GOVERNMENT ARTS COLLEGE (AUTONOMOUS),COIMBATORE-18

DEPARTMENT OF PHYSICS

A PROJECT REPORT ON

VOYAGE VISTA: ILLUMINATING INSIGHTS OF UBER EXPEDITIONARY ANALYSIS

BASED ON THE COURSE

FUNDAMENTALS OF DATA ANALYTICS WITH TABLEAU – SMARTBRIDGE

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SUBMITTED TO

NAAN MUDHALVAN – SMART INTERNZ

DATA ANALYTICS AND UPSKILL PROGRAMMING

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FUNDAMENTALS OF DATA ANALYTICS WITH TABLEAU - SMARTBRIDGE

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Thankyou!

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1. INTRODUCTION

1.1 OVERVIEW

Uber is a multinational transportation network company that operates a ride-hailing platform. It provides a convenient way for individuals to request rides from drivers who use their own personal vehicles. Uber drives analysis refers to the analysing the number of trips taken. It can provide insights into their overall activity and the demand for rides in specific areas. Uber's data can be analysed on a daily, weekly, monthly basis to understand the trends and patterns of trip volume. This analysis helps to identify areas with higher demand and helps to identify peak hours at geographic or specific regions. Our project is to use data analysing techniques to find unknown patterns in the uber drives dataset.

1.2 PURPOSE

Demand prediction:

By this analysis historical data to predict when and where demand for rides will be highest. This helps drivers position themselves optimally.

Customer insights:

Analysing data over time helps uber understand customer preferences and behaviours allowing for better marketing and product development decisions.

Market expansion:

This analysis uses data to identify potential new markets and areas of growth, which can involve monthly or quarterly assessments.

Regulatory compliance:

Regular data analysis ensures uber complies with local regulations and standards in each market it operates in.

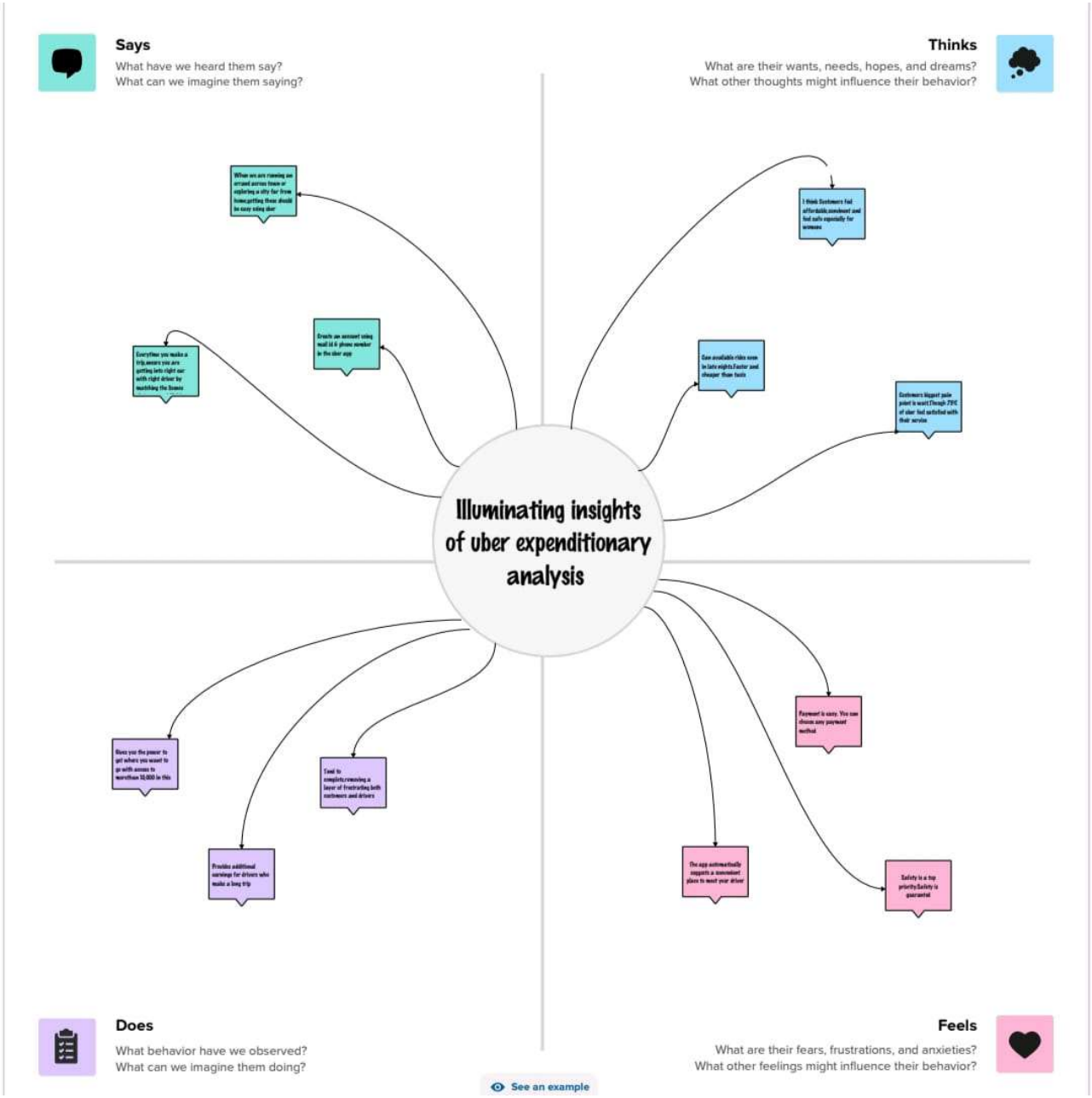
Development:

Data analysis aids in the development of new features and services by identifying areas for improvement and innovation.

