Data Warehousing & Business Intelligence

Assignment 2

Power-BI Report

Submitted by: IT18115208 – M.C.P Mendis

Page content

1. Your audience

When creating the dashboard, we must ensure that the audience finds the story engaging and worth reading. In superstore dashboard our audience is the ones who use this dashboard.

- Customers (Who buy products from superstore)
- Owner
- Sellers (who produce the delivery service and sells products to the superstore)
- Other business teams

Following components of the process can influence to our Superstore:

- What we are selling (products)
- Whom we are selling(customers)
- Where we are selling (region, state, city)
- When we are selling (month, year)
- Who is doing the selling (seller)?

I. Sales Overview

The following have been used to visualize the sales in superstore:

- Card
- clustered column charts
- pie charts
- KPI values
- matrix tables

The screenshot below reflects the summarization of sales in superstore.

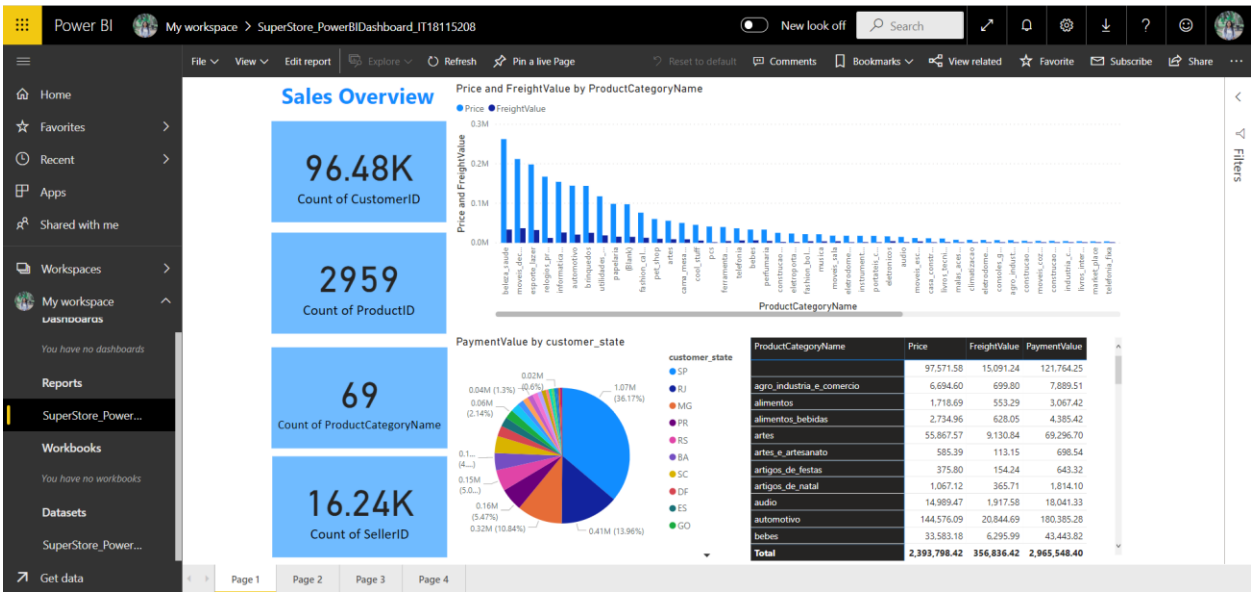


Figure 1.1

At the beginning of the dashboard single number cards have been used to display a single fact, a single data point. These cards will be visualized the summary of the superstore stakeholders.

The reason for selecting cards as a display type.

The used cards represent the total number of customers, sellers, products, and product categories in superstore. (Figure 1.1). Cards have been used for the count of product, sellers, customers, and product categories. A card id an effective way to showcase an important number we want to display in dashboard

Users can get a clear idea how this business distributed by seeing these cards.

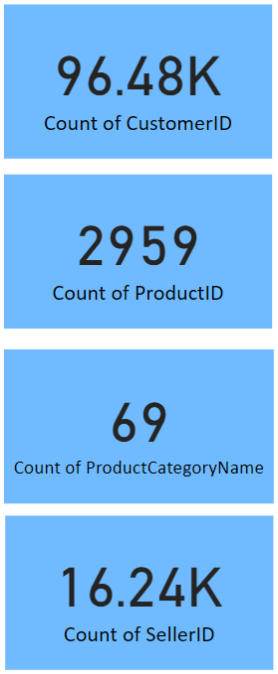


Figure 1.2

In addition, to represent freight value and price of the products, clustered column chart has been used as shown below.

The reason for selecting clustered column chart as a display type.

Use bar clustered column chart for comparing values side by side. This type of chart is helpful in representing categories mostly as it visualizes only one dimension with a measure. However, I prefer to use a horizontal bar if there are more than ten categories otherwise a vertical bar chart looks good.

