IBM Hack Challenge 2021

Analytics Tool For Ecommerce businesses

Team-Name: Team-7

Team-Size: 2

Team-Members:

1. **Mankala Sai Vythik(Leader)**
2. **Amanaganti Srikar**

Introduction

Analytics tool for E-commerce it is a dashboard done using Cognos Analytic tool that is provide by ibm services

What is an E-commerce Tool ?

Ecommerce tools help you manage your online store more efficiently. They automate and streamline the processes related to online commerce, such as website design and inventory management.
An e-commerce platform is a tool that is used to manage an ecommerce business. E-commerce platform options exist for clients ranging in size from small businesses to large enterprises. A few examples of e-commerce marketplace platforms include: Amazon. eBay.

Why is Data Visualization Important For Business?

With so much information being collected through data analysis in the business world today, we must have a way to paint a picture of that data so we can interpret it. Data visualization gives us a clear idea of what the information means by giving it visual context through maps or graphs. This makes the data more natural for the human mind to comprehend and therefore makes it easier to identify trends, patterns, and outliers within large data sets.

No matter what business or career you've chosen, data visualization can help by delivering data in the most efficient way possible. As one of the essential steps in the business intelligence process, data visualization takes the raw data, models it, and delivers the data so that conclusions can be reached. In advanced analytics, data scientists are creating machine learning algorithms to better compile essential data into visualizations that are easier to understand and interpret.
Specifically, data visualization uses visual data to communicate information in a manner that is universal, fast, and effective. This practice can help companies identify which areas need to be improved, which factors affect customer satisfaction and dissatisfaction, and what to do with

specific products (where they should go and who they should be sold to). Visualized data gives stakeholders, business owners, and decision-makers a better prediction of sales volumes and future growth.

DashBoard

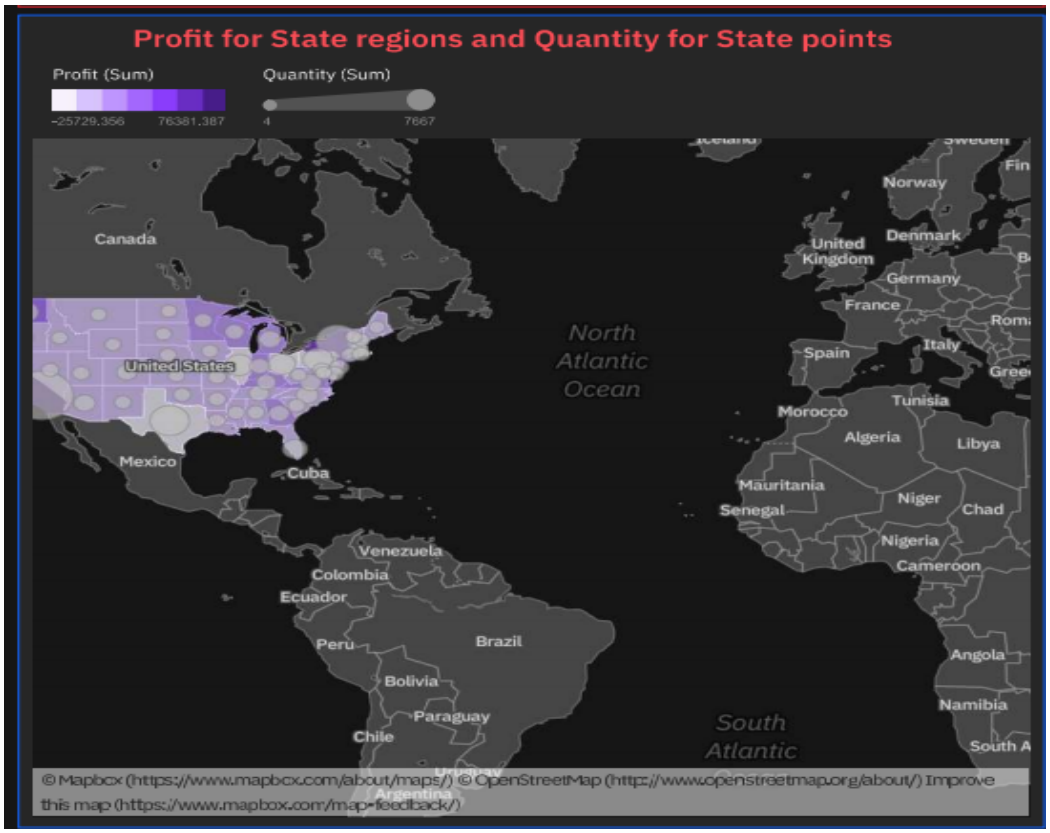
A business intelligence dashboard, or BI dashboard, is a data visualization and analysis tool that displays on one screen the status of key performance indicators (KPIs) and other important business metrics and data points for an organization, department, team or process. Dashboards are an integral component of most BI software platforms and are widely used to deliver analytics information to business executives and workers.