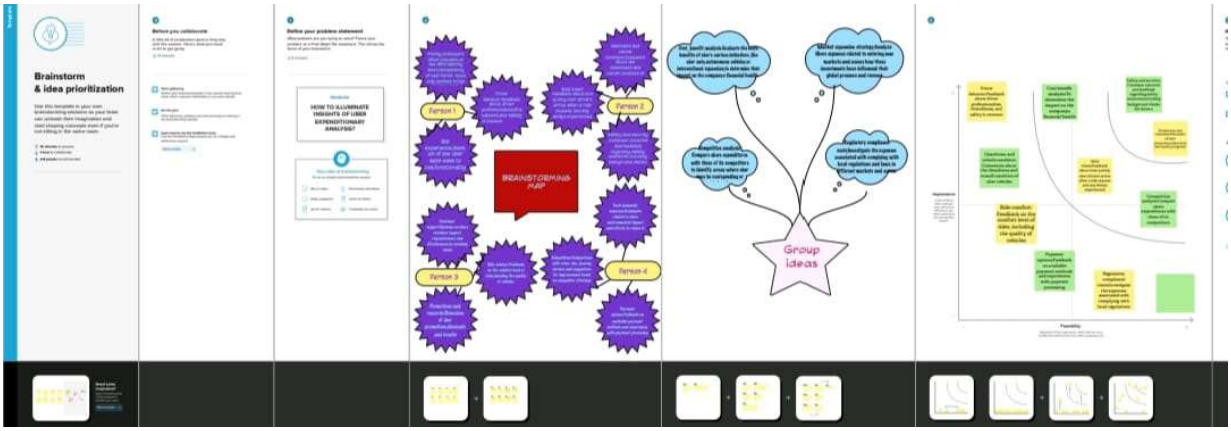
2. PROBLEM DEFINITION & DESIGN THINKING

In order and find solutions for the problems and understanding it we have conducted many discussions within our team and presented it in the form of Empathy map and Brainstorming map

2.1 EMPATHY MAP



2.2 IDEATION & BRAINSTORMING MAP



3. RESULT

DATA VISUALISATION:

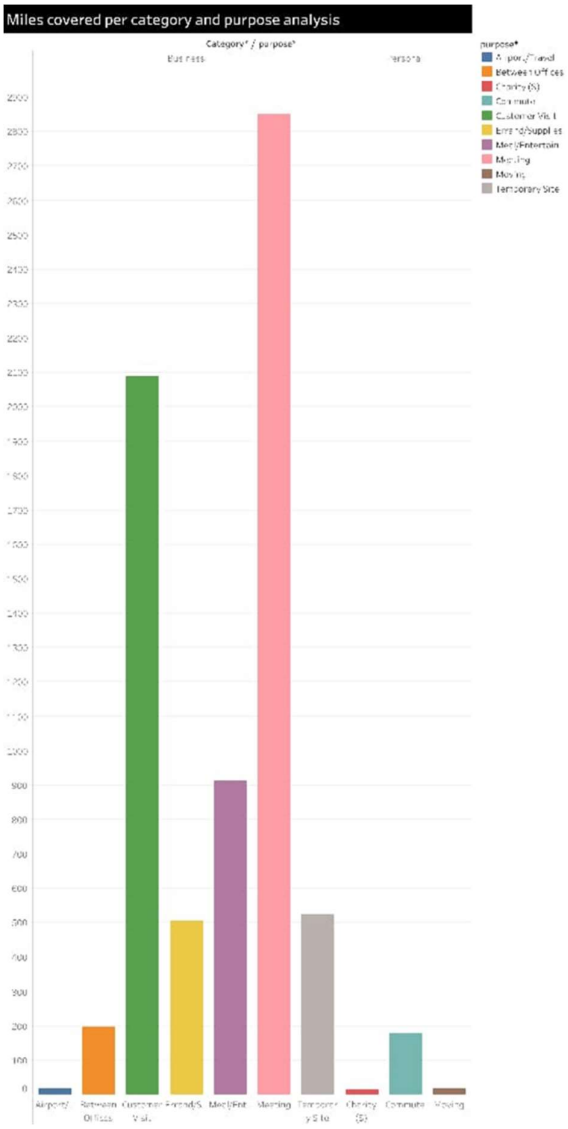
Data visualization is the process of creating graphical representations of data in order to help people understand and explore the information. The goal of data visualization is to make complex data sets more accessible, intuitive, and easier to interpret. By using visual elements such as charts, graphs, and maps, data visualizations can help people quickly identify patterns, trends, and outliers in the data.