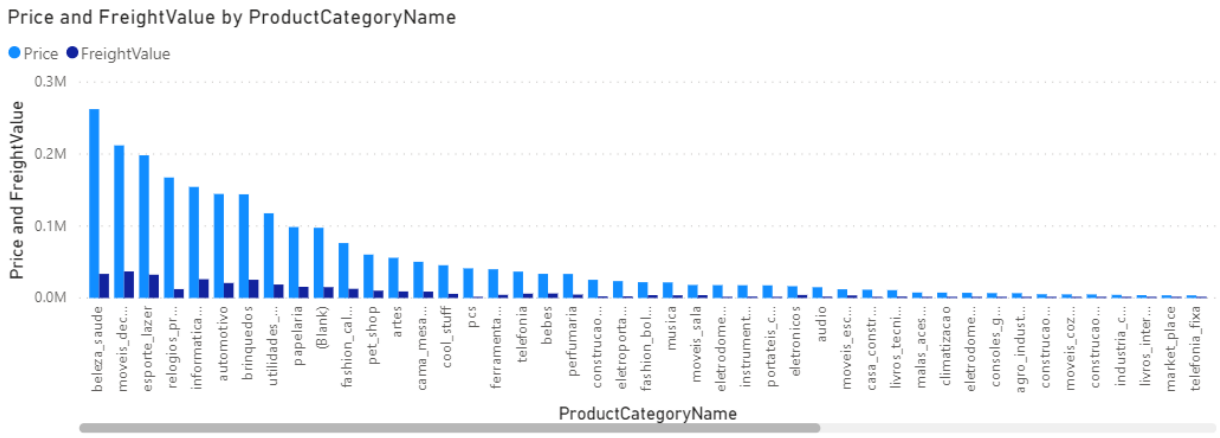


Figure 1.2

User can see the price value of each product with the freights value. If user want to get a product price and freights value, they can point to the column and then the details of that product type will be displayed.

Following pie chart shows the payment value state wise. In the superstore scenario, payment value means the summation of product price and freights value. According to the diagram user can see SP is the state which include larger number of business happens.

The reason for selecting pie chart aa a display type.

A pie chart is another most used chart types in Power BI. If there are more members in the dimension, then the pie chart becomes much cluttered and loses readability.

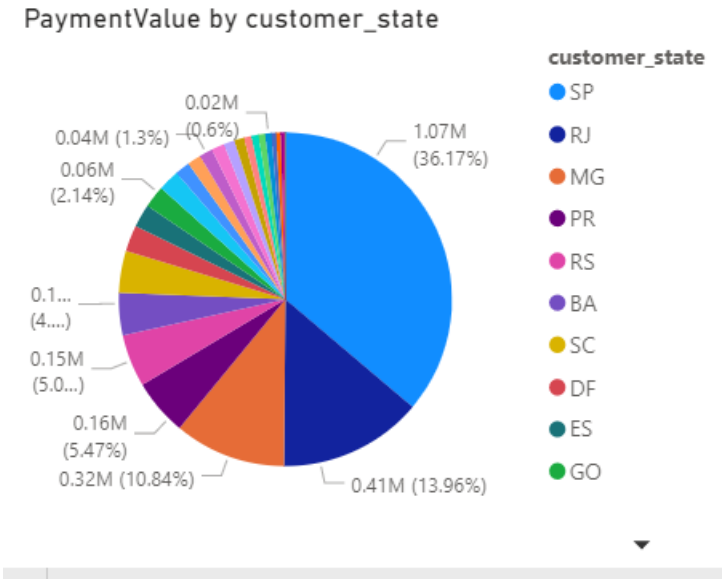


Figure 1.3

The following matrix table represent the product price, freight value and payment value distribution according to the product category. The end of the table shows the total values for those separate fields.

The reason for selecting matrix as a display type.

Tables are the best when it comes to visualizing a set of records by rows in a tabular format. Matrix tables work the best for any kind of analysis. And, matrix chart shows the relation between two or more variables in a data set.

Some people feel that a matrix table visualization is not important since the original data may already be in a table and creating one seems unimportant. But tables are a great way to show quantitative comparisons where values from different categories are compared side by side.

ProductCategoryName	Price	FreightValue	PaymentValue
	97,571.58	15,091.24	121,764.25
agro_industria_e_comercio	6,694.60	699.80	7,889.51
alimentos	1,718.69	553.29	3,067.42
alimentos_bebidas	2,734.96	628.05	4,385.42
artes	55,867.57	9,130.84	69,296.70
artes_e_artesanato	585.39	113.15	698.54
artigos_de_festas	375.80	154.24	643.32
artigos_de_natal	1,067.12	365.71	1,814.10
audio	14,989.47	1,917.58	18,041.33
automotivo	144,576.09	20,844.69	180,385.28
bebes	33,583.18	6,295.99	43,443.82
Total	**2,393,798.42**	**356,836.42**	**2,965,548.40**

