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Experiment 6

HONOUR PLEDGE

Date: _____

I hereby declare that the documentation, code and output attached with this lab experiment has been completed by me in accordance with highest standards of honesty. I confirm that I have not plagiarized or used unauthorized material or given or received illegitimate help for completing this experiment. I will uphold equity and honesty in the evaluation on my work, and if found guilty of plagiarism or dishonesty, will bear the consequences as outlined in the 'integrity' section of the lab rubrics. I am doing so in order to maintain a community built around this code of honour.

Pranay
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PROBLEM STATEMENT :

EDA and visualization using Tableau

- 1) Form a group of 3 people
- 2) Install Tableau and Tableau Public
- 3) Using a reference of Visual Vocabulary, analyze a case study (unique for every batch)
- 4) Review the assigned dataset
- 5) Create a Dashboard for assigned dataset(unique for every batch) on Tableau public using at least 3 visualization styles from the visual vocabulary
- 6) Tell a story

THEORY:

Exploratory Data Analysis (EDA):

Exploratory Data Analysis (EDA) is a statistical approach to analyzing datasets to summarize their main characteristics, often with the help of graphical representations. The primary goal of EDA is to uncover patterns, relationships, anomalies, and trends within the data. It involves the use of various descriptive and graphical statistics to understand the structure and nature of the data.

Key Concepts:

Data Visualization: Visual representation of data is a crucial aspect of EDA.

Techniques like histograms, scatter plots, box plots, and more help in gaining insights into the distribution and relationships within the data.

Data Cleaning: Understanding the quality of the data is a vital part of EDA. This includes handling missing values, dealing with duplicates, and ensuring data integrity.

Pattern Recognition: EDA is employed to recognize recurring patterns or trends within the data, aiding in the formulation of hypotheses for further analysis.

Significance:

EDA is the first step in the data analysis process, providing a comprehensive understanding of the dataset before more advanced techniques are applied. It helps in hypothesis generation, guiding subsequent modeling and testing phases.

EDA facilitates effective communication of insights to both technical and non-technical audiences.

Tableau:

Tableau is a powerful data visualization and business intelligence tool that allows users to connect, visualize, and share data in a comprehensible and interactive format. It provides a user-friendly interface for creating dashboards and reports, making it accessible to users with varying levels of technical expertise.

Key Features:

Connectivity: Tableau can connect to various data sources, including databases, spreadsheets, cloud services, and more, making it versatile for different data environments.

Drag-and-Drop Interface: The tool's intuitive drag-and-drop interface allows users to create visualizations without the need for extensive coding or programming skills.

Interactive Dashboards: Tableau enables the creation of dynamic and interactive dashboards that allow users to explore and analyze data in real-time. Filters, parameters, and actions enhance interactivity.