IBM Cognos

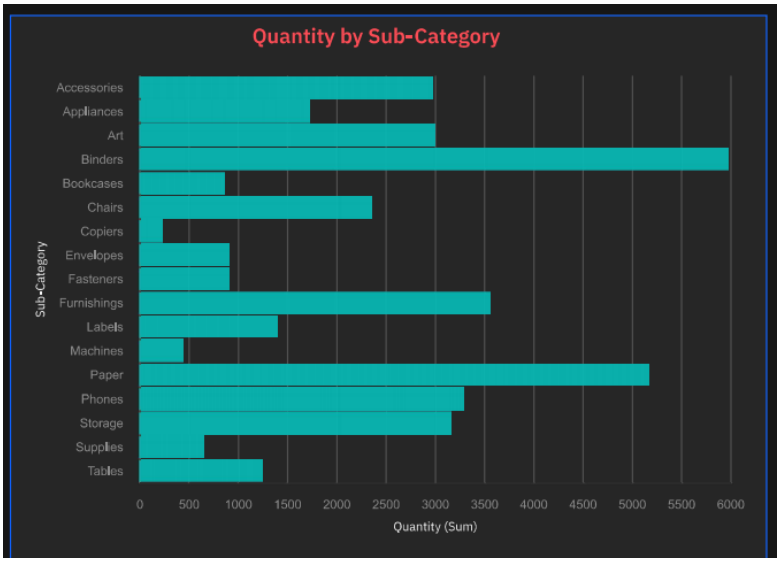
IBM Cognos Business Intelligence is a web-based integrated business intelligence suite by IBM. It provides a toolset for reporting, analytics, scorecarding, and monitoring of events and metrics. The software consists of several components designed to meet the different information requirements in a company. IBM Cognos has components such as IBM Cognos Framework Manager, IBM Cognos Cube Designer, IBM Cognos Transformer.

Proposed Work:-

- **Region that accounts for greater number of orders:-**
    - In this we have plotted the dashboard according to state v/s the quantity and profit. In this we can see the profit and quantity of products sold in each state in that and colored according to profit if the greater the profit darker the state is marked similarly in order to keep track of the quantity we have used a circular symbol to represent the no:of orders sold in each state and greater the order bigger is the radius of the circle as shown in the figure.



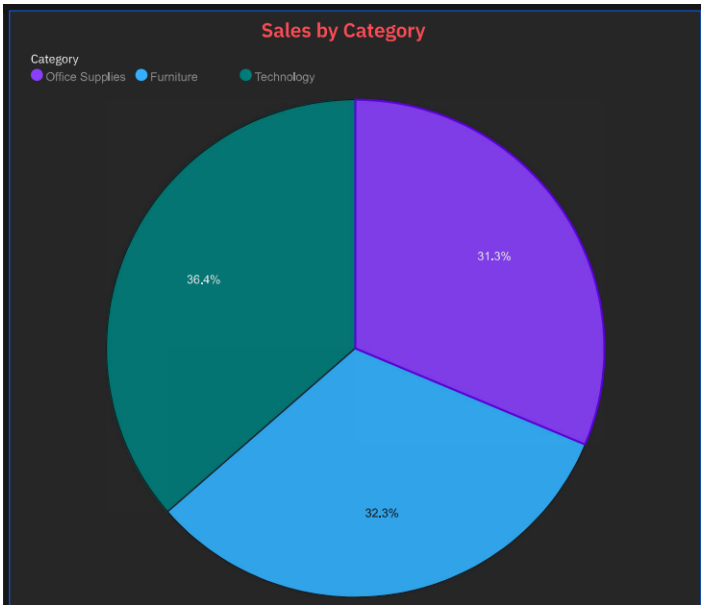
- **Frequency distribution of quantity ordered:-**
    - In this we have plotted a graph which detimes the quantity of certain product have been sold.



