

A thick dark blue vertical bar runs down the left side of the page. A blue arrow points to the right from the bar, containing the date.

5/20/2022

# Online Retail Store Streamlit App Manual

Several thin, light blue curved lines originate from the bottom left and sweep upwards and to the right, creating a sense of motion or a stylized signature.

Bahige Saab

## Introduction

The Online Retail Store Streamlit App enables the online retail store to access its central database that records all the store's online transactions and perform data analytics related to the store's sales and profits. It also helps the store to cluster its transactions in terms of discount, sales, and profit to evaluate furthermore the efficiency of the discounts on its sales and profits.

## How to use the Online Retail Store Streamlit App:

### The International Sales Analytics Page:

1. When you open the app, a side bar with various options and the **International Sales Analytics Page** opens as shown in figure 1.

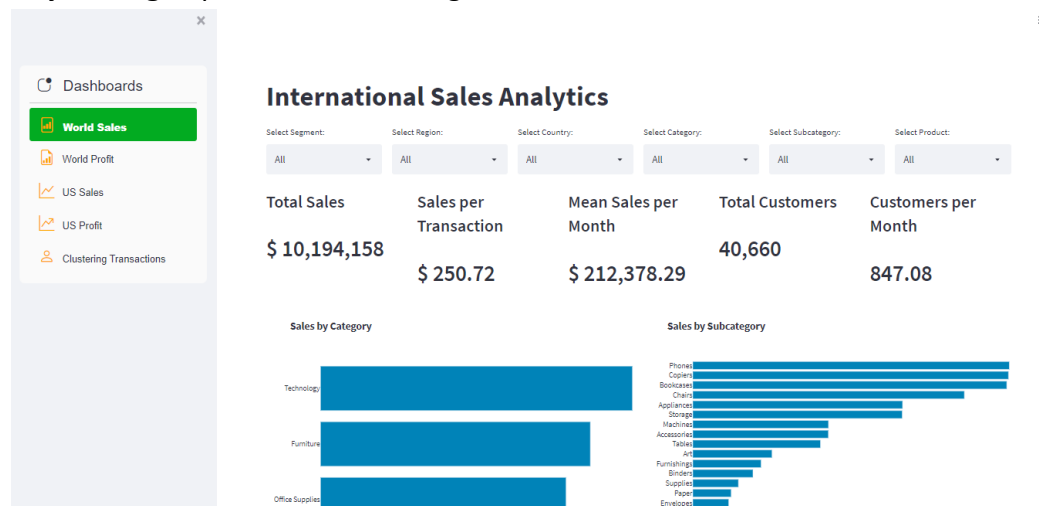


Figure 1: Opening Page of the Online Retail Store Streamlit App

2. To stay on the **International Sales Analytics Page**, close the sidebar by clicking on the x icon on the top right of the sidebar.
3. The **International Sales Analytics Page** has six filters that allows to filter the store's transactions as shown in figure 2:

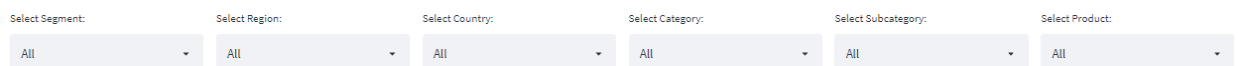


Figure 2: International Sales Analytics Page Filters

- a. **The segment filter:** It allows us to filter transactions according to customer segment.

- b. **The region filter:** It allows us to filter transactions according to the client's region.
- c. **The country filter:** It allows us to filter transactions according to the client's country.
- d. **The category filter:** It allows us to filter transactions according to product's category.
- e. **The subcategory filter:** It allows us to filter transactions according to product's subcategory.
- f. **The product filter:** It allows us to filter transactions according to product's name.

4. The **International Sales Analytics Page** has five KPIs as shown in figure 3:

Total Sales 	Sales per Transaction	Mean Sales per Month	Total Customers	Customers per Month
\$ 10,194,158	\$ 250.72	\$ 212,378.29	40,660	847.08

Figure 3: International Sales Analytics KPIs

- a. **The Total Sales KPI:** It shows the total sales of the online store.
- b. **The Sales per Transaction KPI:** It shows the total sales per transaction of the online store.
- c. **The Mean Sales per Month KPI:** It shows the mean sales per month of the online store.
- d. **The Total Customers KPI:** It shows the total number of customers of the online store.
- e. **The Customers per Month KPI:** It shows the total number of customers per month of the online store.