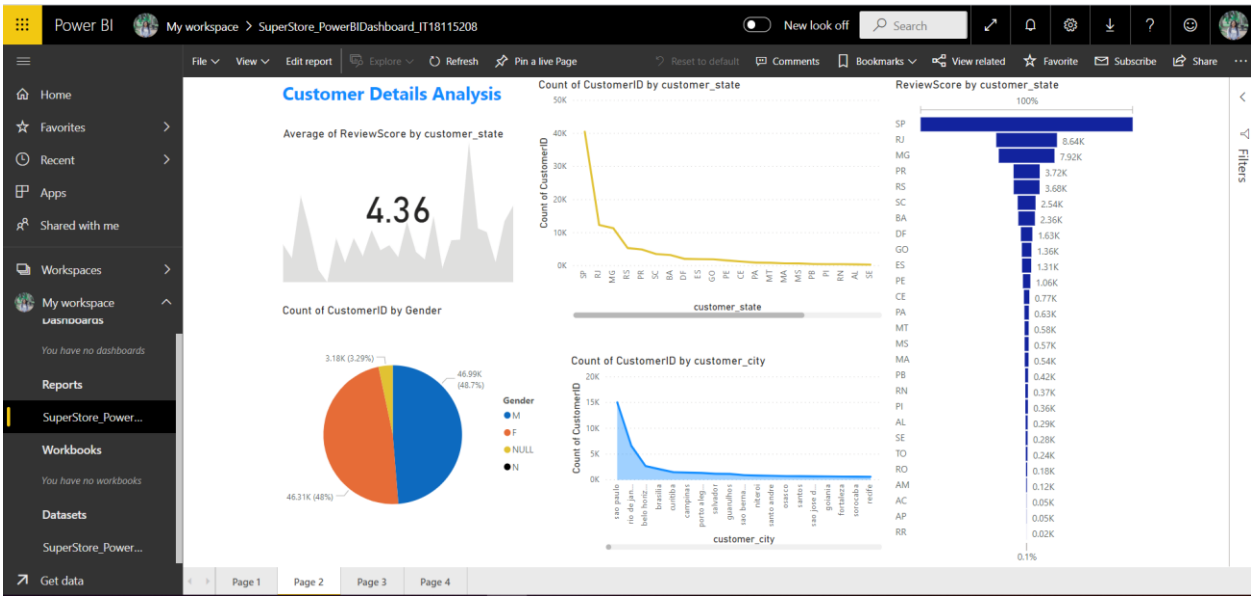
Figure 1.4

II. Customer details analysis

The second page shows the analysis of the customers connected with the superstore. Users can view all the information about customers.

The data has been represented by:

- KPI
- Line chart
- Pie chart
- Area chart
- Funnel



In this scenario, customers can make reviews and score the product and the delivery. The KPI has been used to represent the average customer review score by the region.
Following figure 2.1 shows the KPI for average review score, region wise.

The reason for selecting KPI as a display type.

A Key Performance Indicator (KPI) is a visual cue that communicates the amount of progress made toward a measurable goal.

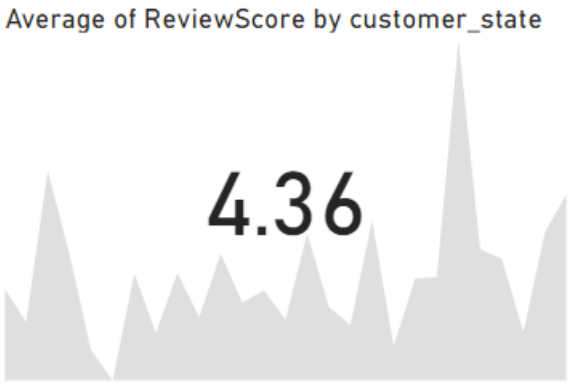


Figure 2.1

The line graph represents the distribution of the customers in superstore, region wise.
Following figure shows the highest number of customers are in SP state and the lowest number of customers are in SE state.
User can get a clear idea about the superstore business distribution over the US according to number of customers.

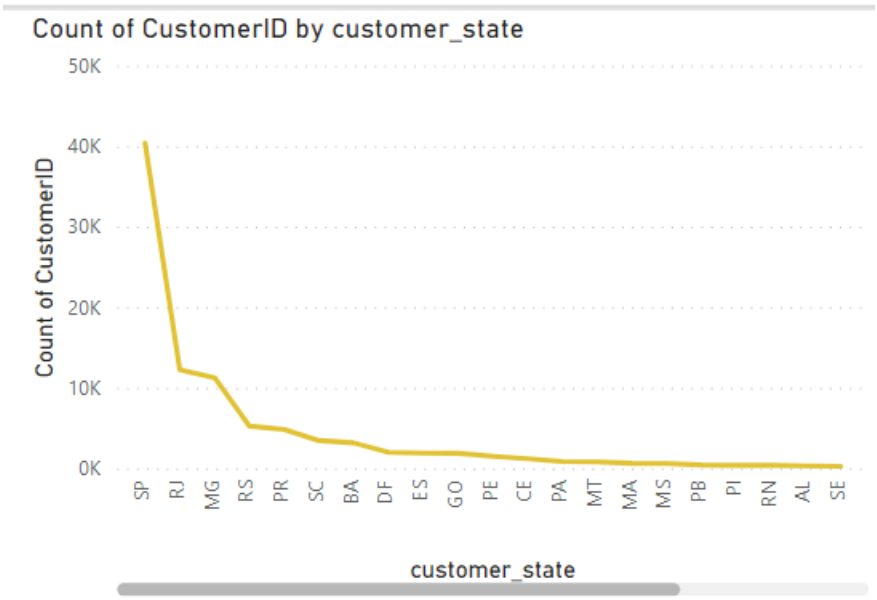
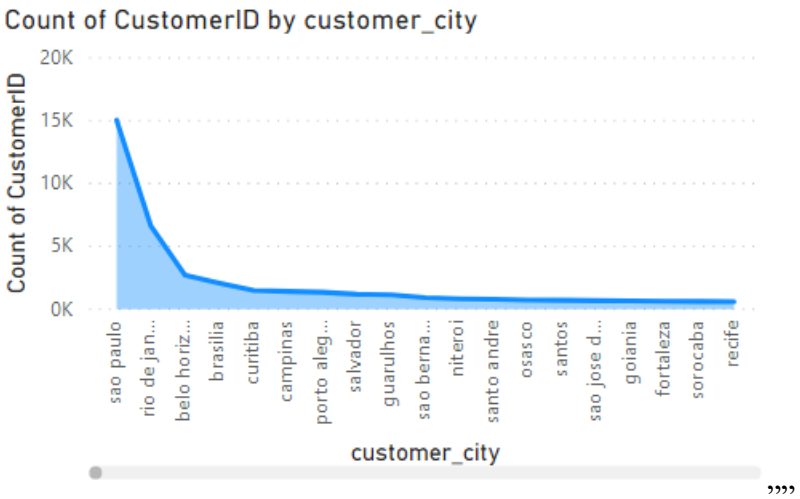


