Interactive Dashboard with Tableau

Introduction

A dashboard is a visual representation of data that provides a consolidated view of key information and metrics in a single interface. It typically consists of various charts, graphs, tables, and other data visualization elements that allow users to monitor and analyze data trends, performance indicators, and important metrics relevant to a specific domain or business process.

Tableau is a widely used data visualization and business intelligence tool that helps people see and understand their data. It provides an intuitive and interactive platform for creating visually appealing and interactive dashboards, reports, and charts.

Tableau allows users to connect to various data sources, such as databases, spreadsheets, cloud services, and more, and then transform the data into interactive visualizations using a drag-and-drop interface. It offers a wide range of visualization options, including bar charts, line graphs, scatter plots, maps, and more, which can be customized and combined to create compelling dashboards.

In Tableau, there are two primary types of connections we can establish with our data sources: live connection and extract connection.

1. Live Connection

With a live connection, Tableau directly connects to the data source in real-time whenever a query or interaction is made with the visualization. It retrieves the data dynamically from the source, allowing us to work with the most up-to-date information available. Live connections are useful when we need to analyze real-time data or when our dataset is frequently updated, and we want to ensure we are always working with the latest data. However, live connections can be slower if the data source is large, or the network connection is slow.

2. Extract Connection

An extract connection involves importing a subset or the entire dataset from the data source into Tableau's proprietary data format, known as a data extract (.hyper file). Tableau extracts store a snapshot of the data at the time of creation and can be refreshed periodically to reflect changes in the source data. Extracts are particularly useful when working with data that doesn't change frequently or when we want to perform complex calculations or aggregations that can be pre-computed and stored in the extract.

MegaMarts Sales Dashboard

MegaMarts is a store which sells various goods to consumers all over the world. The company works only through Sales Agents who are responsible for selling products to their customers. The sales agents are responsible for the sales of products in specific product categories.

Requirements

1. Sales for the agent every month

2. A scatterplot showing quantity by sales for each product categories.

3. Top 5 product categories by sales of the selected month

4. Parameter to set sales target and see how the sales agent is tracking.

Data Source

1. transaction_data.csv

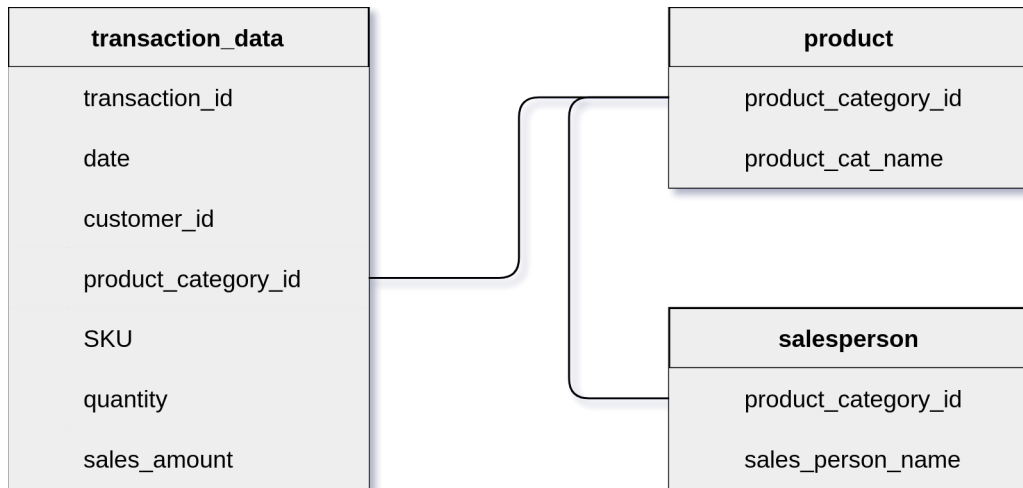https://finch-groundhog-9245.squarespace.com/s/transaction_data.csv

2. salesperson.csv

https://finch-groundhog-9245.squarespace.com/s/salesperson.csv

3. product.csv

https://finch-groundhog-9245.squarespace.com/s/product.csv

Data Model

Importing Data on Tableau

All the mentioned data are in csv files hence, we can import csv files directly on tableau. Since, we are working with periodically updating data, it is best to select 'extract connection' type and save data snapshot at desired location.