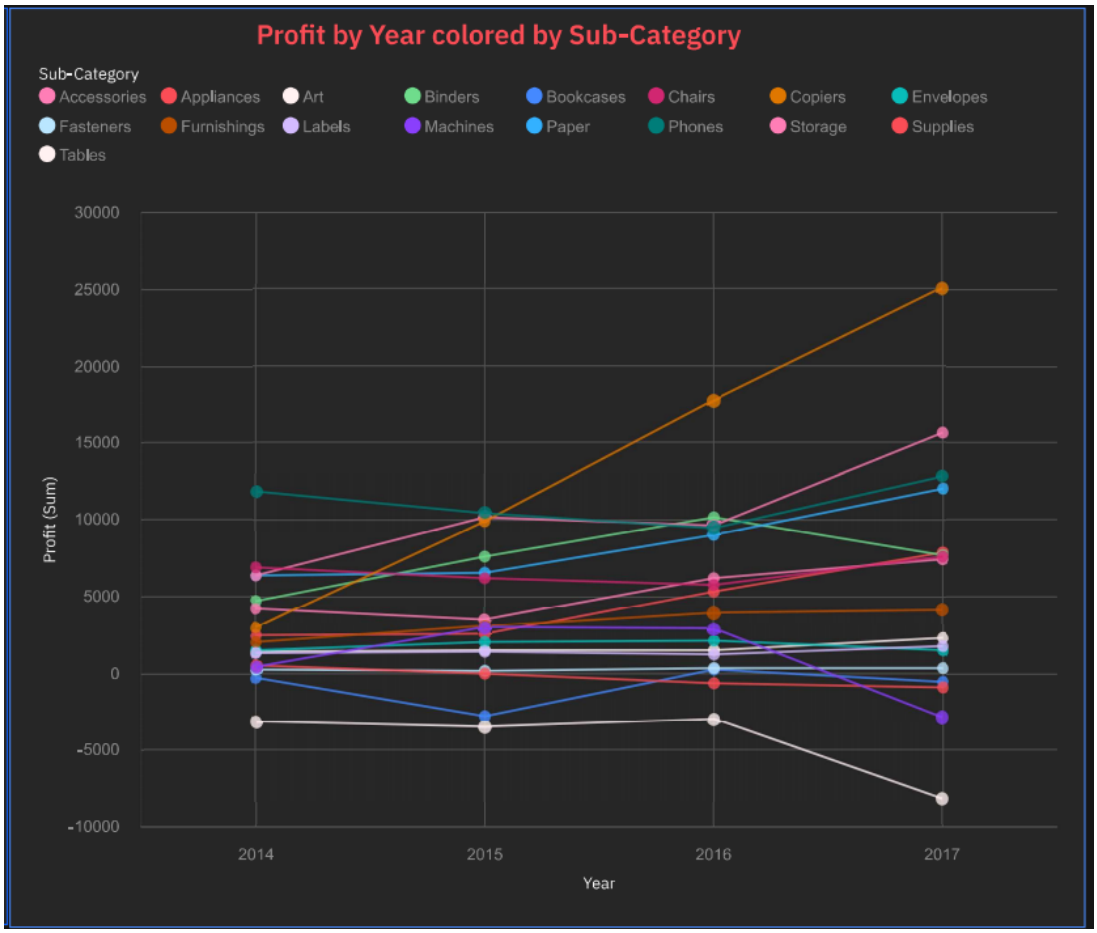
- **Percentage sales by different product categories:-**
    - In this we have plotted a pi graph sales v/s category and then changed values to

% and we can view the % of each category sold when compared to total number of sales.