Figure 2.2

The area chart groups the number of customers according their city.

Figure 2.3 shows that highest number of customers are in Sao Paulo city. This chart will give a clear picture to user about the distribution of the super store, city wise over the US.



”””

Figure 2.3

Following pie chart is used to represent the gender of customers. Pie charts show the relationship of parts to a whole.

The reason for selecting pie chart as a display type.

Pie charts are mostly used to represent the same category of data. It helps users to understand the data quickly.

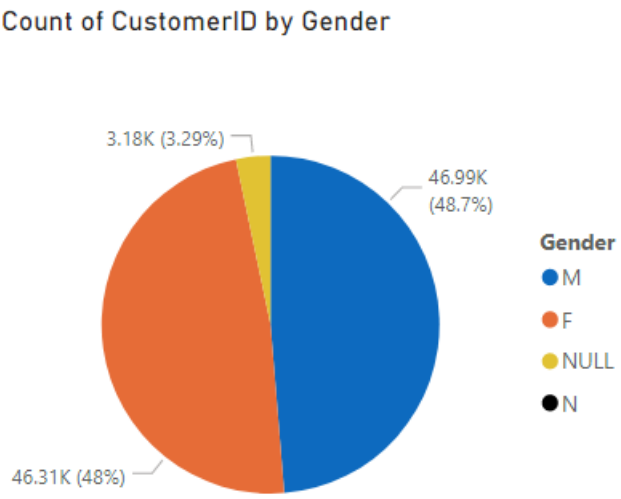


Figure 2.4

Following funnel chart shows the summation of review score, state wise. According the chart "SP" state has the highest number of review score and the lowest is "RR" state.

The reason for selecting funnel as a display type.

Funnel chart represent the review score summation in a stages of liner process.