NUMBER OF UNIQUE VISUALISATIONS:

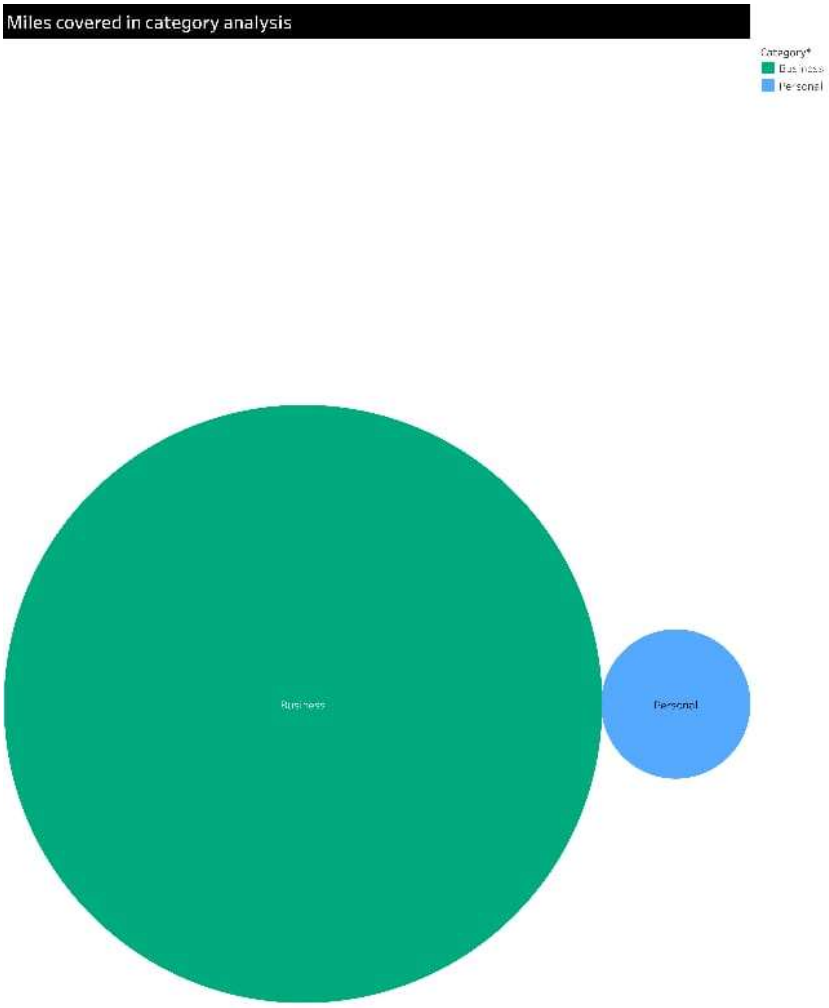
The number of unique visualizations that can be created with a given dataset. Some common types of visualizations that can be used to analyse the performance and efficiency of a project include bar charts, line charts, heat maps, scatter plots, pie charts, Maps, etc. These visualizations can be used to compare performance,

track changes over time, and show distribution, and relationships between variables.