These KPIs can be controlled using the filters available on the page.

- 5. To study the sales per category, we check the **"Sales per Category"** horizontal bar graph as shown in figure 4. Note that this chart can be controlled using the previously mentioned filters available on the page.

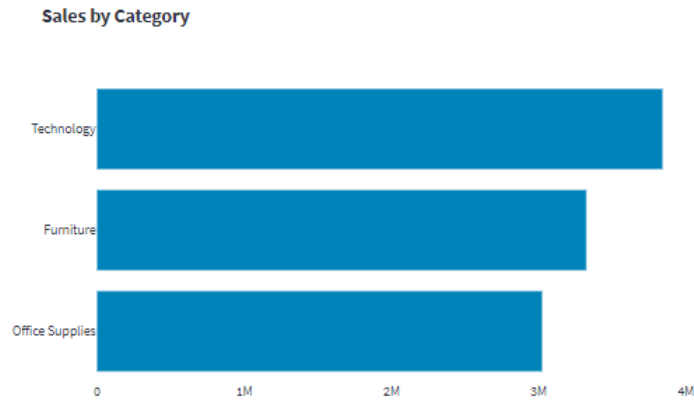


Figure 4: Sales by Category Horizontal Bar Chart

6. To check the sales per subcategory, we check the “Sales per Subcategory” horizontal bar graph as shown in figure 5. Note that this chart can be controlled using the previously mentioned filters available on the page.

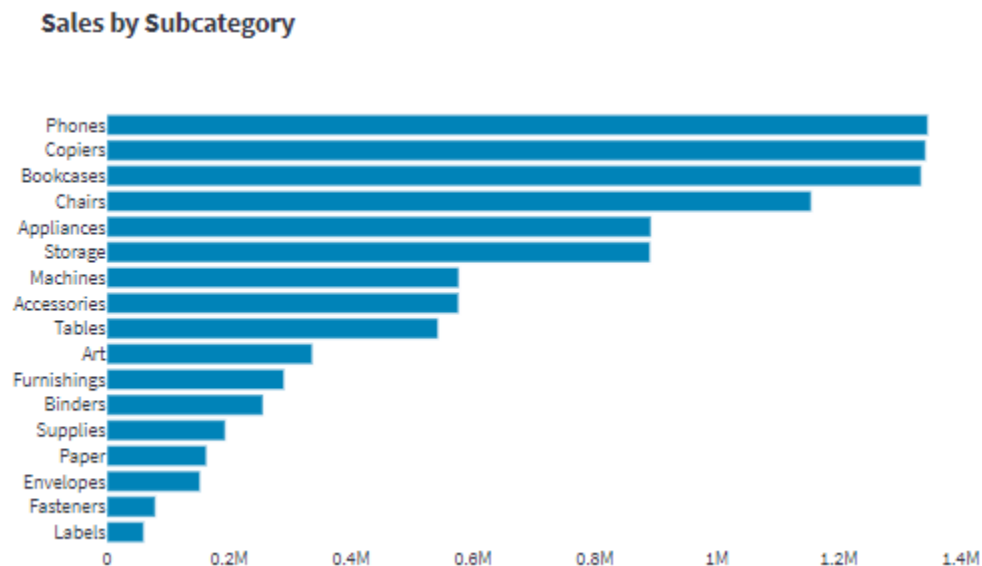


Figure 5: Sales by Subcategory Horizontal Bar Chart

7. To study the sales per month, we check the “Sales by Month(\$)” line chart graph as shown in figure 6. If you want to check the sales in a specific month, you can hover on the dot of its corresponding month on the line chart. Note that this chart can be controlled using the previously mentioned filters available on the page.