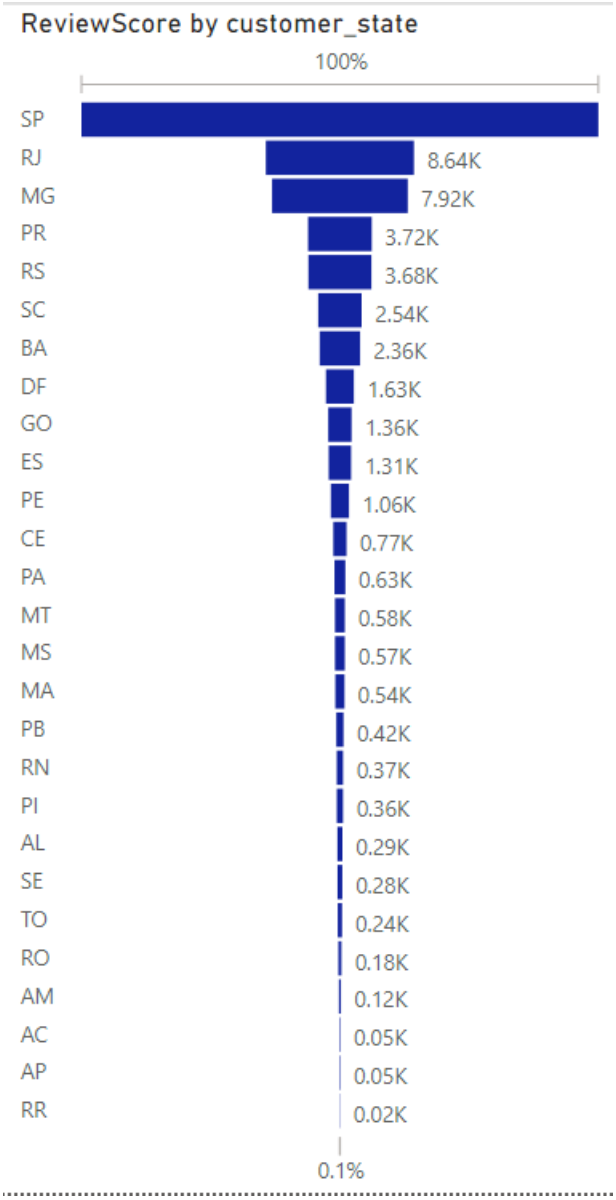


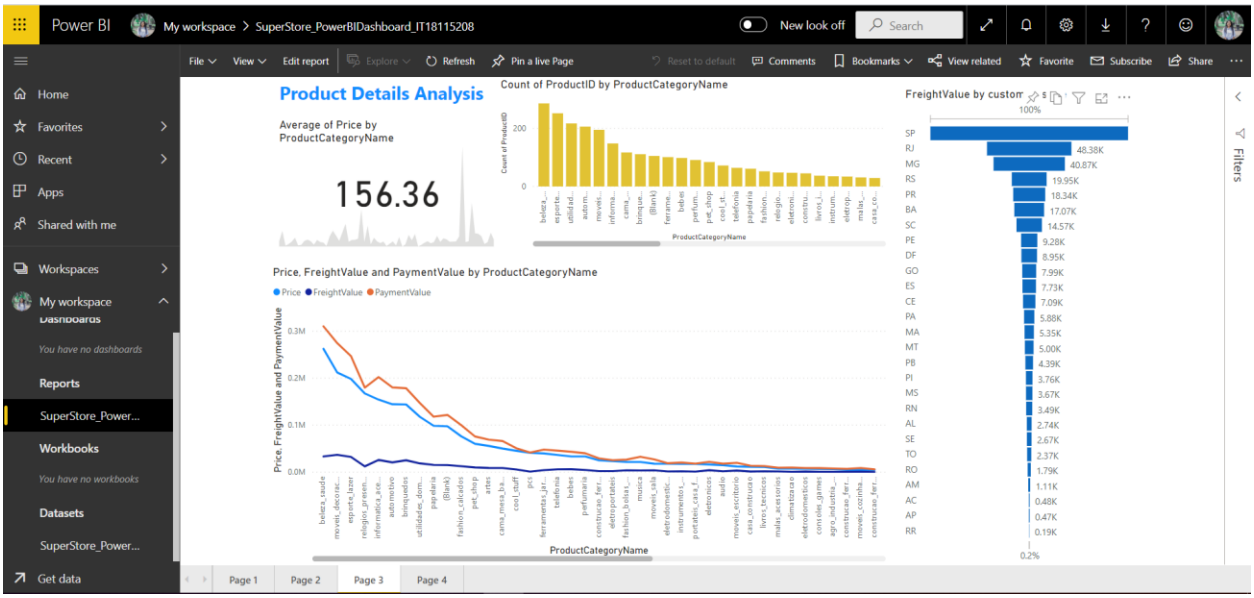
Figure 2.5

III. Product details analysis

The third page shows how the product details have been analyzed. This is how it looks like when user views it.

To view that all the following have been used ,

- KPI
- Clustered column chart
- Line chart
- Funnel



The KPI has been used for average product price, product category wise.

Figure 3.1

We can view the number of products in each category separately as shown below. Owner can get an idea about the quantity of the products by products category in stock.

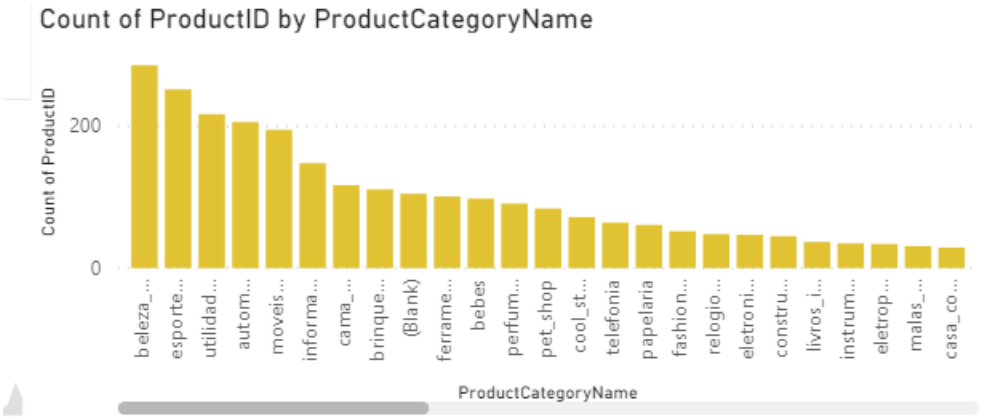


Figure 3.2

Following figure 3.3 shows the freight value, region wise. Customers can get an idea about the freights value according to their region.