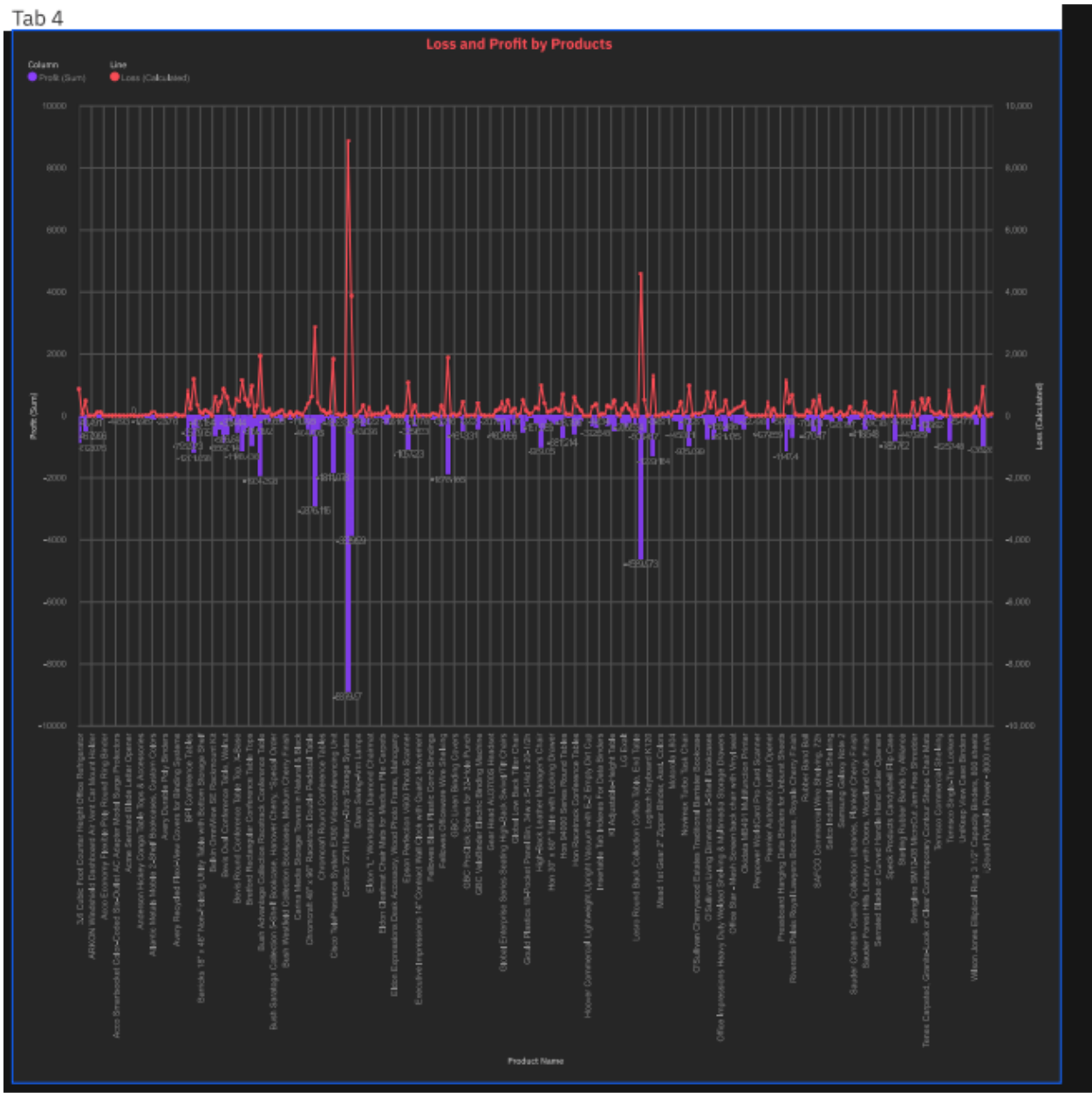
- We can view that technology holds the major % i.e 36.4% which is greater than the other categories.