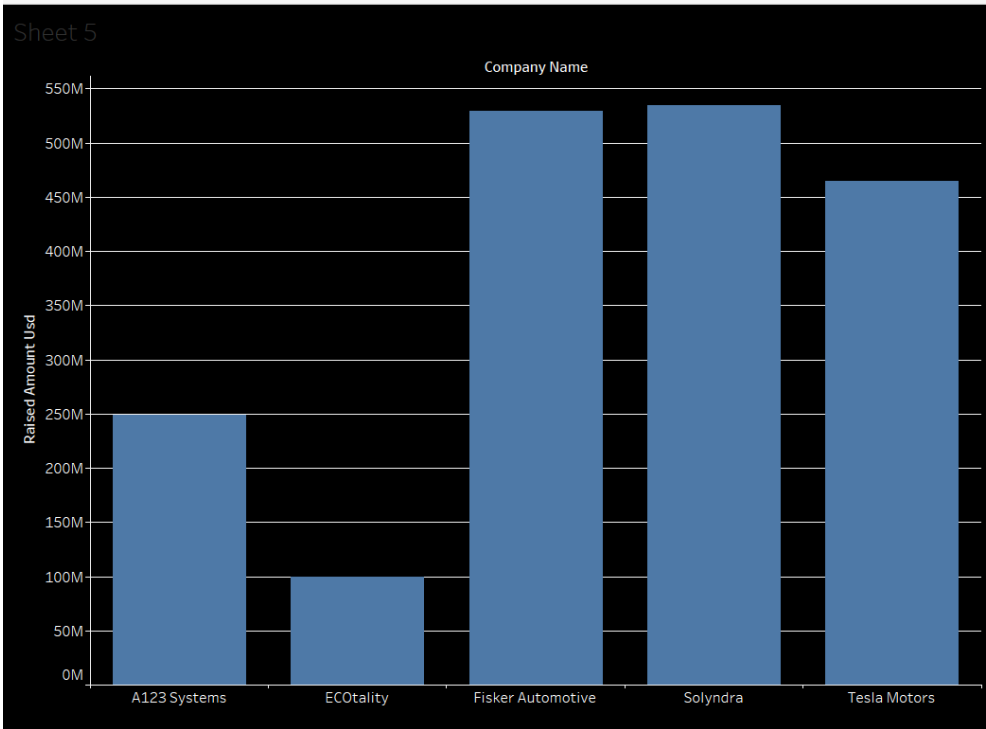
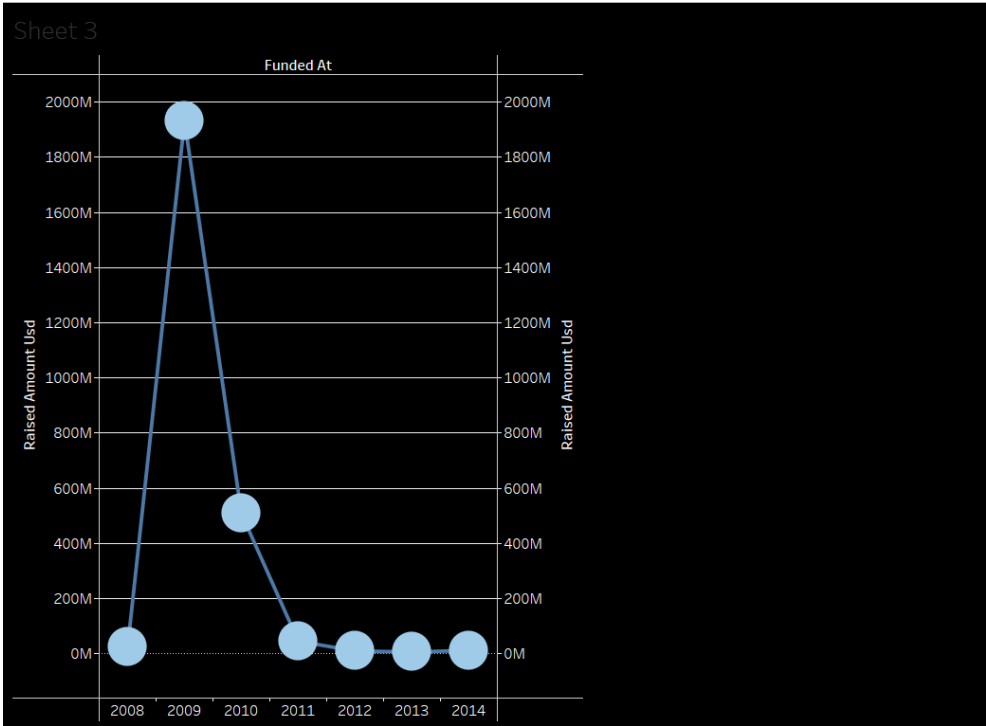
Wide Range of Visualizations: Tableau supports a plethora of visualization types, including bar charts, scatter plots, heatmaps, and more. This versatility allows users to choose the most appropriate representation for their data.

Publish and Share: Tableau Public allows users to publish their visualizations online, making it easy to share insights and collaborate with others.

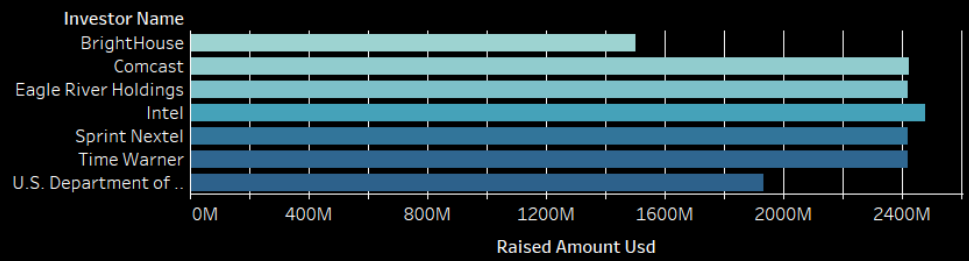
RESULT:

Story:
We have tried to tell the story of the “Global financial Crisis of 2008” through our visualizations, we have shown how the investment dipped in the fallout 2008-09 and how the US financial banks changed how they invested into different sectors of the industry and how funding overall took a hit.