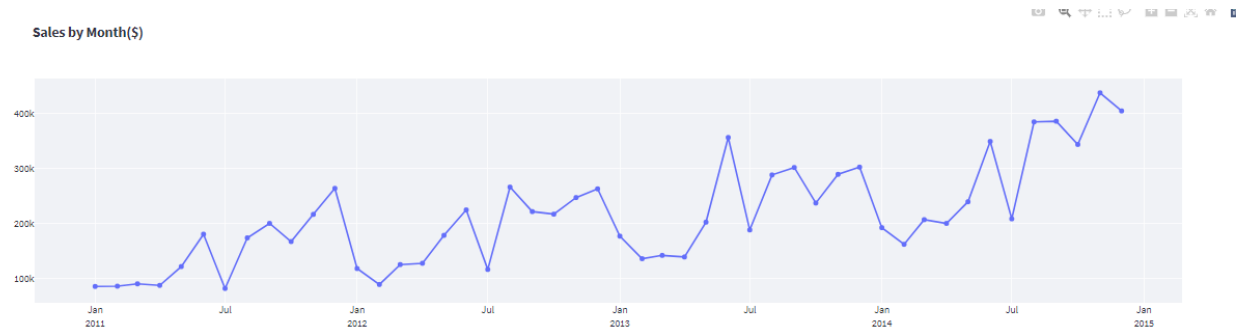


Figure 6: Sales by Month(\$) Line Chart

- To study the sales per country, we check the “Sales by Country(\$)” map as shown in figure 7. Note that this map can be controlled using the previously mentioned filters available on the page.

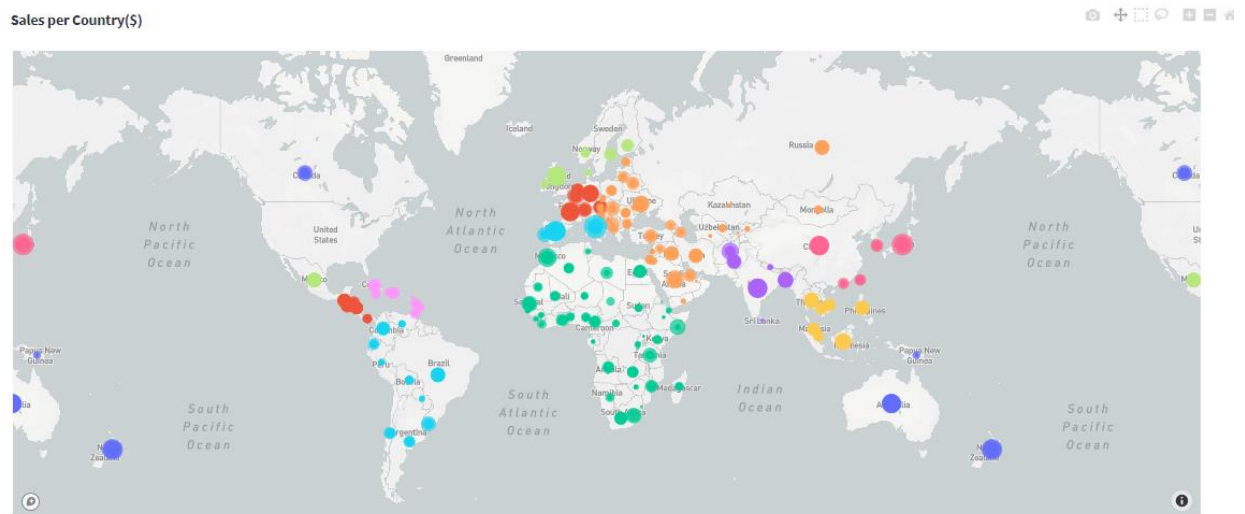


Figure 7: Sales by Country(\$) Map

## The International Profit Analytics Page:

- To go to the “**International Profit Analytics**” page, open the sidebar and click on the “World Profit” option on the “Dashboards” menu as shown in figure 8.

