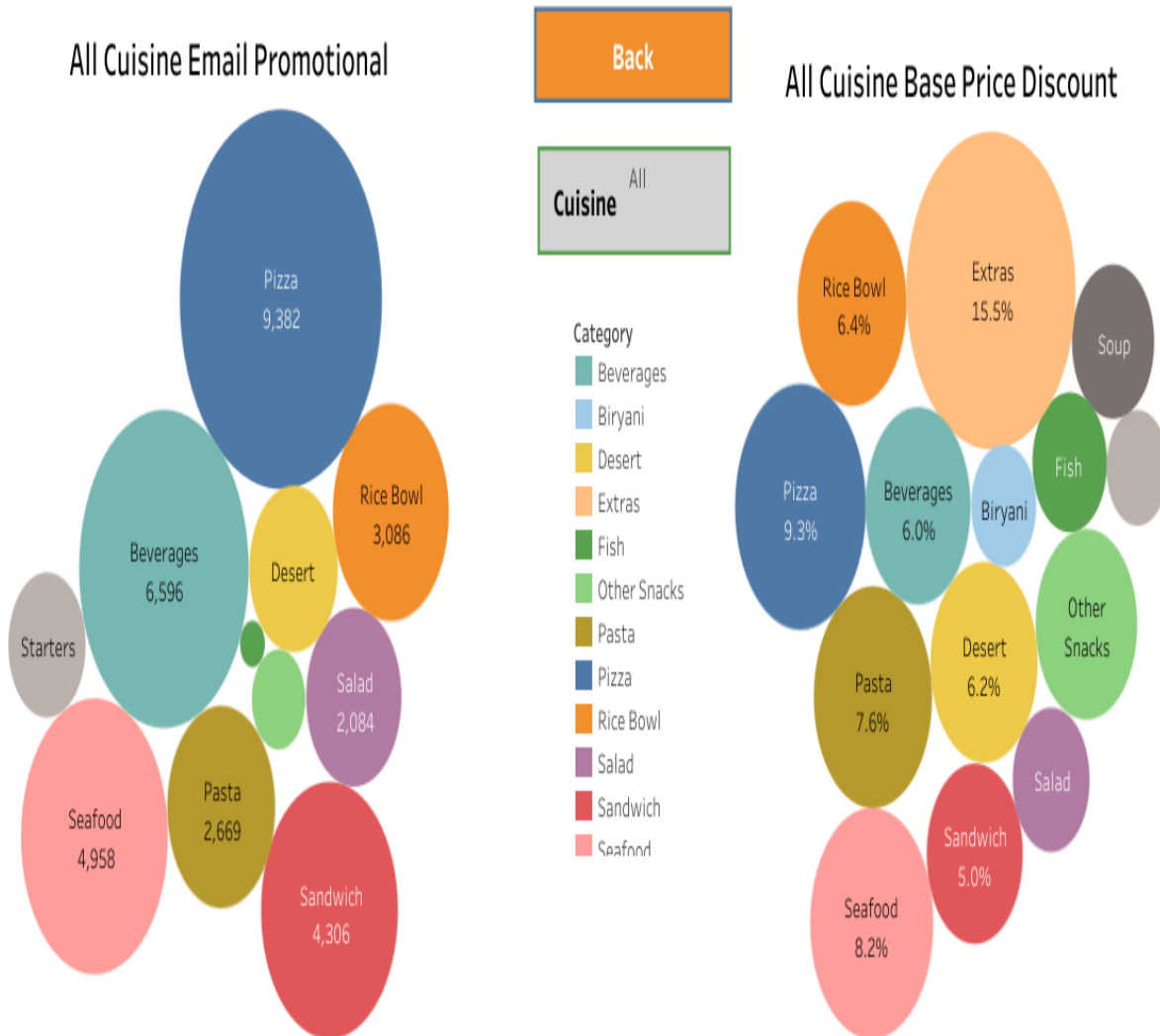➢ The Bar charts show that cuisine Italian performing in high demand of orders

➢ The Bar charts represent the percentage of each cuisine.

➢ The Area charts show the differential order frequency among all four categories.

➢ The Region filter is used to filter the data by all regions

➢ The Cuisine parameter is used here to find each Cuisine with other Cuisines.

Promotion and Discount Dashboard

All Cuisine Email Promotional

Pizza
9,382

Rice Bowl
3,086

Beverages
6,596

Desert

Starters

Salad
2,084

Seafood
4,958

Pasta
2,669

Sandwich
4,306

Back

All
Cuisine

Category
- Beverages
- Biryani
- Desert
- Extras
- Fish
- Other Snacks
- Pasta
- Pizza
- Rice Bowl
- Salad
- Sandwich
- Seafood

All Cuisine Base Price Discount

Rice Bowl
6.4%

Extras
15.5%

Soup

Pizza
9.3%

Beverages
6.0%

Biryani

Fish

Pasta
7.6%

Desert
6.2%

Other
Snacks

Salad

Seafood
8.2%

Sandwich
5.0%

➢ This Bubble chart shows the Email promotional and Discount percentages from the Base price

➢ Here pizza is the Rank 1 promoting product in all category

➢ Beverages are the second most promoted products

➢ Extras are the high discounted product

➢ Pizza is the second-highest discounted product

➢ Here cuisine parameters are used to elaborate the visual to the Category wise analysis