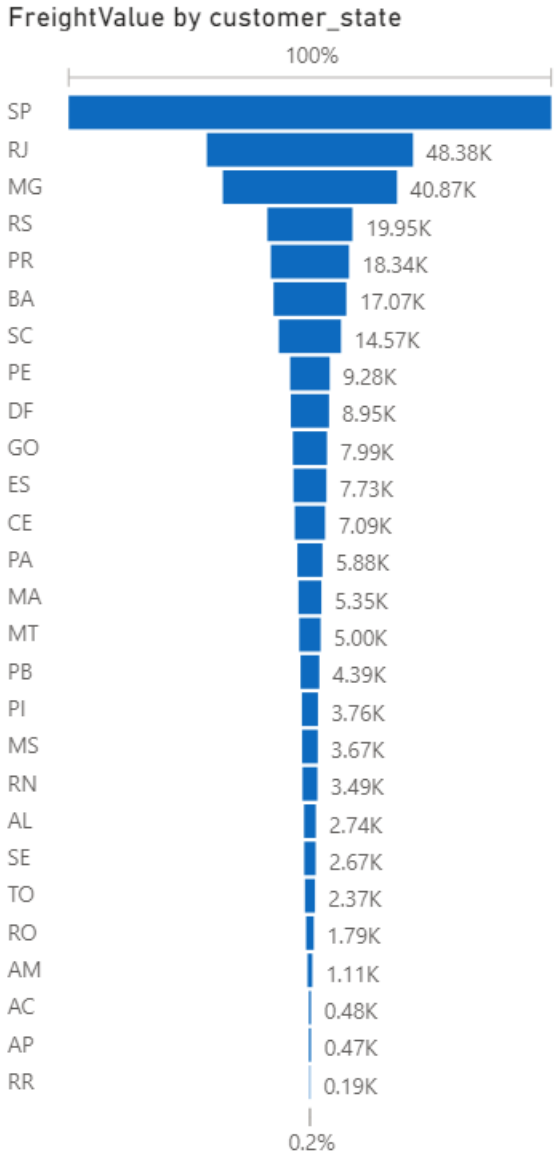


Figure 3.4

Following Line chart shows the price, freight value, payment value according the product category.

Payment value = Product price + Freight value

Line graph shows the distribution of the values clearly.

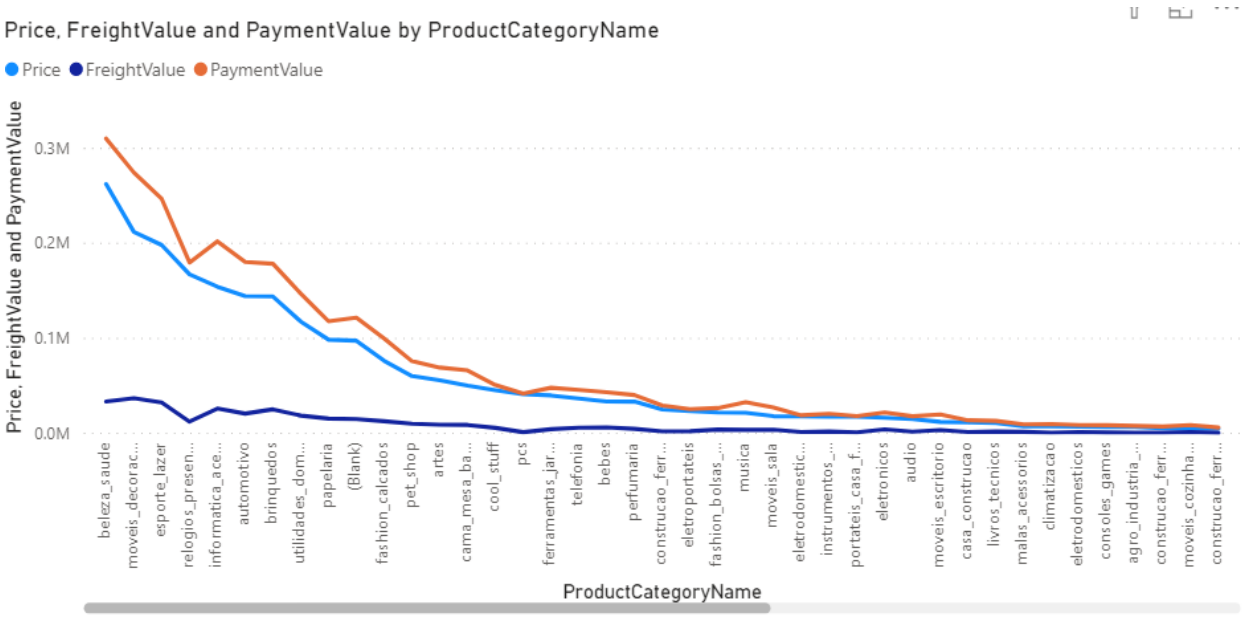
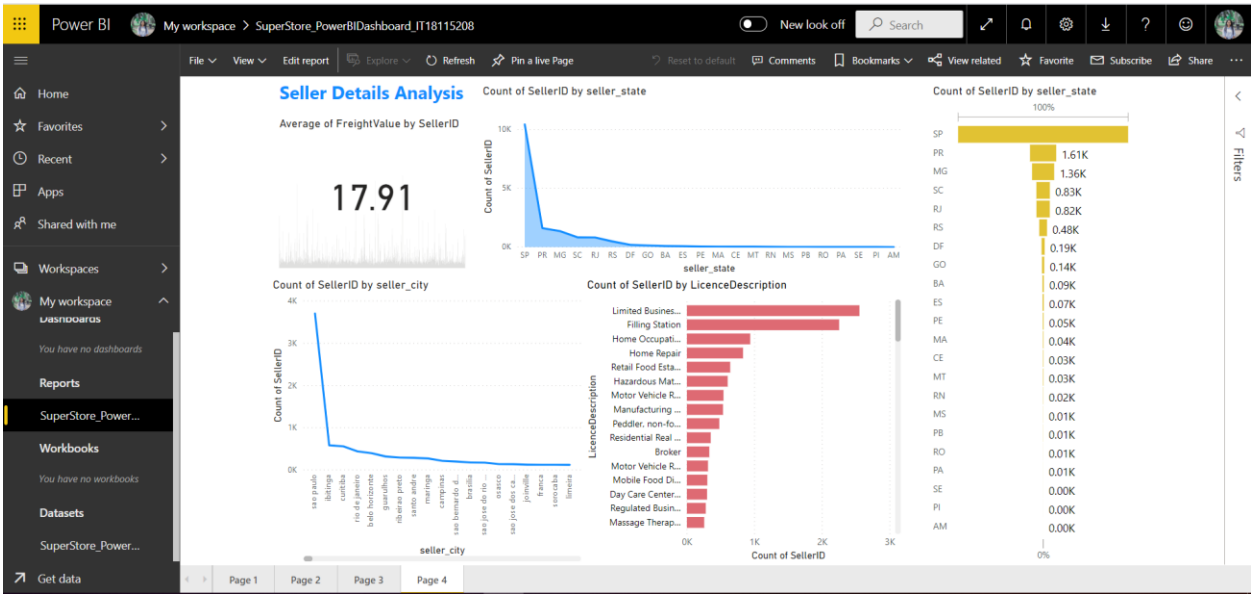