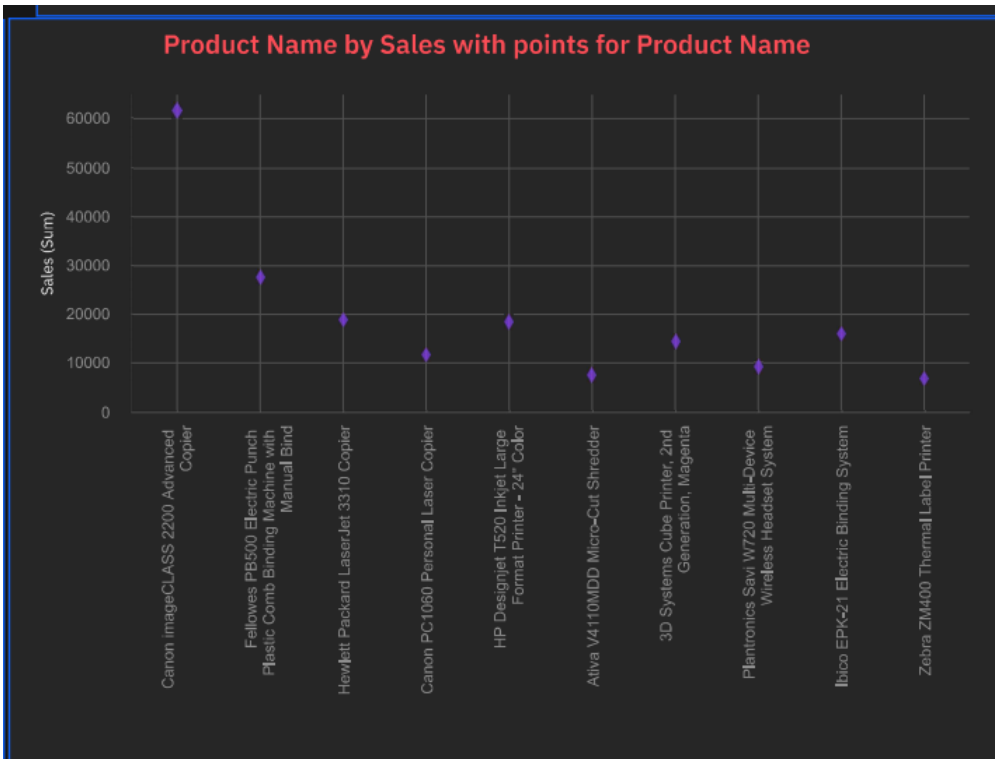
- **Profitable products or their sub products in last few years:**
  - In this we have plotted the graph profit v/s year and in order to differentiate among the sub-category we have colored them differently.
  - In this figure we can see that copiers are performing well as there is a study increase in the profits from the last four year and its coloured orange in order to differentiate as mentioned above.



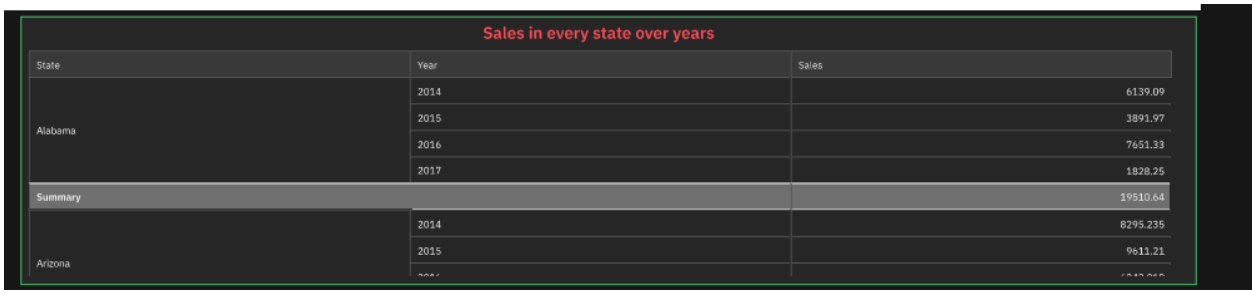
- **Products that incurred losses:-**
    - In this we have plotted graph loss v/s products and we have seen the loss occurred by each product.
    - In this we can see the graph is plotted and the red color shows the values of the loss incurred. The bigger is the loss, bigger is the size of the graph and we can see that a product named Contico 72”H Heavy-Duty Storage System has caused greater loss compared to others.