Operating Area Dashboard

City wise Operating Area
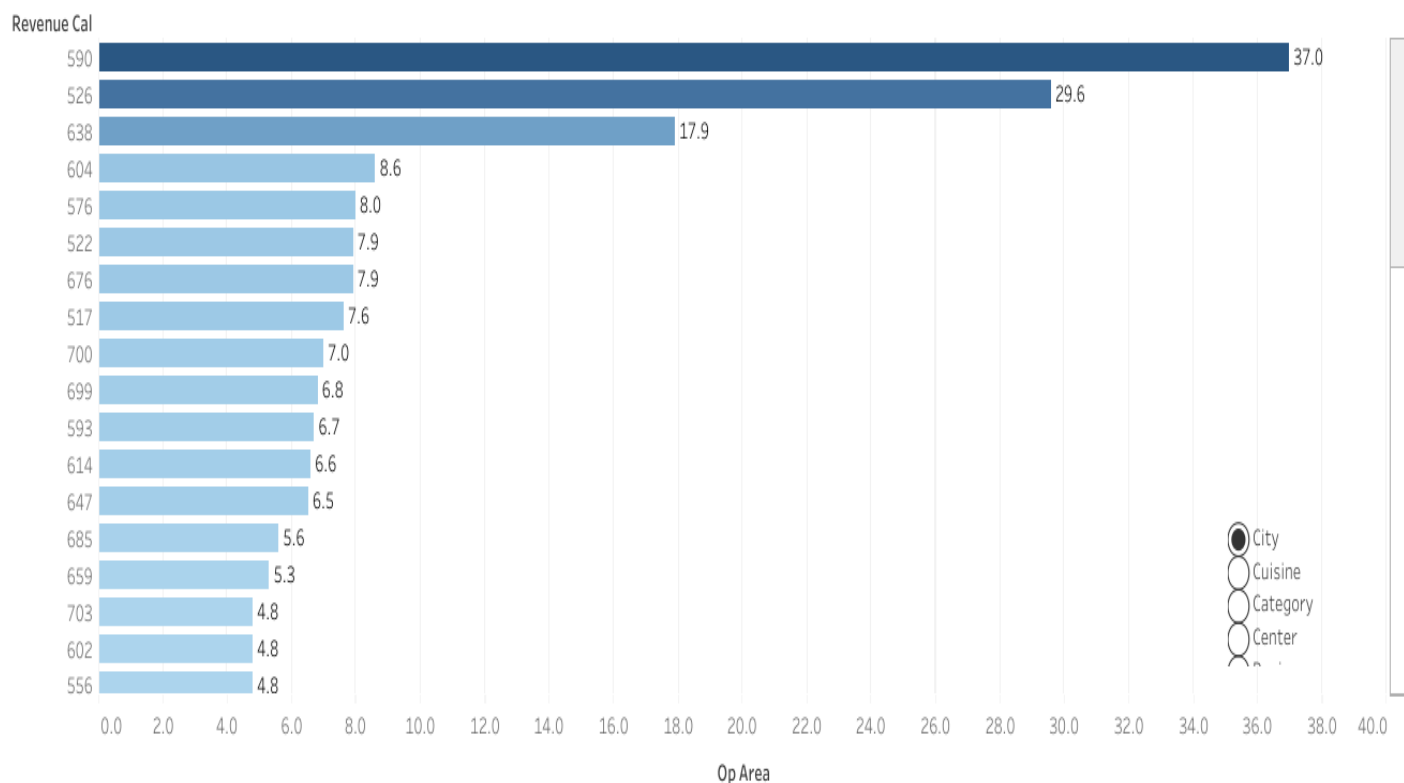
- ➤ This Dashboard shows all about operating areas with different parameters

- ➤ The parameters are City, Cuisine, Category, Center, and Region

- ➤ This parameter is useful to find which areas are operating high and which are not.

- ➤ Here Center 43 are Operating area is 5.1, according to the data its 9th place but revenue wise its is 2 nd largest revenue-generating center

- ➤ The Low Operating areas are comparing low in generating orders

- ➤ The lowest operating area by Center code 91 is 0.9

- ➤ The lowest operating area by City code 478 is 2.4

- ➤ The highest operating area by center code 67 is 7.0

- ➤ The highest operating area by City code 590 is 37.0

Measurement Data Dashboard

Data Set

| Center Id..	Avg Order by Week	Num Orders	Checkout Price	Total Revenue	Discount	Emailer For Promotion
13	29,631	4,296,545	2,359,956	$1,127M	5.8%	457
43	27,037	3,920,294	2,320,692	$986M	6.0%	457
10	23,317	3,381,018	2,354,344	$929M	5.8%	457
52	21,557	3,125,835	2,334,179	$810M	6.0%	459
137	21,500	3,117,478	2,300,653	$773M	6.1%	456
67	19,583	2,839,493	2,312,605	$741M	6.1%	461
11	19,292	2,797,300	2,242,720	$706M	6.2%	454
174	19,259	2,792,587	2,312,448	$718M	6.5%	462
104	16,742	2,427,542	2,199,848	$606M	6.2%	454
24	16,646	1,997,535	1,781,123	$546M	5.9%	367
27	15,846	2,297,698	2,267,800	$587M	6.6%	455
108	15,614	2,264,042	2,258,540	$593M	6.2%	447
51	15,512	2,249,169	2,280,381	$592M	6.5%	462
99	14,505	2,103,282	2,115,252	$548M	6.5%	454
132	14,116	2,046,793	2,252,295	$529M	6.4%	453
36	13,705	1,987,250	2,245,354	$523M	6.2%	451
89	13,581	1,969,200	2,218,767	$526M	6.6%	453
59	13,360	1,937,221	2,230,563	$497M	6.2%	455
146	13,149	1,906,535	2,119,309	$537M	5.4%	544
65	12,853	1,863,630	2,090,731	$516M	5.5%	548
126	12,848	1,863,012	2,112,481	$468M	6.5%	452

➢ In this Dashboard, I managed all the data with the table view

➢ Here available data is used to calculate and visualization data so far

➢ This data set is the one used for all the analysis and useful insights

➢ Furthermore, analysis to be done using this data set

Story Board

- ✓ Story talk about informative section.

- ✓ Level of demand in each center and all other parameters.