Joining Tables

Since, we have total three tables as shown in the ER diagram above. we need to create joins in tableau as well.
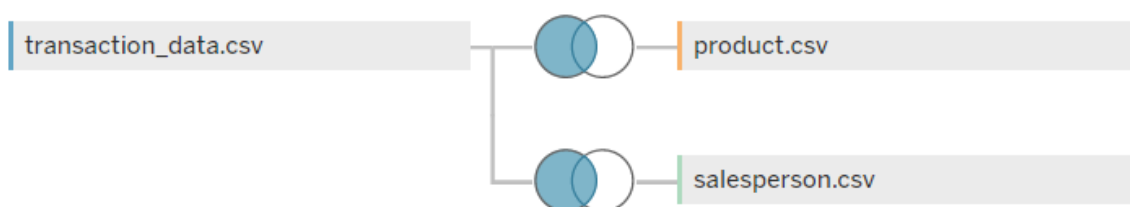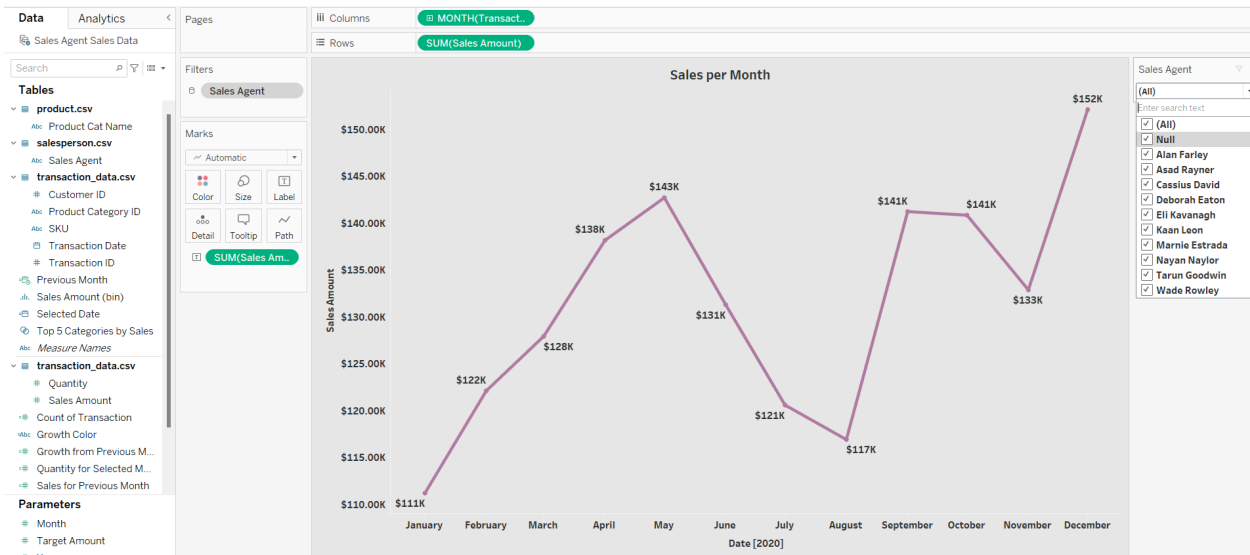
Creating Worksheet

For each card on dashboard, individual sheet has to be created. Each sheet will contains single chart, graph, test card or a table.

Sales for Month

Sales per Category
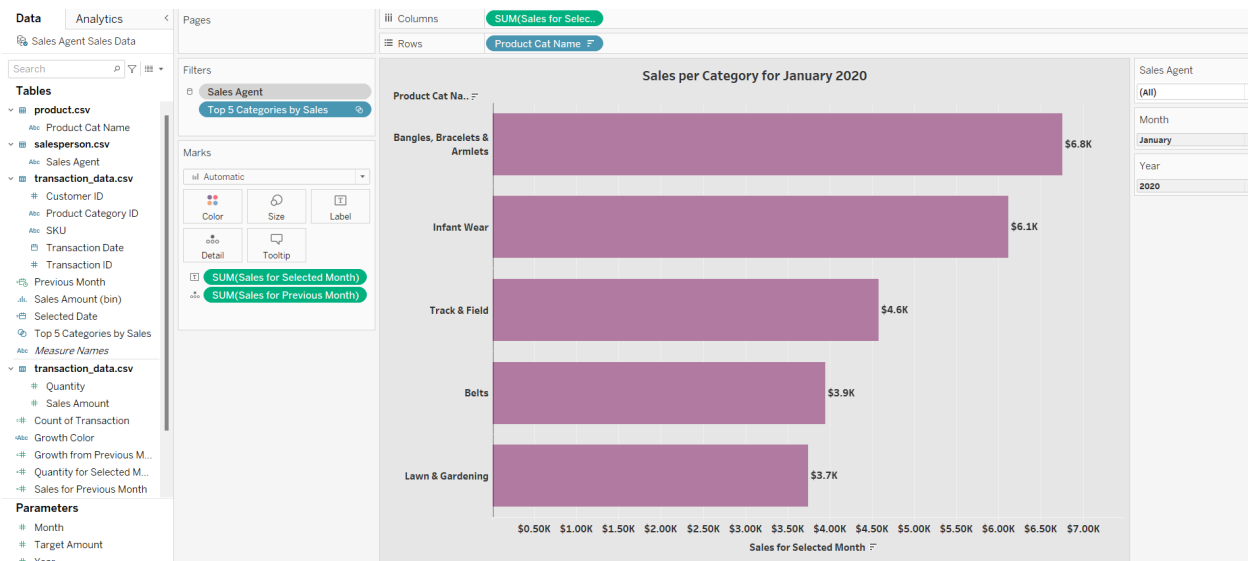
Sales vs Quantity Scatterplot