Figure 3.5

IV. Seller details analysis

In the fourth page, the analyzed seller's details who connects with the superstore have been shown. To get an idea about the seller details the following have been used:

- KPI
- Stacked area chart
- Line chart
- Stacked bar chart
- Funnel



Here KPI is used to get the average freight value according to the seller ID.

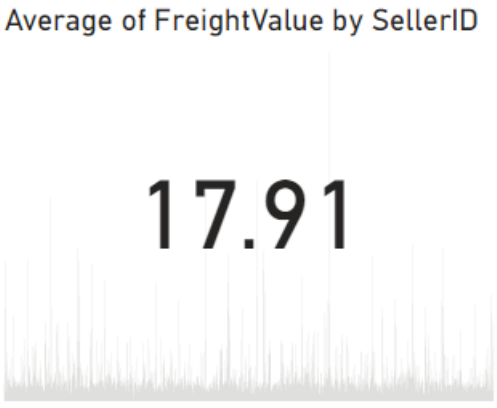


Figure 4.1

Following stacked area chart shows the number of sellers, according to their state wise. State “SP” is the highest number of sellers includes. 0.

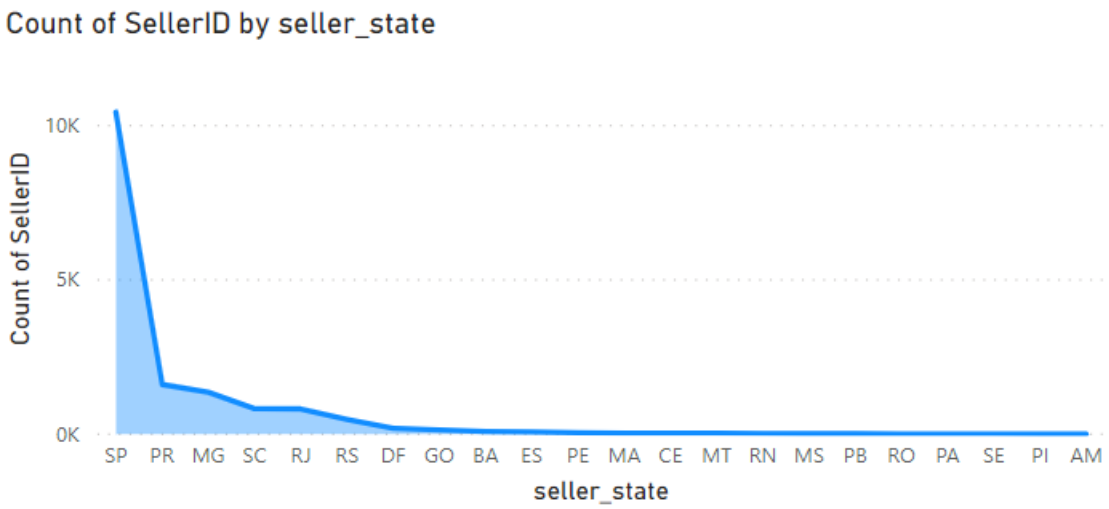


Figure 4.2

Following Line charts shows the sellers city with the count of sellers. Line charts are great for showing trends over time.

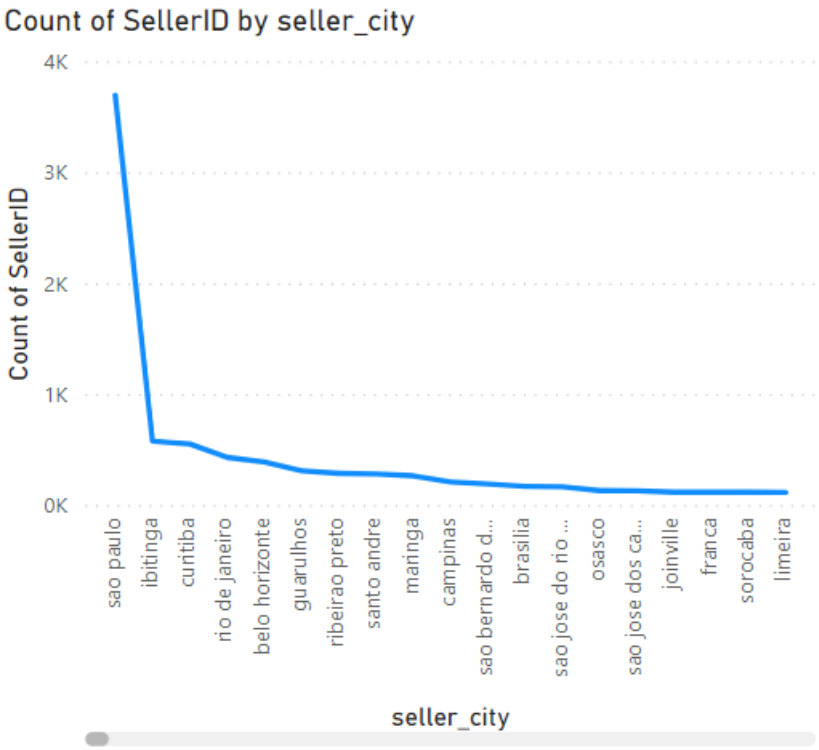


Figure 4.3

This stacked bar chart represents the number of seller ids according to their license type.