- ✓ End-to-end report to understand which fulfillment areas are doing well and which are not

- ✓ And also talks about the Centre's meal combinations

Story 1

| Italian Cuisins found Maximum demand. Rice Bowl is Top Ordered and Revenue generating products. Soup is the Least .. | Pizza is the most promotion product. Rice Bowl is most ordered product. Thai Cusine beverages likely second most Or.. | Pizza is High and Fish is the low Promotions and Extras is High and Starters is the low discount Products | Region 56, City 590, and Center 13 supplied Maximum Orders and Revenue. Center 43 comparing operating area its.. |
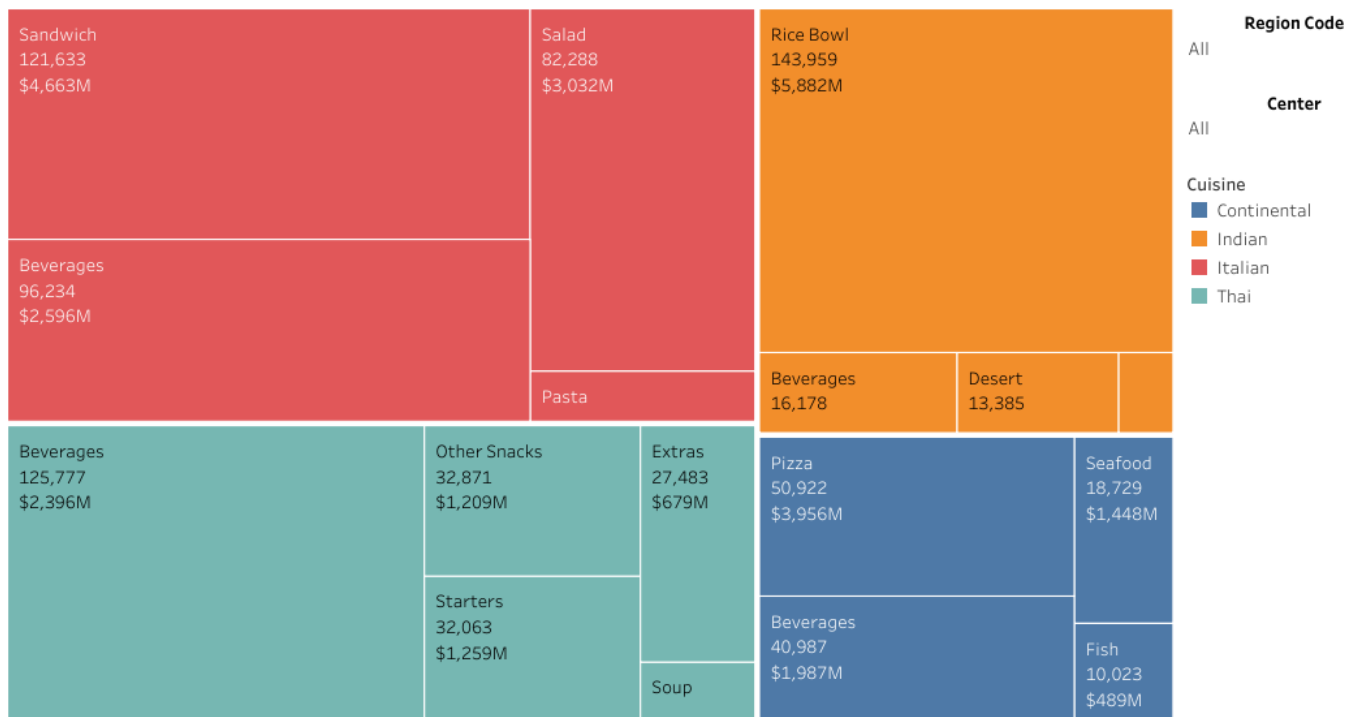
The first story is to show the Tree view of all Cuisines and all Categories performing order wise