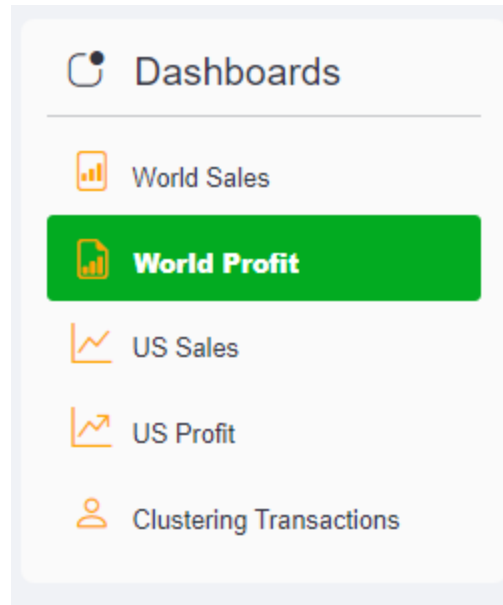


Figure 8: World Profit Option on “Dashboards” Menu

2. The **International Profit Analytics Page** opens as shown in figure 9.

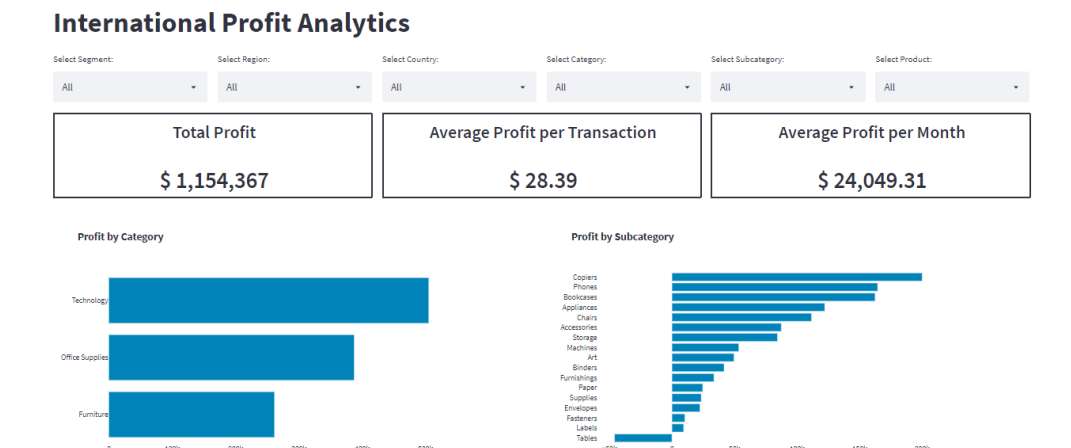


Figure 9: The International Profit Analytics Page

3. The **International Profits Analytics Page** has six filters that allows to filter the store’s profits as shown in figure 10:

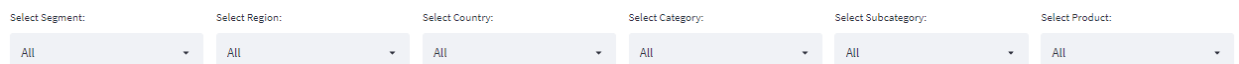


Figure 10: International Profit Analytics Page Filters

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- a. **The segment filter:** It allows us to filter transactions according to customer segment.
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- e. **The subcategory filter:** It allows us to filter transactions according to product's subcategory.
- f. **The product filter:** It allows us to filter transactions according to product's name.

4. The **International Profit Analytics Page** has three KPIs as shown in figure 11:

Total Profit	Average Profit per Transaction	Average Profit per Month
\$ 1,154,367	\$ 28.39	\$ 24,049.31

Figure 11: International Profit Analytics KPIs

- a. **The Total Profit KPI:** It shows the total profits of the online store.
- b. **The Average Profit per Transaction KPI:** It shows the average profits per transaction of the online store.
- c. **The Average Profit per Month KPI:** It shows the average profit per month of the online store.

These KPIs can be controlled using the filters available on the page.

5. To study the sales per category, we check the **“Profit per Category”** horizontal bar graph as shown in figure 12. Note that this chart can be controlled using the previously mentioned filters available on the page.

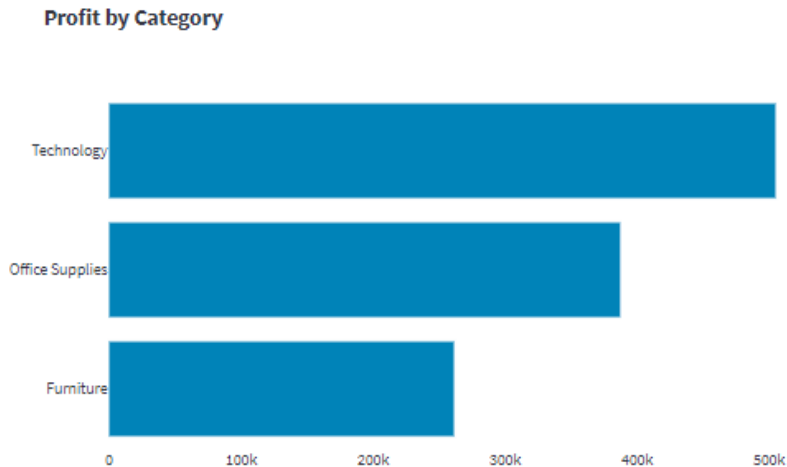


Figure 12: Profit by Category Horizontal Bar Chart

- To check the profit per subcategory, we check the “Profit per Subcategory” horizontal bar graph as shown in figure 13. Note that this chart can be controlled using the previously mentioned filters available on the page.