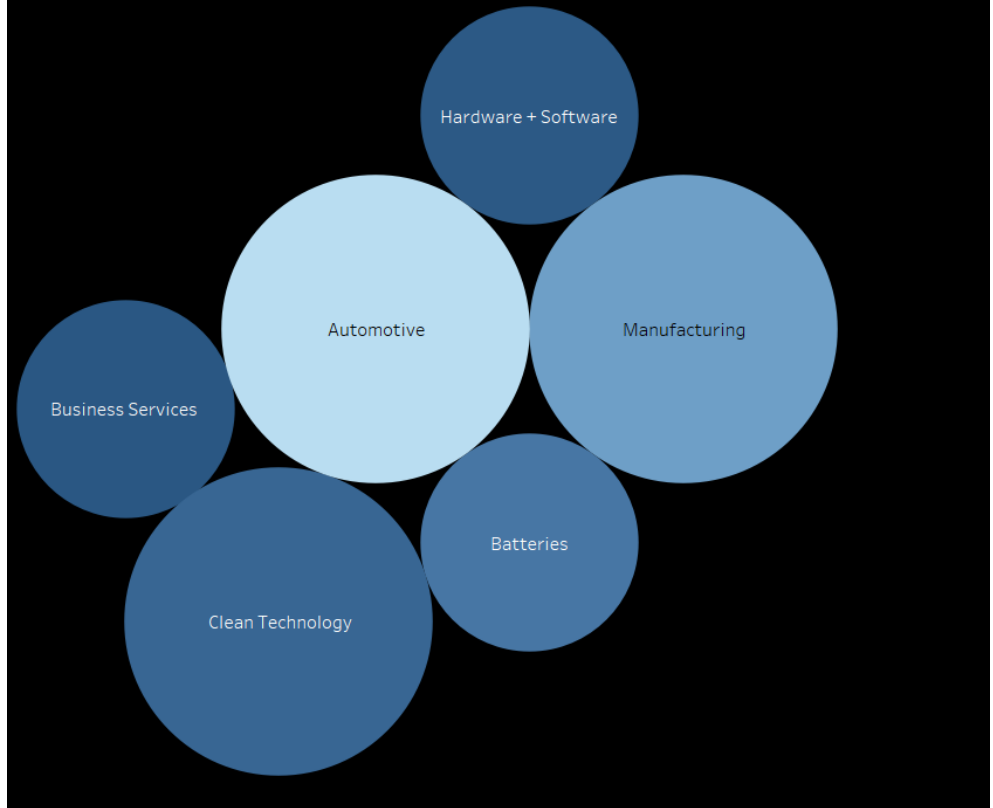
All the visualisations:



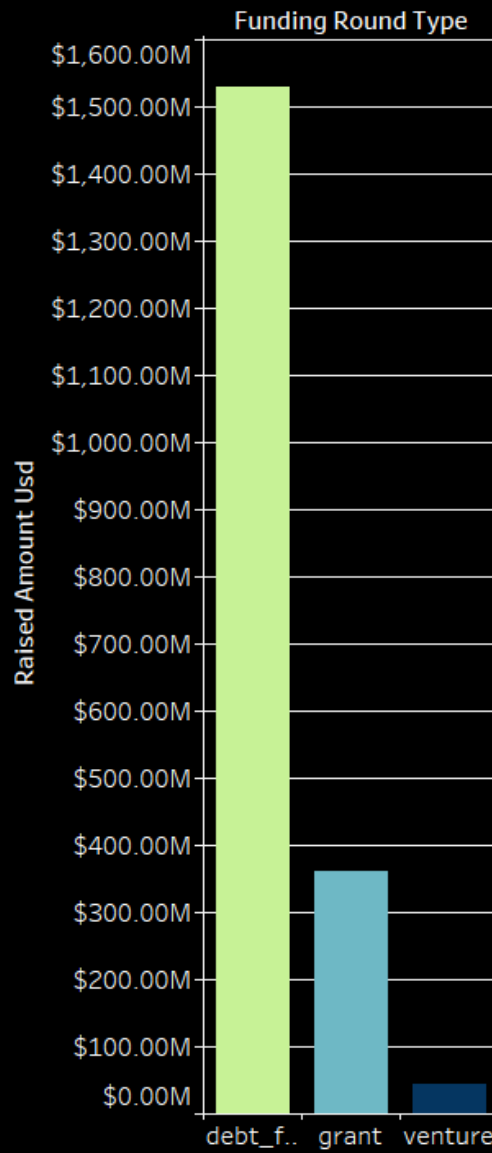
Sheet 6



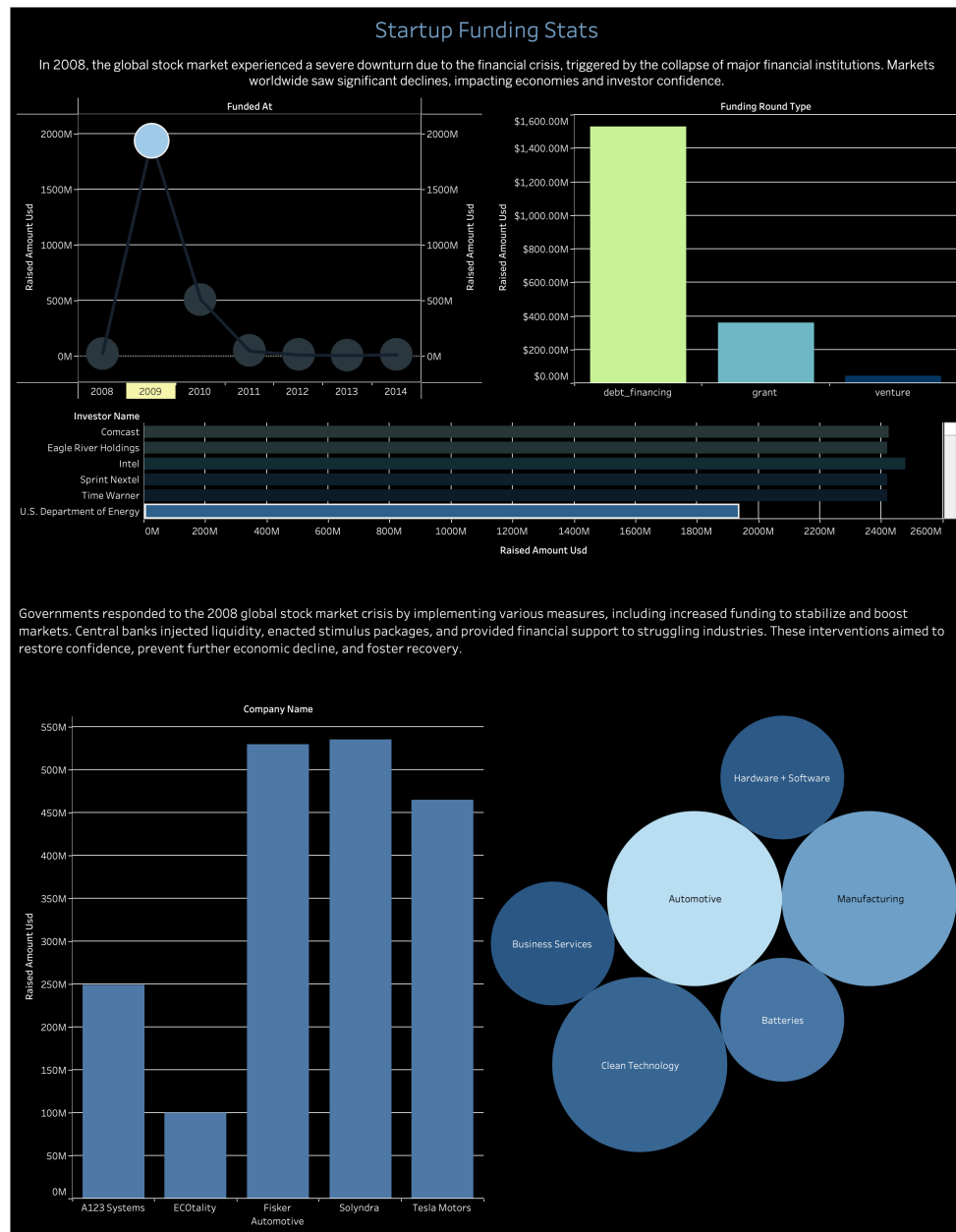
Sheet 7



Funding Type



Final Dashboard Made in Tableau:



CONCLUSION:

In this experiment, we learned how to install tableau and load excel sheet data and work with the data to make several visualizations. We made total of 5 visualizations from the visual vocabulary given. We also learned how to combine all the visualizations into one dashboard and tell a story through it.