> **Italian Cuisines found Maximum demand. Rice Bowl is Top Ordered and Revenue generating product. Soup is the Least demanded product.**
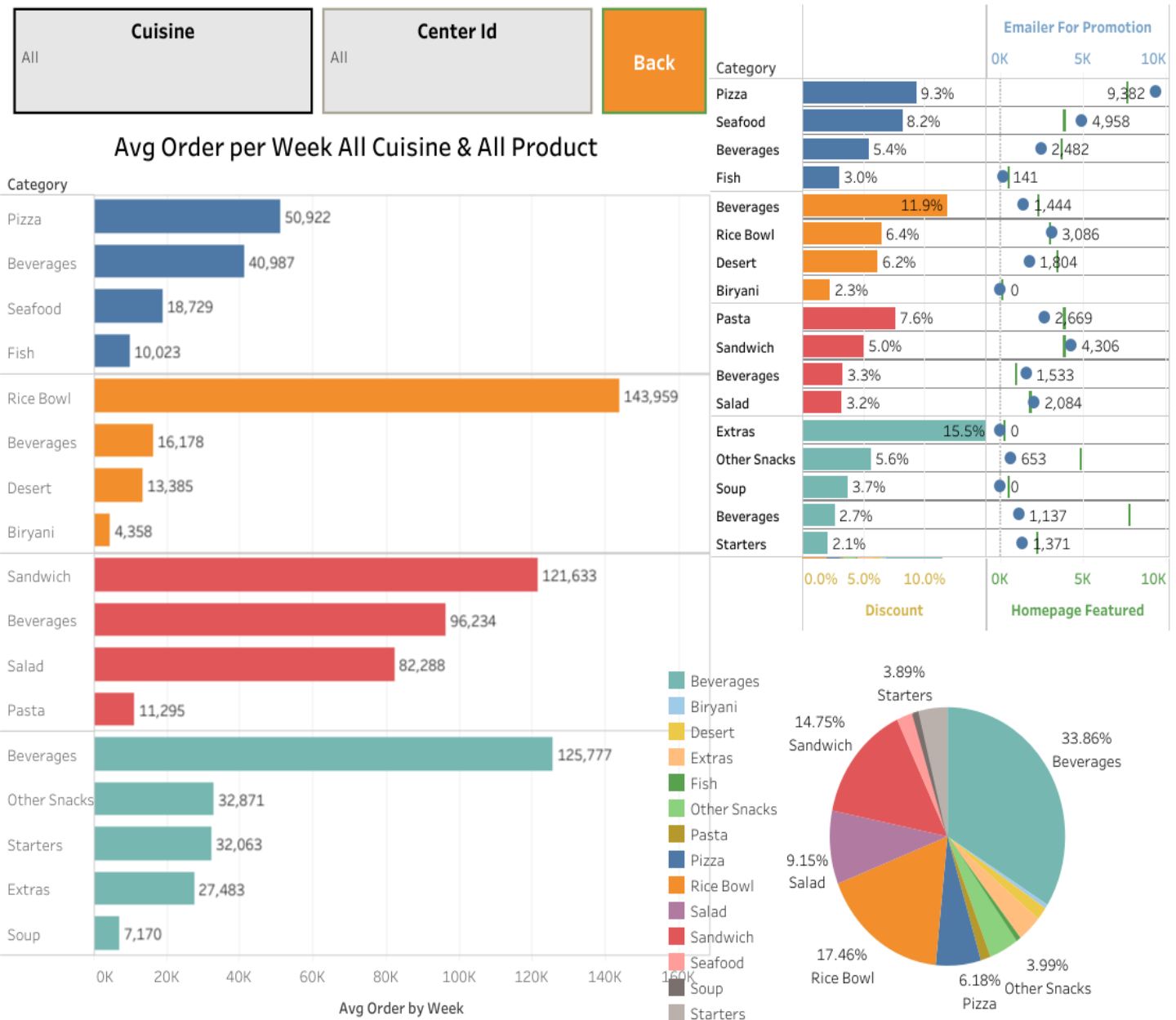
Story 1

Cuisine	Center Id	
All	All	**Back**

Avg Order per Week All Cuisine & All Product

Category

Category	Avg Order by Week
Pizza	50,922
Beverages	40,987
Seafood	18,729
Fish	10,023
Rice Bowl	143,959
Beverages	16,178
Desert	13,385
Biryani	4,358
Sandwich	121,633
Beverages	96,234
Salad	82,288
Pasta	11,295
Beverages	125,777
Other Snacks	32,871
Starters	32,063
Extras	27,483
Soup	7,170

Emailer For Promotion / **Discount** / **Homepage Featured**

Category	Discount	Promotion/Featured
Pizza	9.3%	9,382
Seafood	8.2%	4,958
Beverages	5.4%	2,482
Fish	3.0%	141
Beverages	11.9%	1,444
Rice Bowl	6.4%	3,086
Desert	6.2%	1,804
Biryani	2.3%	0
Pasta	7.6%	2,669
Sandwich	5.0%	4,306
Beverages	3.3%	1,533
Salad	3.2%	2,084
Extras	15.5%	0
Other Snacks	5.6%	653
Soup	3.7%	0
Beverages	2.7%	1,137
Starters	2.1%	1,371

Pie chart:
- 33.86% Beverages
- 17.46% Rice Bowl
- 14.75% Sandwich
- 9.15% Salad
- 6.18% Pizza
- 3.99% Other Snacks
- 3.89% Starters

Legend: Beverages, Biryani, Desert, Extras, Fish, Other Snacks, Pasta, Pizza, Rice Bowl, Salad, Sandwich, Seafood, Soup, Starters

This Storyboard is to tell a story of

➢ **Pizza is the most promotional product. Rice Bowl is the most ordered product. Thai Cusine beverages are likely second most Orders.**

Story 1

All Cuisine Email Promotional

Back

Cuisine
All

All Cuisine Base Price Discount

Category
- Beverages
- Biryani
- Desert
- Extras
- Fish
- Other Snac..
- Pasta
- Pizza
- Rice Bowl
- Salad
- Sandwich
- Seafood
- Soup
- Starters
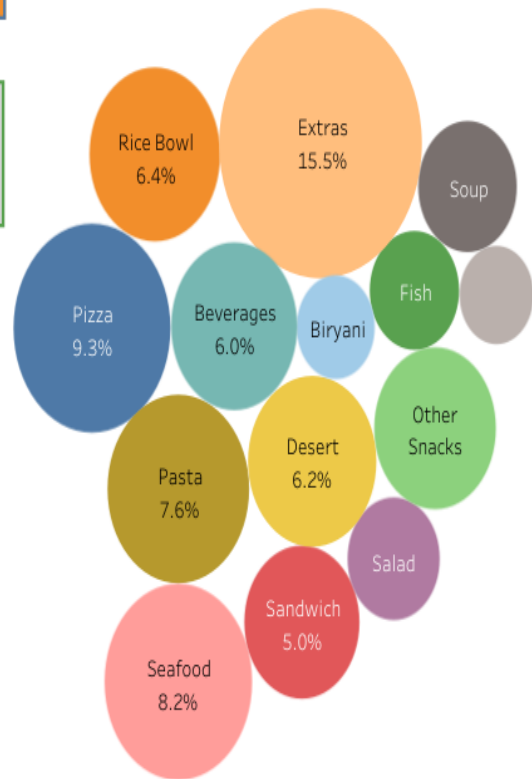
This Storyboard shows email promotions and discount

➢ **Pizza is High Fish is low Promotions and Extras are High and Starters are the low discounts Products**

Story 1

Top Orders Center

Revenue C..