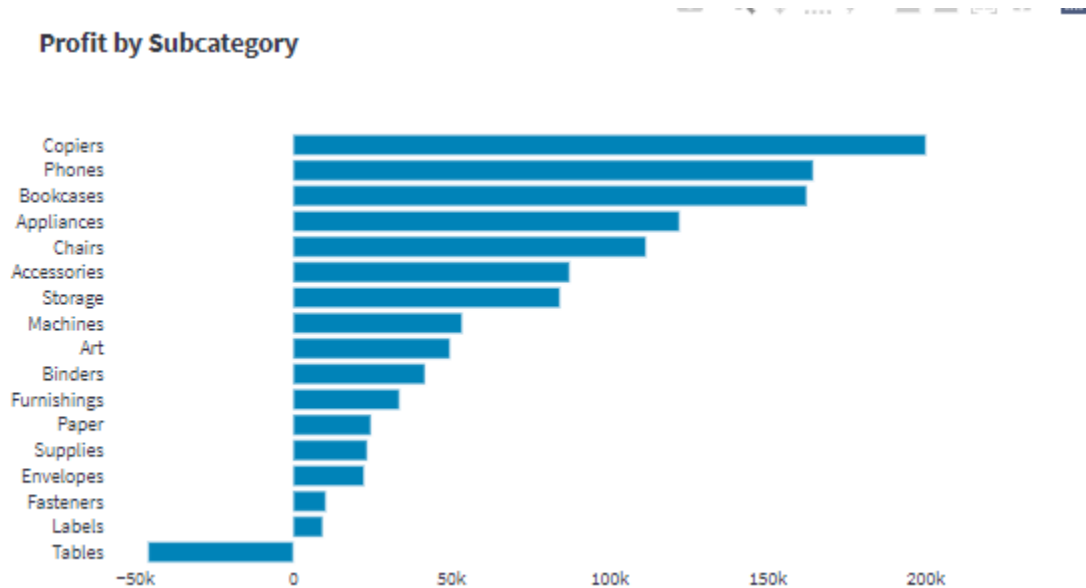


Figure 13: Profit by Subcategory Horizontal Bar Chart

- To study the profit per month, we check the “**Profit by Month(\$)**” line chart graph as shown in figure 14. Note that this chart can be controlled using the previously mentioned filters available on the page. If you want to check the profit in a specific month, you can hover on one of the dots of the line chart.



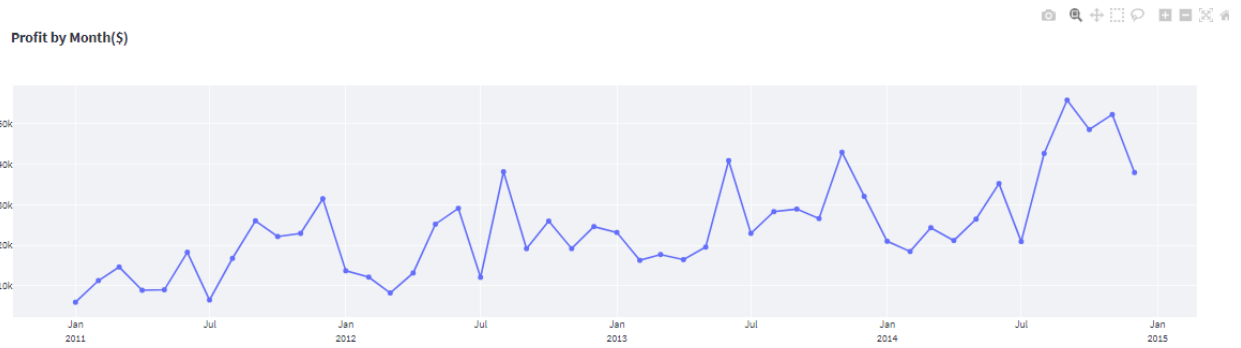


Figure 14: Profit by Month(\$) Line Chart

- To study the sales per country, we check the “Profit by Country(\$)” map as shown in figure 15. Note that this map can be controlled using the previously mentioned filters available on the page.