1. MILES COVERED PER CATEGORY AND PURPOSE ANALYSIS

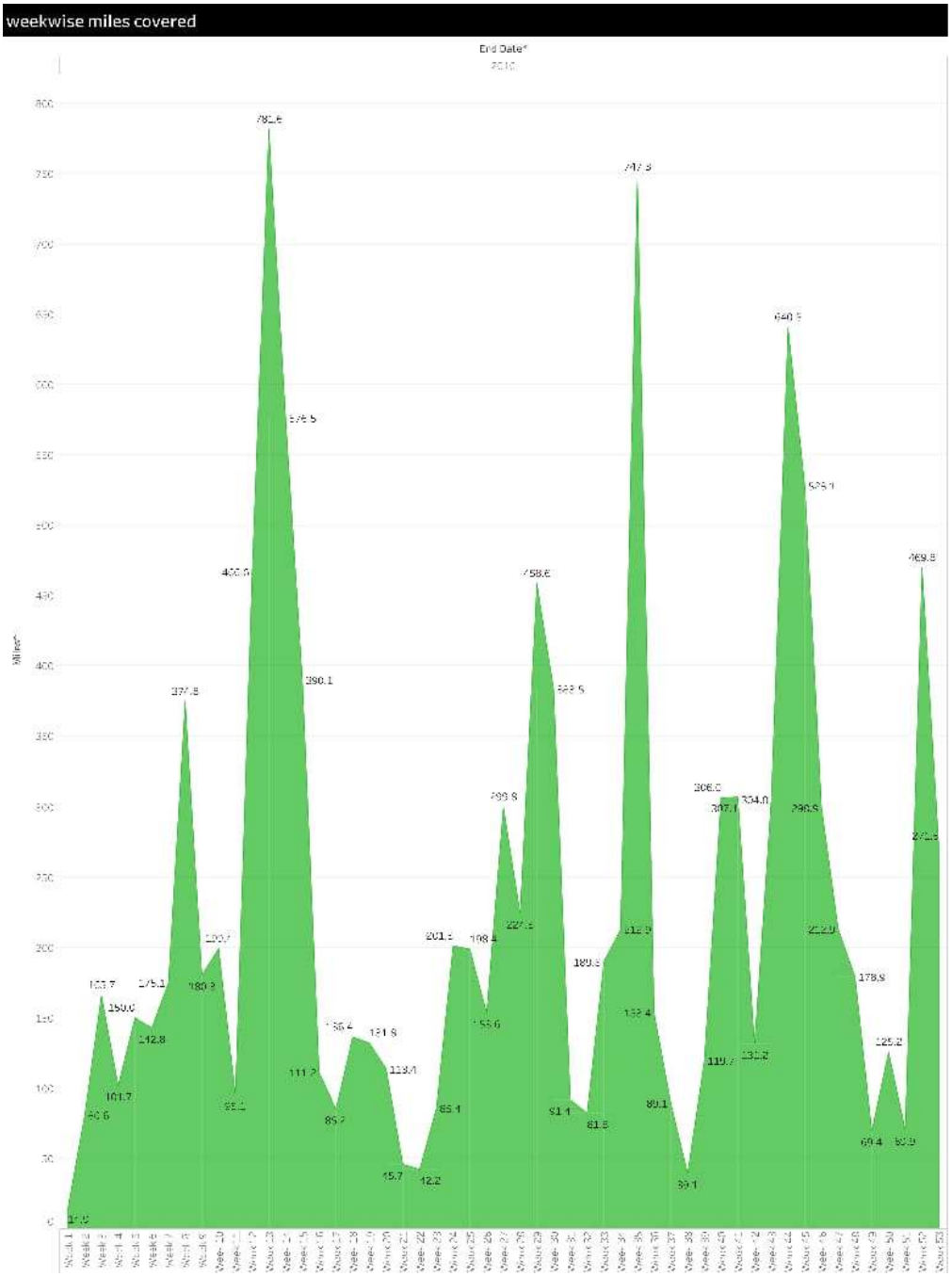


2. MILES COVERED IN CATEGORY ANALYSIS

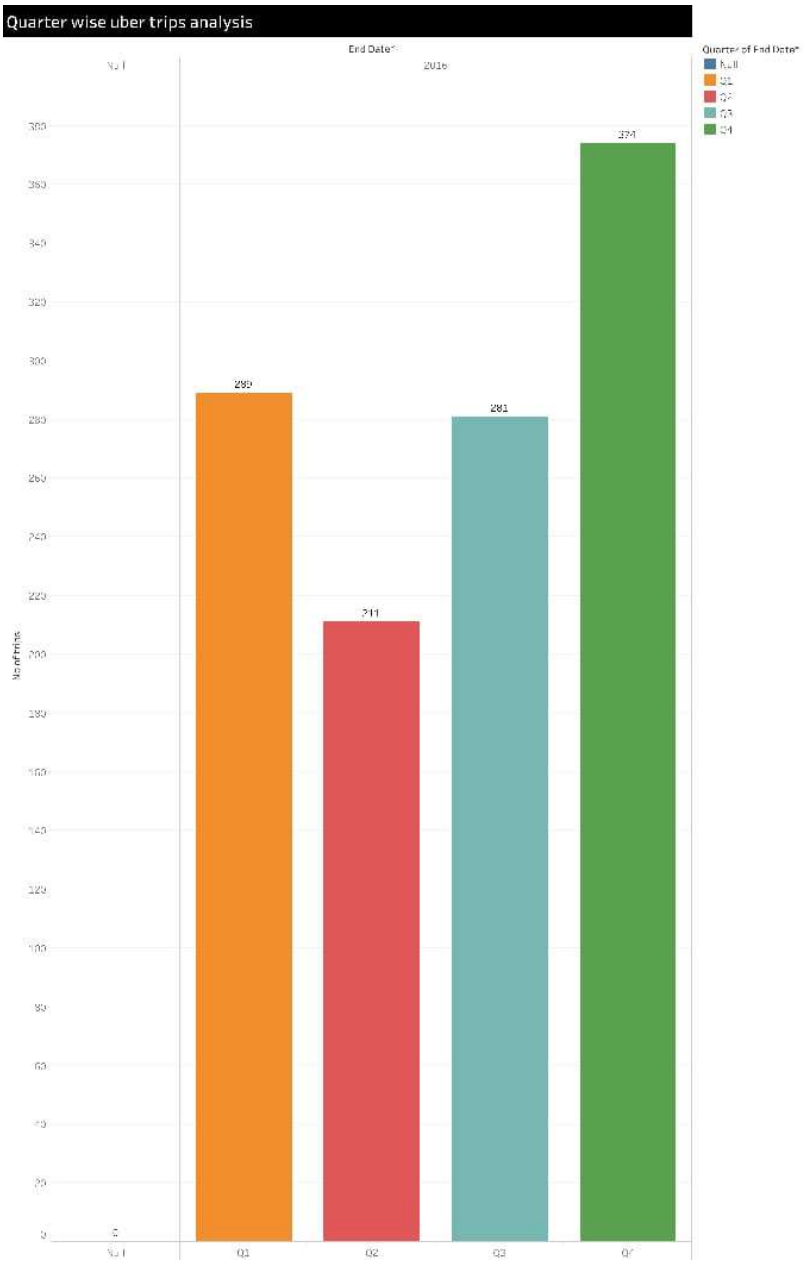


3. MONTHWISE MILES COVERED

4. WEEKWISE MILES COVERED

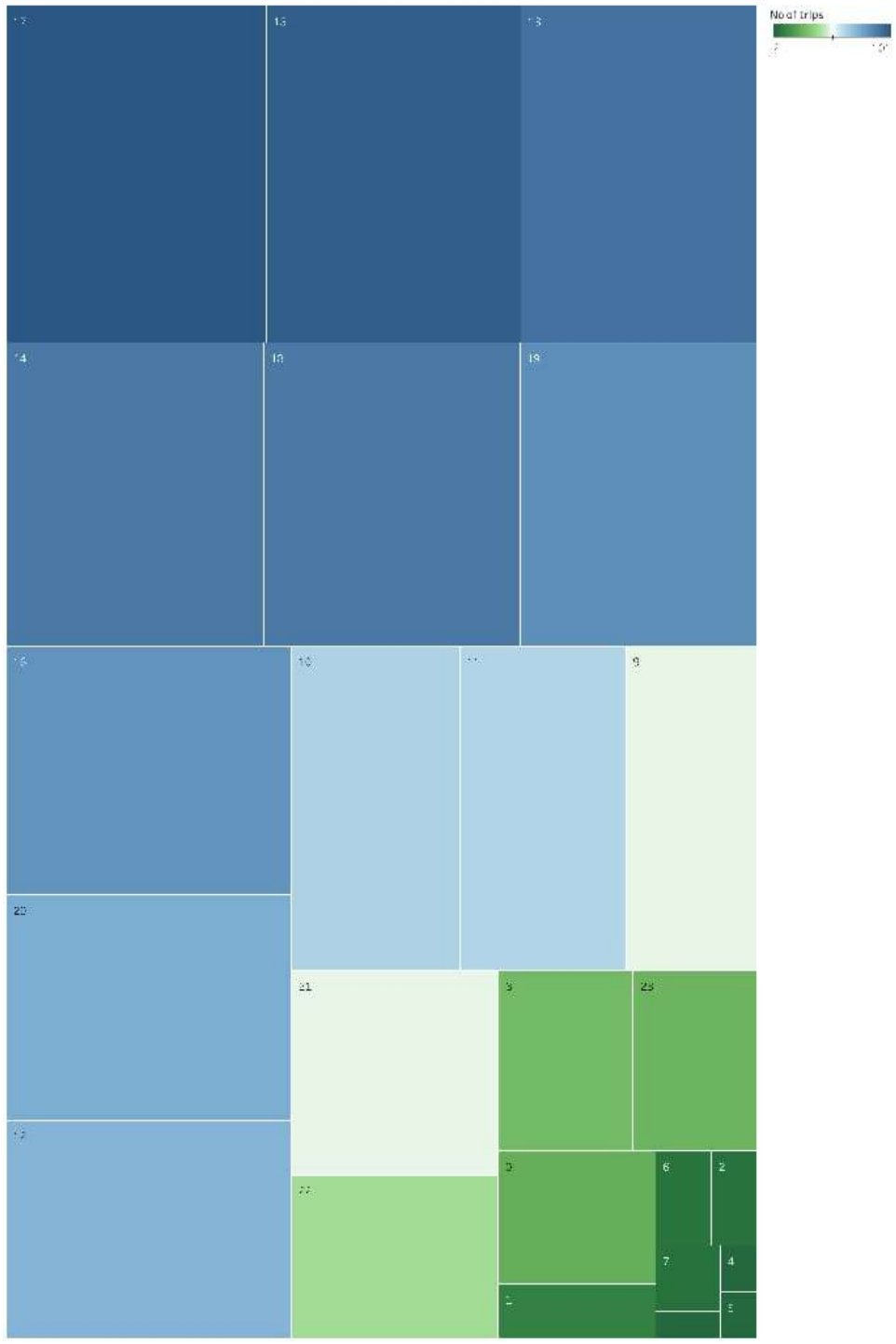


5. QUARTER WISE UBER TRIPS ANALYSIS



6. HOUR WISE UBER TRIPS ANALYSIS

Hour wise uber trips analysis



DASHBOARD

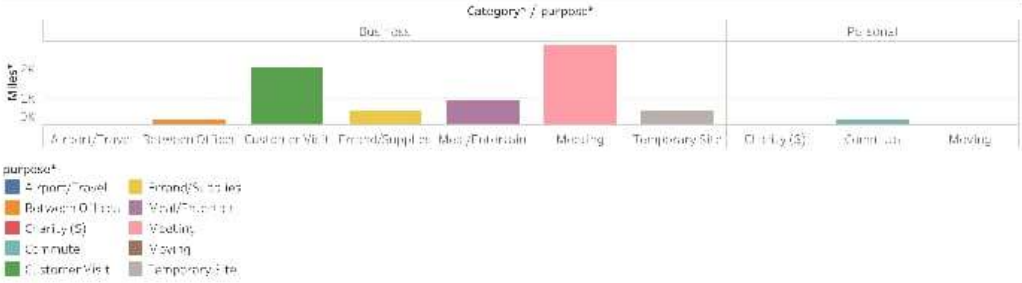
A dashboard is a graphical user interface (GUI) that displays information and Data in an organized, easy-to-read format. Dashboards are often used to provide Real - time monitoring and analysis of data, and are typically designed for a Specific purpose or use case. Dashboards can be used in a variety of settings, Such as business, finance, manufacturing, healthcare, and many other Industries. They can be used to track key performance indicators (KPIs), monitor Performance metrics, and display data in the form of charts, graphs, and tables.

Responsive and Design of Dashboard

After completion various sheets using the available data, we can pull all those sheets into a Dashboard and present it for better understanding and analyzing problems.