Center	Orders
13	4,296,545
43	3,920,294
10	3,381,018
52	3,125,835
137	3,117,478
67	2,839,493
11	2,797,300
174	2,792,587
104	2,427,542
27	2,297,698

Center Type
- TYPE_A
- TYPE_B

Cuisine
All

Center Wise Total Revenue

Revenue ..

Center	Revenue
13	$1,127M
43	$986M
10	$929M
52	$810M
137	$773M
67	$741M
174	$718M
11	$706M
104	$606M
108	$593M
51	$592M
27	$587M
99	$548M
24	$546M
146	$537M

Center 43 has #9 by Operating area but Order and Revenue generating wise i..

- City
- Cuisine
- Category
- ● Center
- Region

0.9 — 7.0

$537M — 1B

- Italian
- Continental
- Indian
- Thai

Center wise Operating Area

Revenue Cal

Center	Op Area
67	7.0
51	7.0
174	7.0
13	6.7
10	6.3
52	5.6
83	5.3
80	5.1
43	5.1
146	5.0
89	4.8
65	4.8
50	4.8
75	4.7
97	4.6
99	4.5
61	4.5
27	4.5
104	4.5
64	4.4
36	4.4
137	4.4
108	4.4
59	4.2
34	4.2
88	4.1
68	4.1
66	4.1
157	4.1
86	4.0
81	4.0
73	4.0
29	4.0
20	4.0

Num Orders — Week

169,161   743,949   649,003   316,155   378,509   272,816   236,907   258,359

224,675 203,156 197,727 225,517 122,121 209,806 218,257 224,310 122,816 188,270 165,229

This Storyboard explains Orders, Revenue, and Operating area

➢ **Region 56, City 590, and Center 13 supplied Maximum Orders and Revenue. Center 43 comparing operating area its performance is high.**