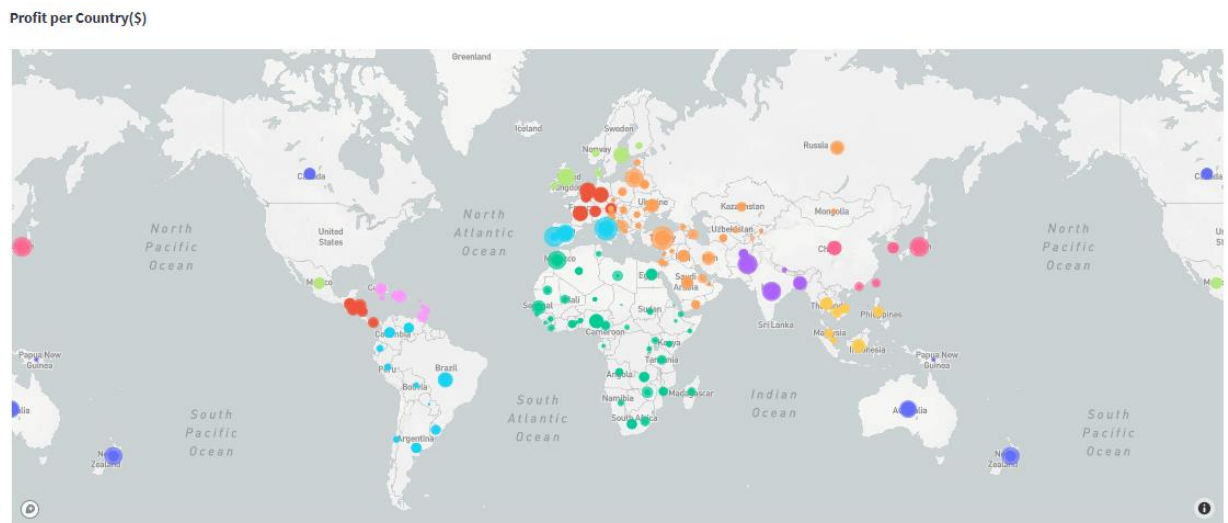


Figure 15: Profit by Country(\$) Map

## The USA Sales Analytics Page

- To go to “The USA Sales Analytics” page, open the sidebar and click on the “US Sales” option on the “Dashboards” menu as shown in figure 16.

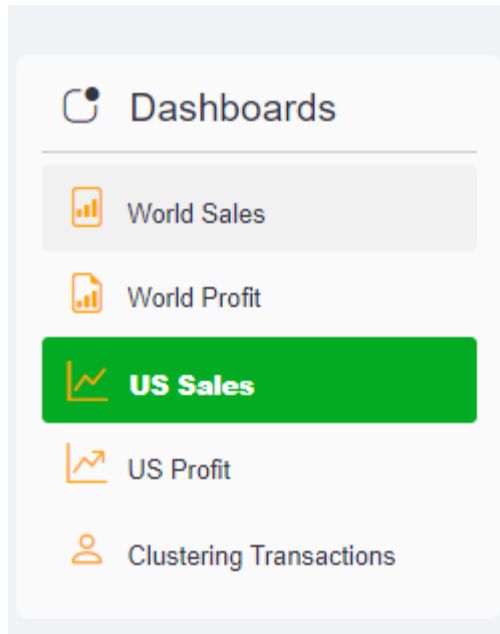


Figure 16: "US Sales" on "Dashboards" Menu

2. The **"US Sales Analytics"** Page has the same anatomy of the **"International Sales Analytics"** Page except for the following:
  - a. Instead of having a **country** filter, it has a **state** filter that allows the user to filter the sales of the store according to the US state.
  - b. Instead of having a **"Sales per Country"** map, it has a **"Sales per State"** map that shows the sales of the story per US state as shown in figure 17.