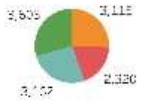
Miles covered in category analysis

Miles covered per category and purpose analysis



Monthwise miles covered

Quarter wise uber miles analysis

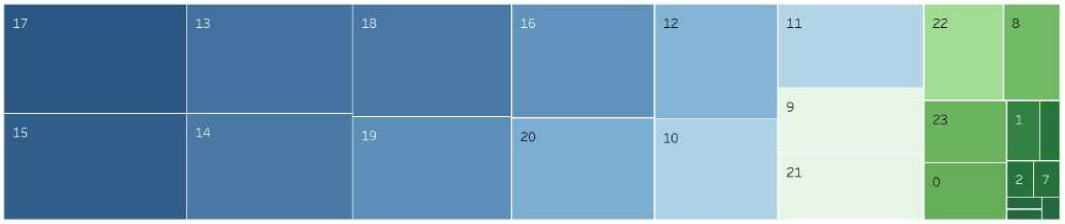


weekwise miles covered

Month wise uber trips analysis

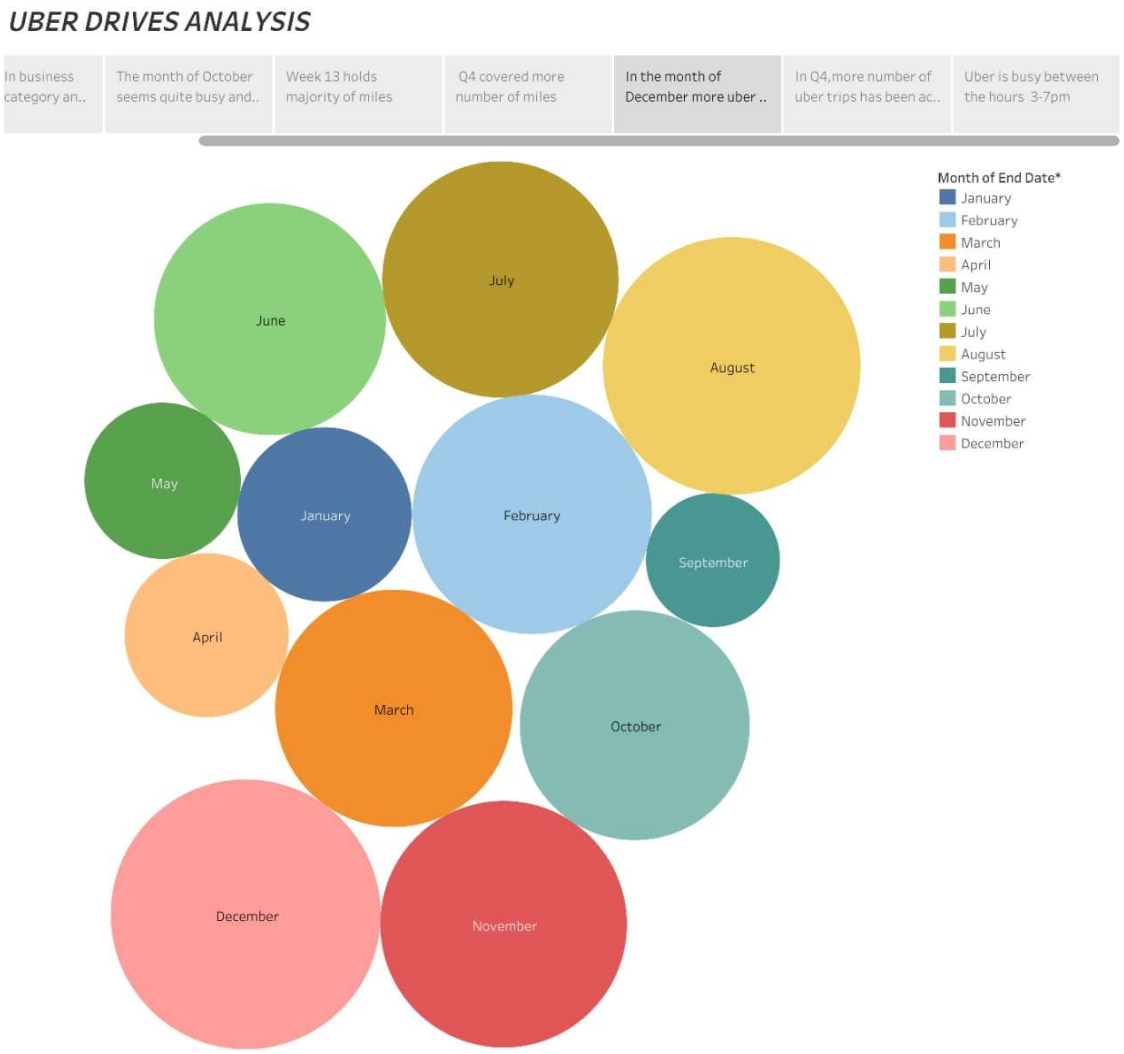
Quarter wise uber trips analysis

Hour wise uber trips analysis



STORY

A data story is a way of presenting data and analysis in a narrative format with the goal of making the information more engaging and easier to understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis in a logical and systematic way, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos.

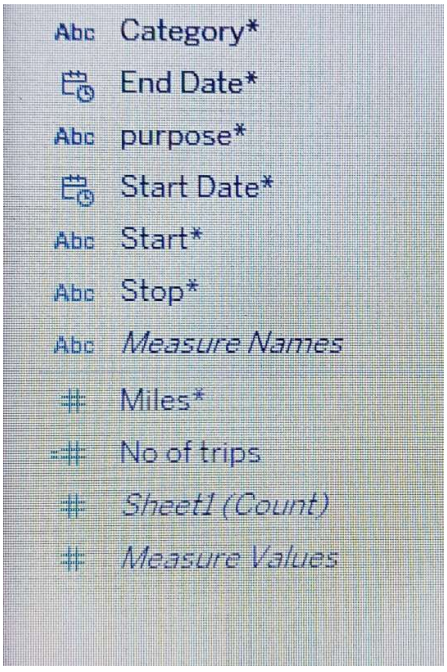