Story 1
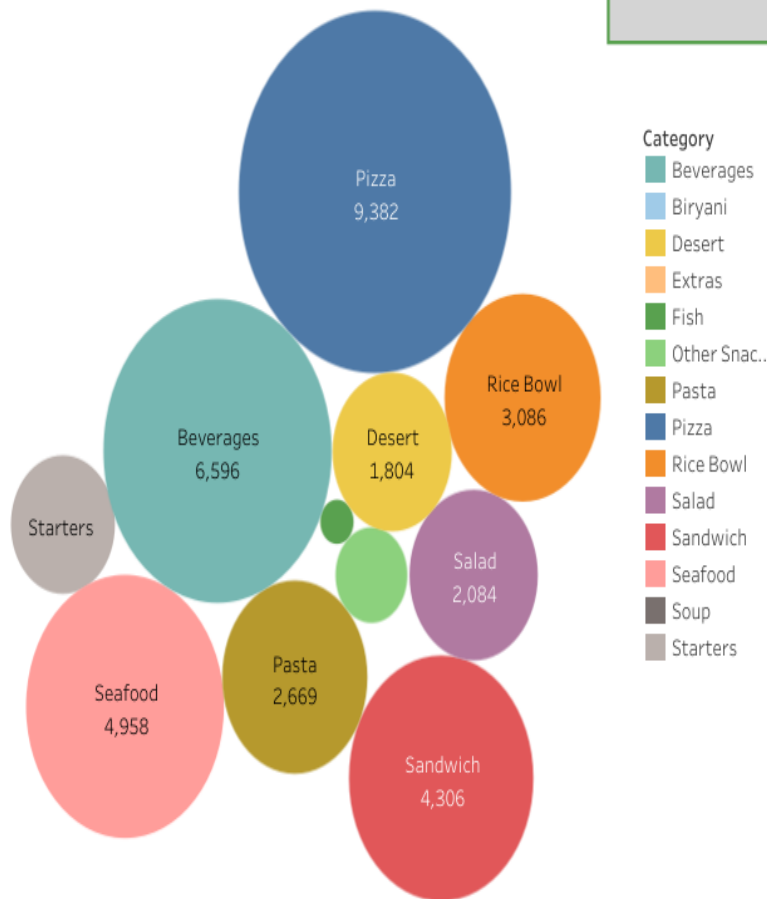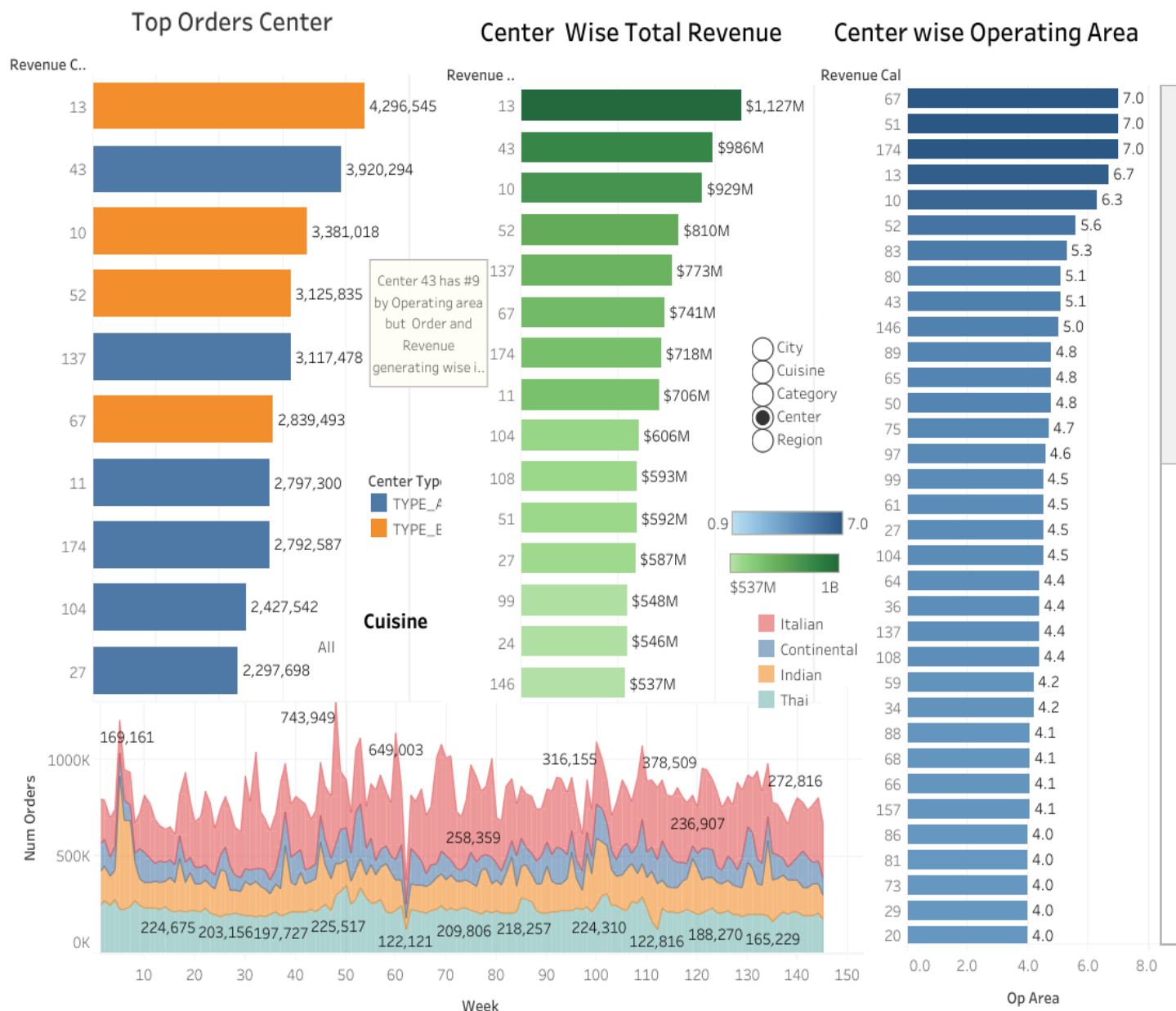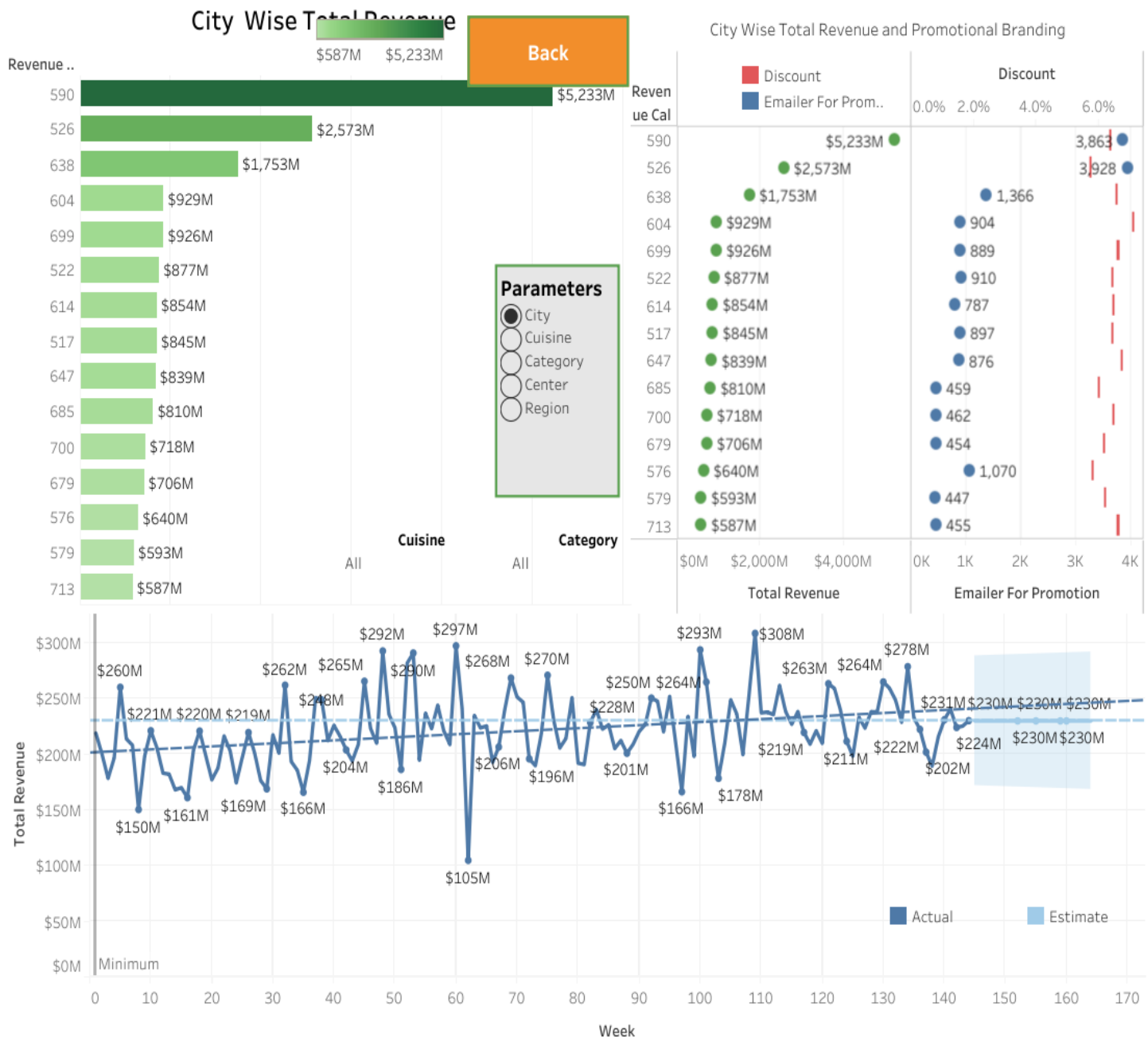
City Wise Total Revenue

Back

$587M $5,233M

Revenue ..