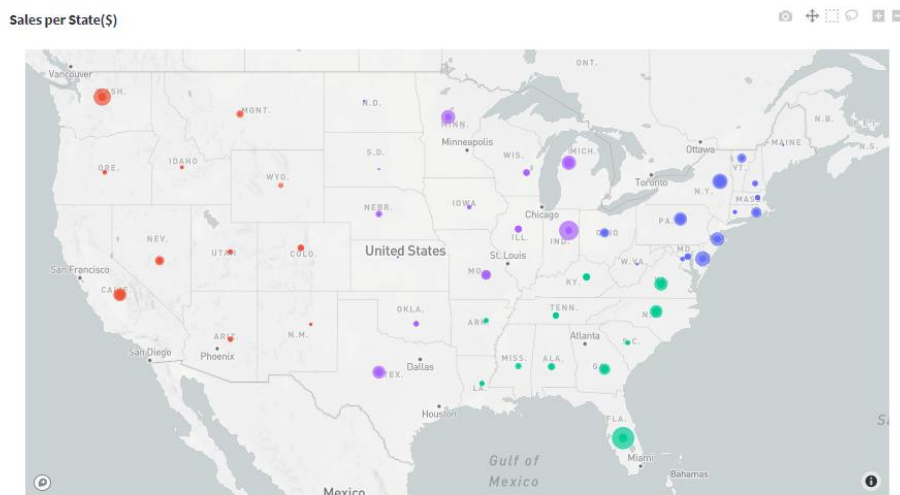


Figure 17: Sales per State(\$) Map

## The USA Profit Analytics Page

3. To go to “The USA Profit Analytics” page, open the sidebar and click on the “US Profit” option on the “Dashboards” menu as shown in figure 18.

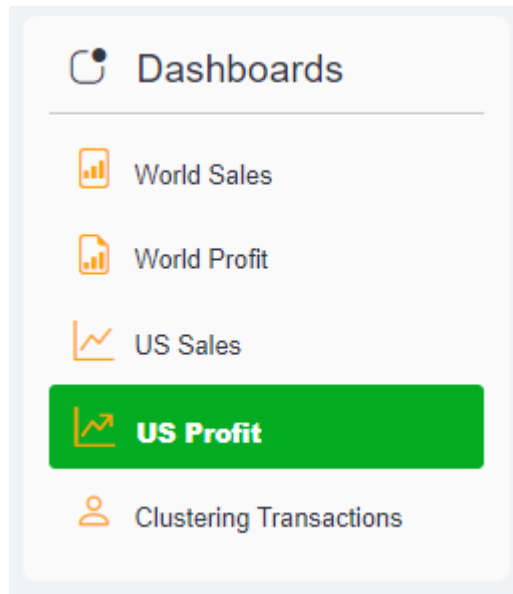


Figure 18: “US Sales” on “Dashboards” Menu

4. The “US Profit Analytics” Page has the same anatomy of the “International Profit Analytics” Page except for the following:
  - c. Instead of having a **country** filter, it has a **state** filter that allows the user to filter the store profits according to the US state.
  - d. Instead of having a “**Profit per Country**” map, it has a “**Profit per State**” map that shows the sales of the story per US state as shown in figure 19.

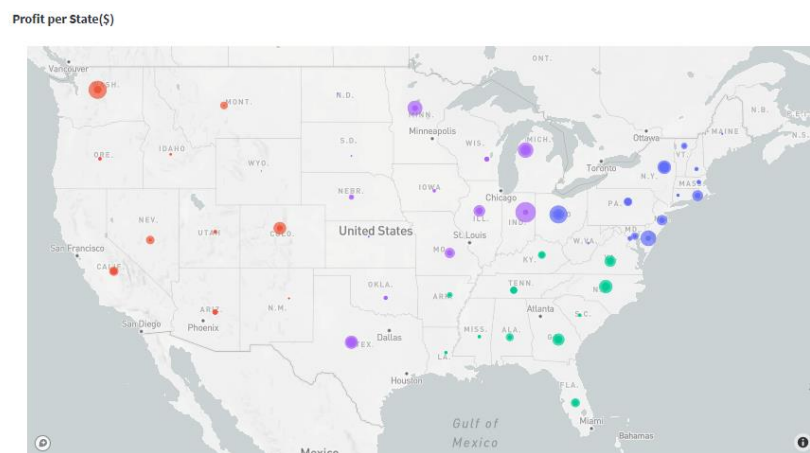


Figure 19: Profit per State(\$ ) Map

## Clustering Transactions Page

The “Clustering Transactions Page” allows us to cluster transactions according to discounts, sales, and profits.

1. To go to “**Clustering Transactions**” page, open the sidebar and click on the “Clustering Transactions” option on the “Dashboards” menu as shown in figure 20.