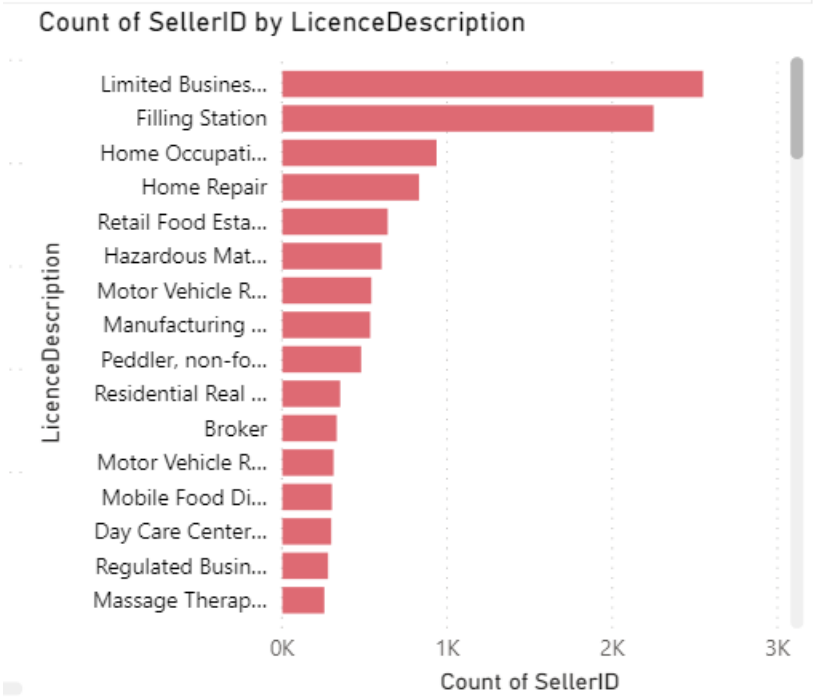


Figure 4.4

Following funnel chart also shows the state of sellers.

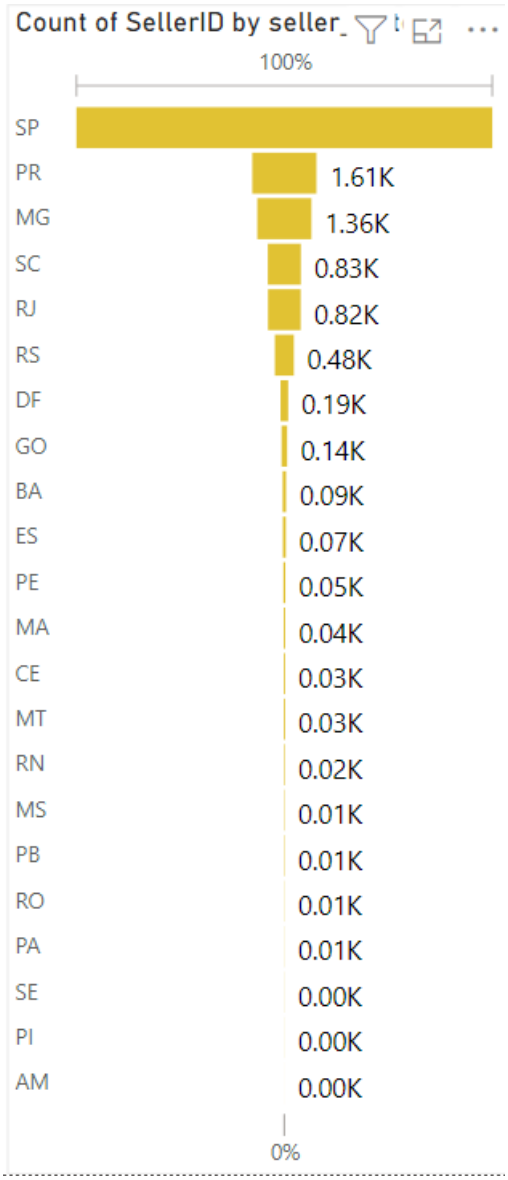


Figure 4.5

V. Any KPI that you can think of

- Sales growth
- Average review score according to region
- Average product price according to product category
- Average freights value according to seller

VI. possible alert that can be generated

Alerts allow users (sellers, customers, owners) to receive critical business information in the quickest and most efficient possible way.

- An owner can be automatically informed when a product items quantity in stock is fall below a certain level. Alerts will be sent to the owner to take appropriate actions.
- If product price is decreases, an alert can be sent to the customers who buy products regularly.
- When the Review score about a product category fall to a certain level then the alerts will be sent to seller to take necessary actions.

End