- **Product type that was ordered greater times:-**
  - In this we have plotted a dot graph sales v/s products which resembles the total numbers of sales done by each and every product
  - We can observe that the product Canon image CLASS 2200 Advanced Copier have highest number of sales than

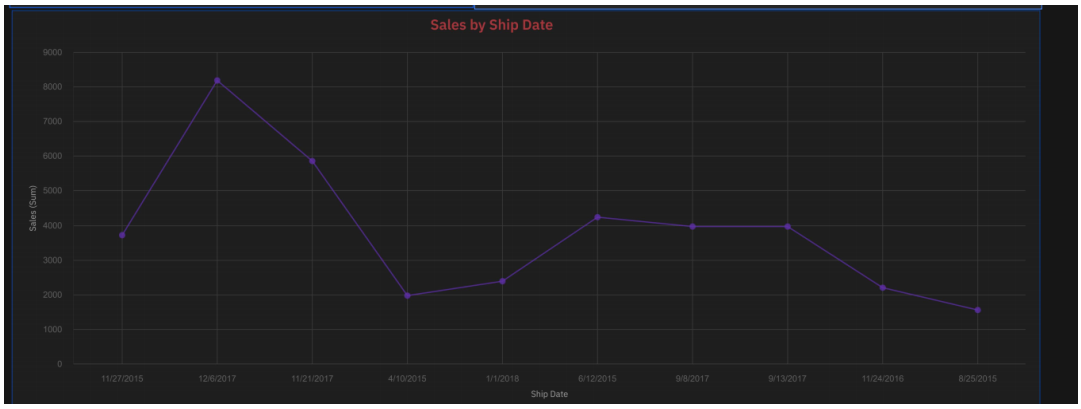


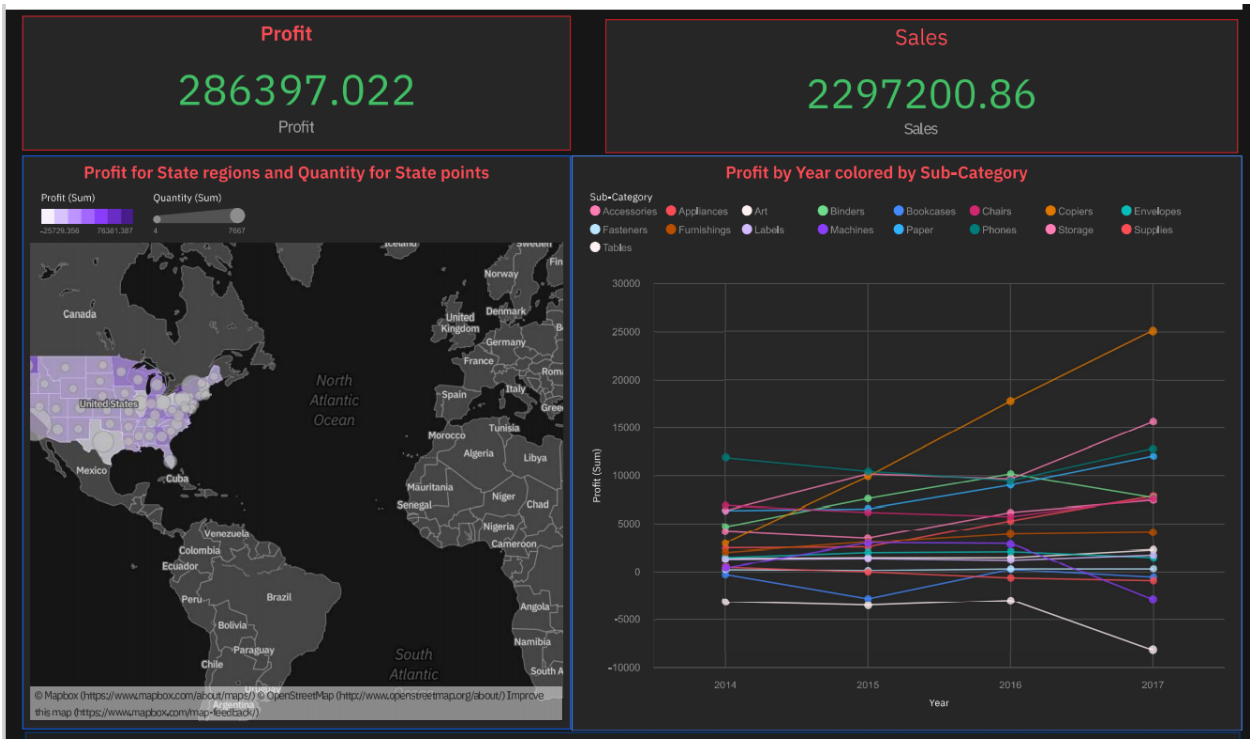
- **Yearly sales for various states:-**
  - In this we have prepared a list which describes the sales done every year in particular state and overall sales done in the last 4 years and arranged alphabetically.
  - In this you can see the state Alabama sales in 2014, 2015, 2016 and 2017.