City	Revenue
590	$5,233M
526	$2,573M
638	$1,753M
604	$929M
699	$926M
522	$877M
614	$854M
517	$845M
647	$839M
685	$810M
700	$718M
679	$706M
576	$640M
579	$593M
713	$587M

Parameters
- ● City
- ○ Cuisine
- ○ Category
- ○ Center
- ○ Region

Cuisine — All

Category — All

City Wise Total Revenue and Promotional Branding

■ Discount
■ Emailer For Prom..

Discount: 0.0% 2.0% 4.0% 6.0%

Revenue Cal

City	Total Revenue	Emailer For Promotion
590	$5,233M	3,863
526	$2,573M	3,928
638	$1,753M	1,366
604	$929M	904
699	$926M	889
522	$877M	910
614	$854M	787
517	$845M	897
647	$839M	876
685	$810M	459
700	$718M	462
679	$706M	454
576	$640M	1,070
579	$593M	447
713	$587M	455

Total Revenue: $0M $2,000M $4,000M

Emailer For Promotion: 0K 1K 2K 3K 4K

Total Revenue chart (by Week):

$300M — $292M, $297M
$260M, $262M, $265M, $290M, $268M, $270M, $293M, $308M, $278M
$250M, $248M, $250M $264M, $263M $264M, $231M $230M $230M $230M
$221M $220M $219M, $228M, $219M $211M $222M, $224M, $230M $230M
$204M, $206M, $196M, $201M, $202M
$186M, $166M, $178M
$169M $166M
$161M
$150M
$105M

Legend: ■ Actual ■ Estimate

Week: 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170

$0M Minimum

This Storyboard shows us to find revenue from all perspectives

➢ **City 590 (Rank #1) is the Top Promotion, Order, and Revenue Generator. Beverages are the Top Revenue generating but Pizza is the Top Profit generating product. Need more focus on Soup and Biriyani Products.**
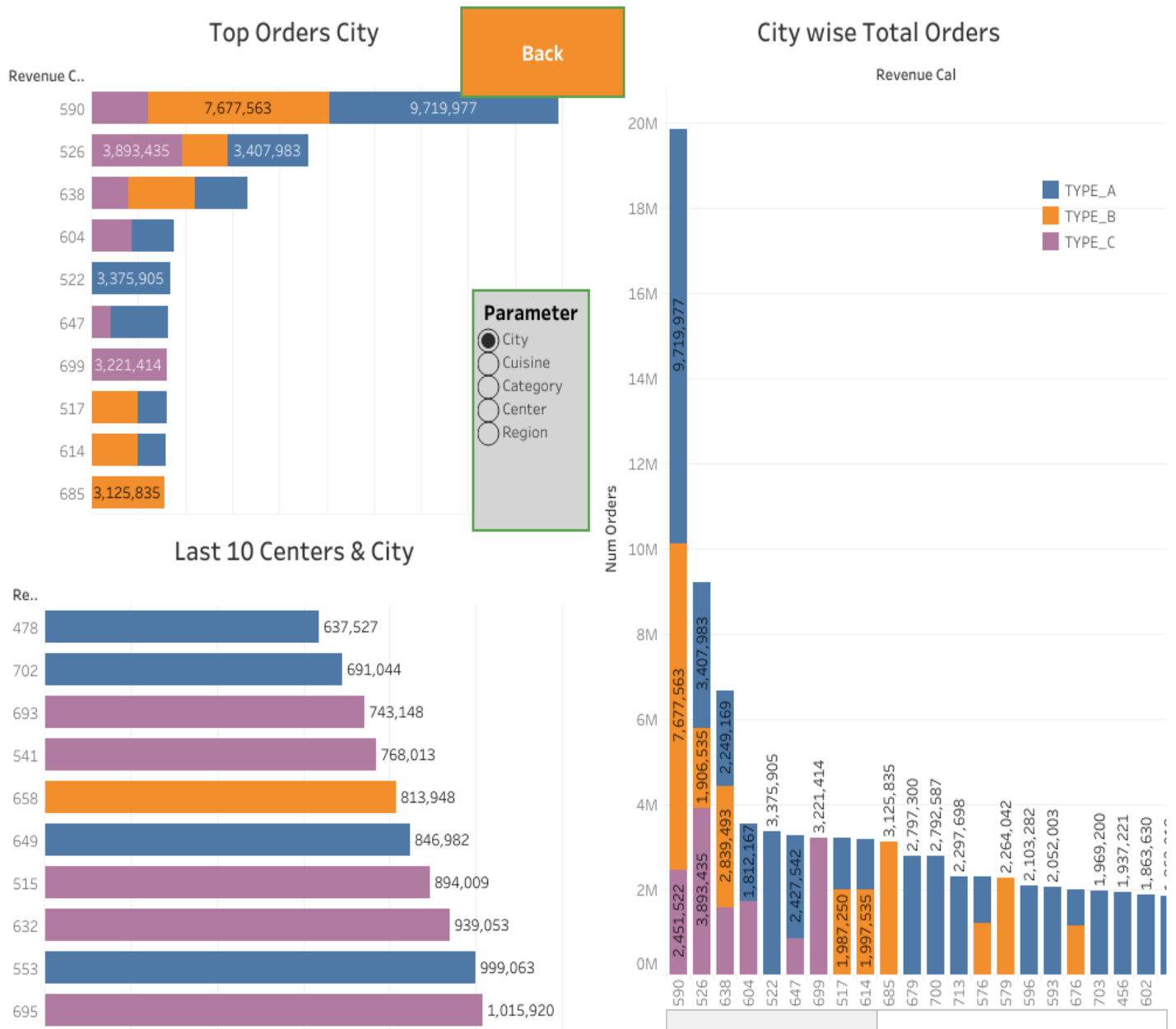
Story 1

Top Orders City

Back

Revenue C..