PERFORMANCE TESTING

1. AMOUNT OF DATA RENDERED

Amount of data rendered in our project is comparatively large set of data it has around 440+ rows we have used this data and prepared our sheets and done our analysis.

2. NUMBER OF CALCULATION FIELDS



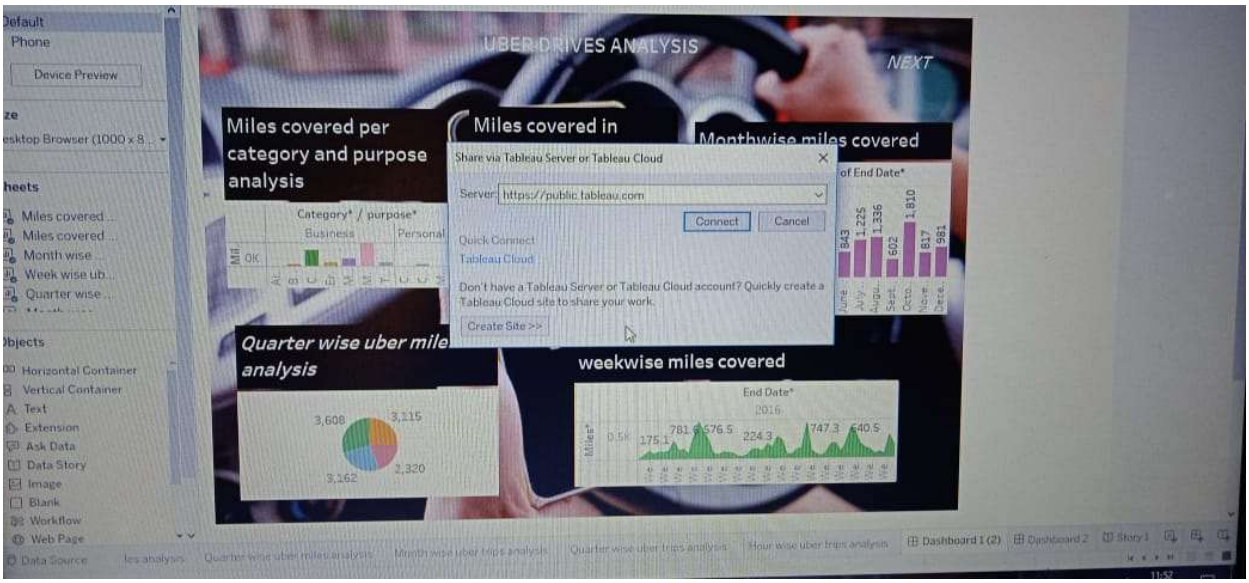
3. NUMBER OF VISUALISATION/GRAPHS

1. Miles covered per category and purpose analysis
2. Miles covered in category analysis
3. Month wise miles covered
4. Week wise miles covered
5. Quarter wise uber trips analysis
6. Hour wise uber trips analysis

PUBLISHING

Publishing helps us to track and monitor key performance metrics, to Communicate results and progress. Help a publisher stay informed, make better Decisions and communicate their performance to others.