Sales in every state over years

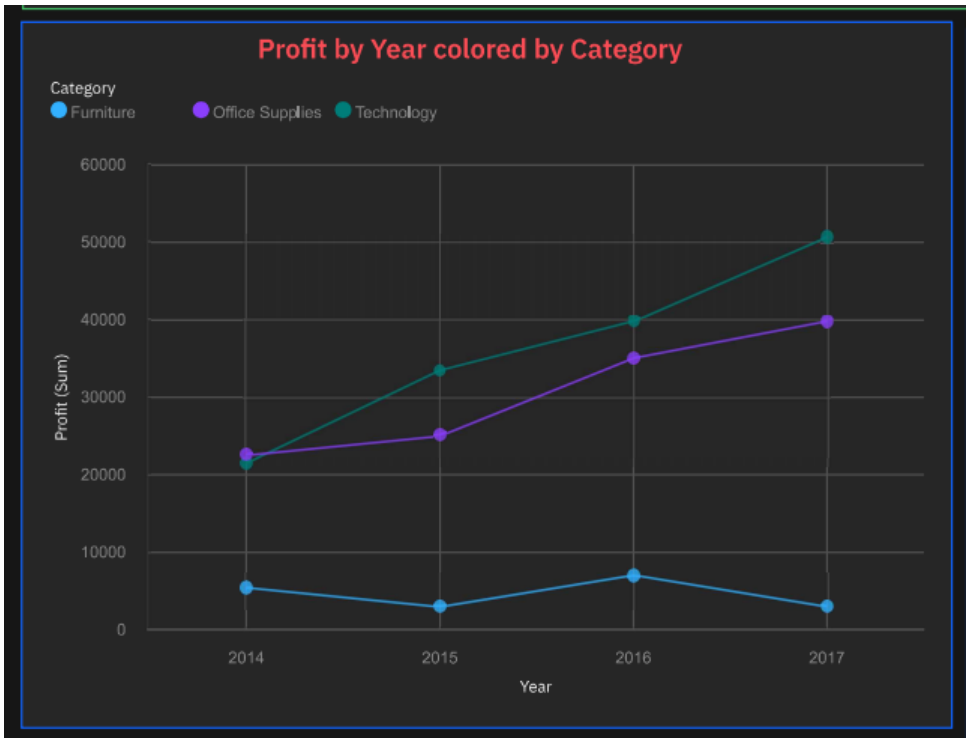
State	Year	Sales
Alabama	2014	6139.09
	2015	3891.97
	2016	7651.33
	2017	1828.25
Summary		19510.64
Arizona	2014	8295.235
	2015	9611.21

- **Forecasting future sales according to shipping date:-**
  - We have plotted a line graph of sales v/s shipping date



- **Trend in profit/sales over time:-**
  - It's a combination of 2 or 3 graphs and we determine we select the filter by year and select the product and we get the profit and sales in tht board and analyse respectively.
  - 

- **Profit for different categories yearly trend:-**
  - In this we have plotted the graph profit v/s year and colored by category.

- 

Conclusion:

In this challenge we have created a dashboard such that it will help businesses analys there data and take necessary decisions to increase the profit and sale and understand which products are performing better and why according their previous knowledge and the dashboard will help the business to learn the performance and analysis the sale by state year wise and also in forecasting specific results.