City	
590	7,677,563 9,719,977
526	3,893,435 3,407,983
638	
604	
522	3,375,905
647	
699	3,221,414
517	
614	
685	3,125,835

Parameter
- ● City
- ○ Cuisine
- ○ Category
- ○ Center
- ○ Region

City wise Total Orders

Revenue Cal

- TYPE_A
- TYPE_B
- TYPE_C

Num Orders

Last 10 Centers & City

Re..

478	637,527
702	691,044
693	743,148
541	768,013
658	813,948
649	846,982
515	894,009
632	939,053
553	999,063
695	1,015,920

This Storyboard tells us the high and low order by City, Cuisine, Category, Center, and Region.

➢ **Type B Centers are more demand centers and Type C Center needs more focus**

Story 1

Forcasting

Center All in Region All for All Products
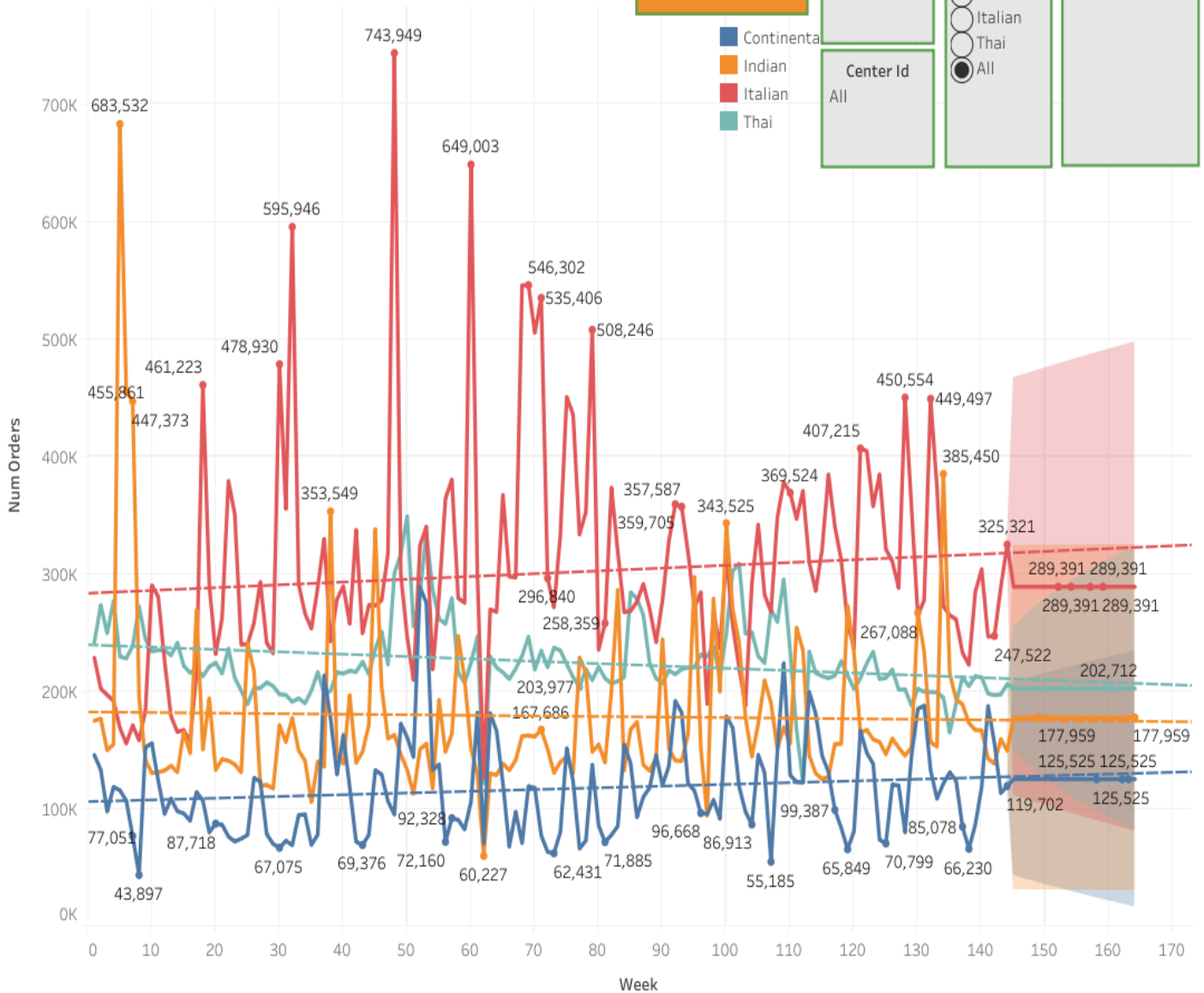
This Story Board shows a granular analysis of the upcoming weeks' forecast

> **Product wise Forecasting for all centers is used to stock raw materials accordingly and as well as demand for Staffing in All centers**

Conclusion

- ❖ So I can conclude that statistical data may be presented in a more attractive form with the help of Tableau Public tools.
- ❖ Pictures and diagrams which carries a lot of communication power and the task of understand and interpretation of data becomes simple, accurate and practicable.
- ❖ The Charts and graphic method of the representation of data enhances our understandings.
- ❖ It makes the comparisons easy.
- ❖ It was a wonderful and learning experience for me while working on this project
- ❖ This project took me through the various dimensional thinking.
- ❖ I enjoyed each and every bit of work and I had put into this project
- ❖ I attached respective link in the image is only navigate you to the Tableau Public community page which is hidden from others.