Server and the link is attached as a Hyperlink here- [Uber Expeditionary Analysis]



The Story and Dashboard has been completed and uploaded in Tableau public.

PROJECT DOCUMENTATION AND DEMONSTRATION

We have completed our project and done both Documentation and Demonstration video explaining our project in an end-to-end manner, the link of video and all our project files has been attached as hyperlink below.

PROJECT DEMONSTRATION –

EMPATHY MAP

BRAINSTORM MAP

DASHBOARD

STORY

SERVER LINK - Tableau public –Uber Expeditionary Analysis

REPOSITORY – Uber Expeditionary Analysis

4. ADVANTAGES

1. Comprehensive analysis of customer spending behaviour:

Tableau allows businesses to analyse customer spending behaviour across a variety of dimensions, such as product category, customer segment, geographic location, and time period. This comprehensive analysis can help businesses to identify trends and patterns that would otherwise be difficult to discern.

2. Identification of growth opportunities:

By understanding customer spending patterns and preferences, businesses can identify opportunities to grow their business. For example, businesses may identify opportunities to launch new products or services, expand into new markets, or target specific customer segments with more tailored marketing campaigns.

3. Data visualization:

Tableau's powerful data visualization capabilities make it easy to communicate complex data findings to stakeholders in a clear and concise way. This can help businesses to make more informed and data-driven decisions.

4. Ease of use:

Tableau is a user-friendly platform that does not require any coding knowledge. This makes it accessible to a wide range of users, including business analysts, marketing professionals, and executives.

5. Improve customer satisfaction:

By understanding customer spending patterns and preferences, businesses can improve their product and service offerings, as well as their marketing and sales strategies. This can lead to improved customer satisfaction and loyalty.

6. Increase revenue:

By identifying and capitalizing on growth opportunities, businesses can increase their revenue and profitability.

7. Gain a competitive advantage:

By leveraging data analytics and data-driven decision-making, businesses can gain a competitive advantage in their respective markets.

5. DISADVANTAGES

While Uber has revolutionized transportation in many ways, it's important to consider some of its potential disadvantages:

1. Surge Pricing: During high-demand periods, Uber applies surge pricing, which can significantly increase the cost of a ride.

2. Dependence on Technology: Using Uber requires a smartphone and a stable internet connection, which may be a barrier for some individuals.

3. Safety Concerns: There have been instances of safety issues involving both passengers and drivers. Although Uber has implemented safety measures, incidents can still occur.

4. Regulatory Issues: Uber has faced regulatory challenges in many regions, often clashing with traditional taxi services and local governments.

5. Lack of Job Security for Drivers: Uber drivers are considered independent contractors, which means they don't receive benefits like health insurance, retirement plans, or paid time off.

6. Variable Income: Drivers' earnings can be unpredictable due to factors like fluctuating demand, location, and time of day.

7. Competition with Public Transit: Some argue that services like Uber can divert resources away from public transportation, potentially leading to less investment in public transit systems.

8. Environmental Impact: While Uber offers convenient transportation, it can contribute to congestion and pollution, especially in heavily urbanized areas.

5. APPLICATIONS

1. Demand Prediction: Analyzing historical data to predict when and where the demand for rides is likely to be highest. This can help Uber allocate drivers more effectively.

2. Route Optimization: Analyzing traffic and historical route data to optimize driver routes, reducing travel time and fuel consumption.

3. Pricing Strategies: Using data to set dynamic pricing based on factors like demand, time, and location.

4. Driver Incentives: Identifying ways to incentivize drivers, such as offering bonuses during peak demand times.

5. Customer Experience: Analyzing feedback and ratings to identify areas for improvement in service and safety.

6. Safety and Security: Detecting and responding to safety and security incidents using real-time data.

7. Market Expansion: Using data to identify new markets where Uber services can be launched profitably.

8. Environmental Impact: Analyzing data to assess the environmental impact of rides and implementing measures to reduce it.

6. CONCLUSION

The data analysis of Uber's operations reveals valuable insights. It's evident that Uber has revolutionized the transportation industry by providing convenient and cost-effective rides. Data-driven decisions have enabled them to optimize pricing, reduce wait times, and enhance driver and. rider experiences. However, challenges such as regulatory issues and competition persist. To sustain and to grow, Uber should continue leveraging data for innovation, addressing societal concerns, and expanding into new markets while maintaining a customer-centric approach.

7. FUTURE SCOPE

1. Demand Forecasting: Using data to predict when and where riders will need a trip, optimizing driver allocation and reducing wait times.

2. Route Optimization: Continuously improving algorithms for finding the most efficient routes to reduce travel time and fuel consumption.

3. Pricing Strategies: Developing dynamic pricing models based on demand, traffic, and other factors to maximize revenue.

4. Safety Enhancements: Analyzing data to identify patterns that can improve safety, such as accident prediction and driver behavior analysis.

5. Customer Experience: Personalizing the user experience by analyzing data to offer tailored recommendations and promotions.