Details of Transaction

Dashboard to visualize all charts
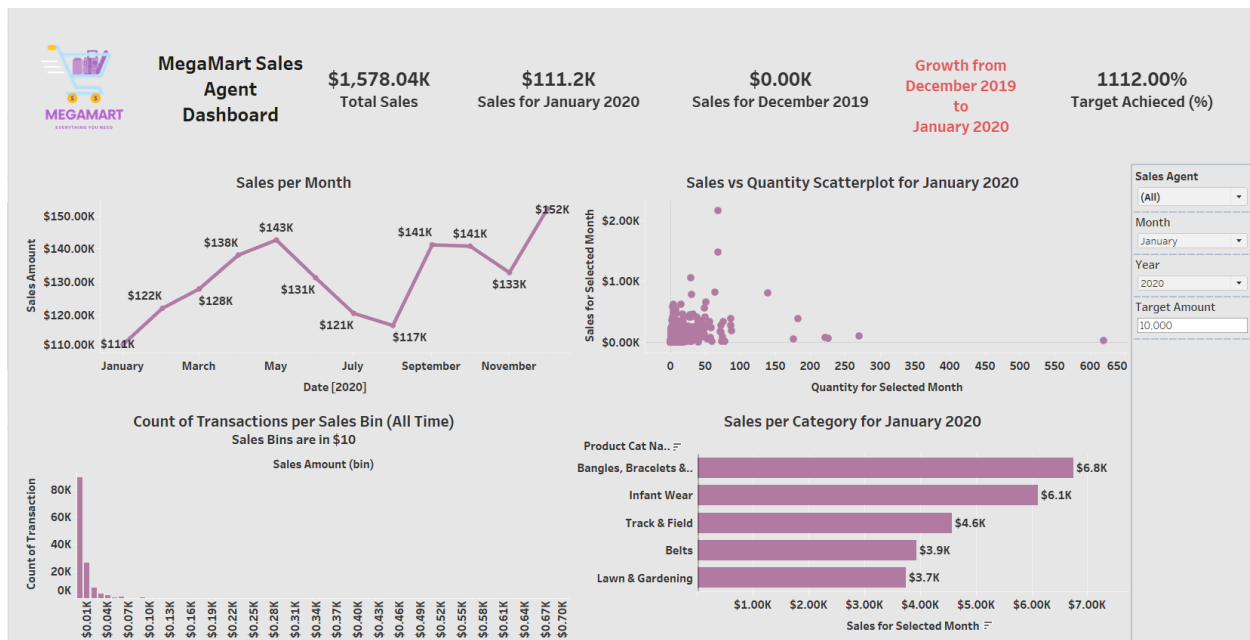
This is the final dashboard where all created sheets are organized in a single layout. Similarly, in the right side of chart there are some filters we can apply to get specific details.

Furthermore, this dashboard also has drilldown feature, where we can see detail transaction data. To drilldown into the data, click on specific point where we want to see the data.
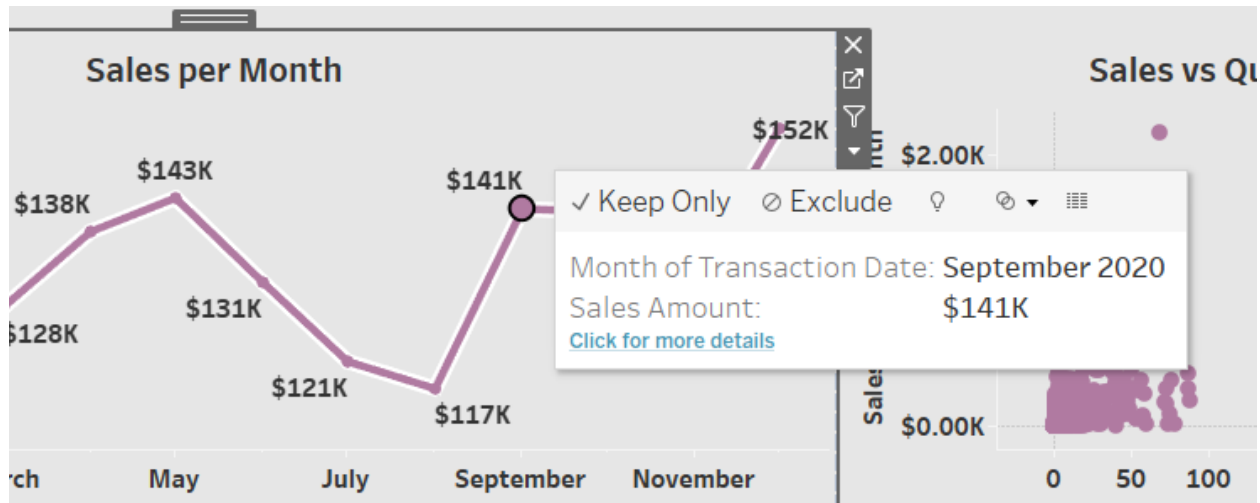
Click on 'Click for more details.' Then we can see detail information of that point in chart. Here, I have selected Sales of September month so, the drilldown table will show all the sales transaction happen on September month.