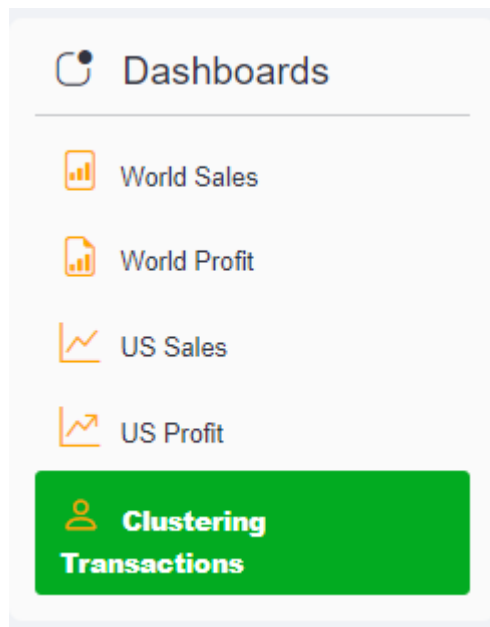


Figure 20: “Clustering Transactions” on “Dashboards” Menu

2. The “**Clustering Transactions**” page has the following components:
  - a. A **country filter**: It enables the user to choose the country whose transactions are to be clustered as shown if figure 21.



Figure 21: “Clustering Transactions” Page’s country filter

- b. The **elbow curve**: It displays the elbow curve for the number of clusters that can be done on the transactions. It enables us to choose the best value of k by selecting the one that lies on the elbow of the curve as shown in figure 22.

## Elbow Curve

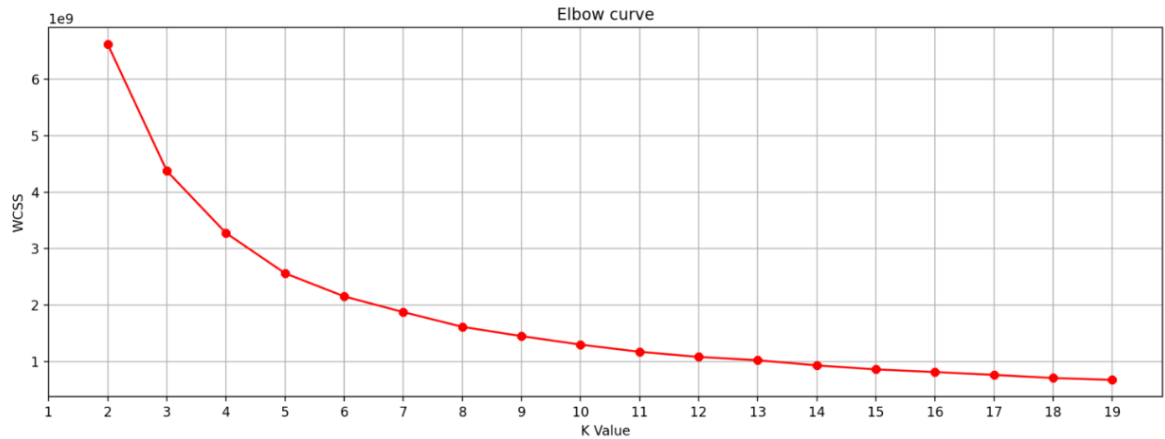


Figure 22: “Clustering Transactions” Page’s elbow curve.

- c. **A number of clusters filter:** It enables the user to choose the number of clusters upon which we will be clustering the transactions as shown if figure 23.

Select the number of clusters:

1

Figure 23: “Clustering Transactions” Page’s number of clusters filter

- d. **The 3D Clusters Graph:** It plots the clustered transactions in a 3D graph where the x-axis is the discount, y-axis is the sales and z-axis is the profit as shown in figure 24.

## 3D Clusters Graph

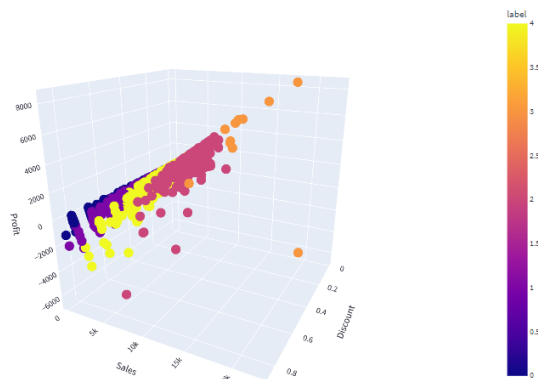


Figure 23: “Clustering Transactions” 3D Graph.