Details of Transaction

Transact..	Day of Transaction D..	Product Cat Name	SKU	Customer ID	Sales Agent	Quantity	Sales Amount
75754	September 1, 2020	Earrings	V541X	17364	Asad Rayner	1.0	$13.96
75755	September 1, 2020	Health Care	LI0IX	17255	Nayan Naylor	1.0	$6.25
75756	September 1, 2020	Lawn & Gardening	TL4WZ	17255	Eli Kavanagh	1.0	$4.00
75757	September 1, 2020	Bar Furniture	0ZEQ8	17255	Alan Farley	1.0	$6.84
75758	September 1, 2020	School Supplies	7TUN3	17019	Wade Rowley	1.0	$9.40
75759	September 1, 2020	Nose Rings & Studs	NPV8G	15969	Kaan Leon	1.0	$6.75
75760	September 1, 2020	Floor Coverings	I1AQP	17190	Deborah Eaton	1.0	$2.71
75761	September 1, 2020	Outdoor & Adventure	DUWYY	4138	Marnie Estrada	2.0	$4.19
75762	September 1, 2020	Nose Rings & Studs	SM6O7	18880	Kaan Leon	1.0	$30.00
75763	September 1, 2020	Track & Field	S3ZNF	17130	Marnie Estrada	1.0	$17.10
75764	September 1, 2020	Track & Field	2857E	17130	Marnie Estrada	2.0	$107.76
75765	September 1, 2020	Floor Coverings	GJUAD	14746	Deborah Eaton	1.0	$5.18
75766	September 1, 2020	Infant Wear	8Z930	13330	Nayan Naylor	3.0	$19.02
75767	September 1, 2020	Feeding & Nursing	6TXTJ	13330	Asad Rayner	2.0	$2.59
75768	September 1, 2020	Camera Accessories	A59HR	14903	Alan Farley	3.0	$6.48
75769	September 1, 2020	Men's Clothing	KMCD2	3783	Kaan Leon	1.0	$6.07
75770	September 1, 2020	Lawn & Gardening	TL4WZ	3783	Eli Kavanagh	1.0	$4.00
75771	September 1, 2020	Infant Wear	HRNS4	3783	Nayan Naylor	1.0	$7.47
75772	September 1, 2020	Hardware	8LANJ	3783	Deborah Eaton	1.0	$6.99
75773	September 1, 2020	Luggage & Travel	DWJC4	3783	Kaan Leon	1.0	$12.87
75774	September 1, 2020	Science	HSEOD	17423	Wade Rowley	1.0	$10.75
75775	September 1, 2020	Nose Rings & Studs	M4TM4	17326	Kaan Leon	1.0	$11.04
75776	September 1, 2020	Women's Footwear	W1ZMG	17326	Cassius David	2.0	$7.73
75777	September 1, 2020	Hardware	8KQ9S	15712	Deborah Eaton	2.0	$14.64
75778	September 1, 2020	Men's Clothing	2IA22	15712	Kaan Leon	1.0	$9.39
75779	September 1, 2020	Lawn & Gardening	JE62Y	15712	Eli Kavanagh	2.0	$10.80
75780	September 1, 2020	Science	ZSVWE	17732	Wade Rowley	1.0	$6.75
75781	September 1, 2020	Necklaces & Chains	3NZ9P	17732	Kaan Leon	1.0	$3.56

This dashboard is published on tableau public.

MegaMart Sales Agent Dashboard

https://public.tableau.com/views/MegaMartSalesAgentDashboard_16858743265590/Dashboard?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link