Introduction (TABLEAU)

In this case study, you will perform many real-world tasks of a junior data analyst. You will work for a fictional company, Cyclistic, and meet different characters and team members. In order to answer the key business questions, you will follow the steps of the data analysis process: ask, prepare, process, analyze, share, and act. Along the way, the Case Study Roadmap tables — including guiding questions and key tasks — will help you stay on the right path.

Scenario

You are a junior data analyst working in the marketing analyst team at Cyclistic, a bike-share company in Chicago. The director of marketing believes the company's future success depends on maximizing the number of annual memberships. Therefore, your team wants to understand how casual riders and annual members use Cyclistic bikes differently. From these insights, your team will design a new marketing strategy to convert casual riders into annual members. But first, Cyclistic executives must approve your recommendations, so they must be backed up with compelling data insights and professional data visualizations.

Prepare

You will use Cyclistic's historical trip data to analyze and identify trends. Download the previous 12 months of Cyclistic trip data here. (Note: The datasets have a different name because Cyclistic is a fictional company. For the purposes of this case study, the datasets are appropriate and will enable you to answer the business questions. The data has been made available by Motivate International Inc. under this license.) This is public data that you can use to explore how different customer types are using Cyclistic bikes.

Key tasks

1. Download data and store it appropriately.
2. Identify how it's organized.
3. Sort and filter the data.

Process

Then, process your data for analysis using the following Case Study Roadmap as a guide:

Key tasks

1. Check the data for errors.
2. Choose your tools.
3. Transform the data so you can work with it effectively.
4. Document the cleaning process.

Analyze

Now that your data is stored appropriately and has been prepared for analysis, start putting it to work. Use the following Case

Key tasks

1. Aggregate your data so it's useful and accessible.
2. Organize and format your data.
3. Perform calculations.
4. Identify trends and relationships.

Share

Now that you have performed your analysis and gained some insights into your data, create visualizations to share your findings.

Follow these steps:

1. Once you choose a visual form, open your tool of choice to create your visualization. Use a presentation software, such as PowerPoint or Google Slides; your spreadsheet program; Tableau.
2. Create your data visualization, remembering that contrast should be used to draw your audience's attention to the most important insights. Use artistic principles including size, color, and shape.
3. Ensure clear meaning through the proper use of common elements, such as headlines, subtitles, and labels.
4. Refine your data visualization by applying deep attention to detail.

Approach:

Analyze rider data: Collect and analyze data on how riders use Cyclistic bikes. This could include information on the frequency and duration of rides, as well as the types of bikes used.

Segment riders: Segment riders into casual riders and annual members based on their ride behavior, membership type, and usage patterns. This will allow you to identify differences in how the two groups use Cyclistic bikes.

Create data visualizations: Create compelling data visualizations that highlight key differences between casual riders and annual members and make it easy for executives to understand the insights. The visuals should involve the number of rides per day, per week and per month and also visualize for the total trip duration in a week.

Get Insights: After creating visualisations, upload your work in tableau website and make a report or presentation on key findings.

Results:

You will produce a report with the following deliverables:

1. A clear statement of the business task
2. A description of all data sources used
3. Documentation of any cleaning or manipulation of data
4. A summary of your analysis
5. Supporting visualizations and key findings
6. Your top three recommendations based on your analysis.

Performance Evaluation:

1. Dashboard design: The dashboard should be well-designed and visually appealing, with clear and concise visualizations that effectively communicate the key insights and trends.

2. Data accuracy: The analysis should be based on accurate and reliable data, and any data issues or anomalies should be identified and addressed.

3. Performance: The performance of the dashboard should be evaluated in terms of speed, responsiveness, and scalability. The dashboard should be optimized to load and refresh quickly, even with large amounts of data.

4. Interactivity: The dashboard should be interactive, allowing users to drill down into the data and explore trends and patterns on their own. The interactivity should be intuitive and easy to use.

5. Insights: The dashboard should provide meaningful and actionable insights that help stakeholders make informed decisions. The insights should be relevant to the business questions and goals, and should be presented in a clear and concise manner.

6. User adoption: The dashboard should be adopted by users and used regularly as a tool for decision-making. User feedback should be gathered to evaluate the usefulness and effectiveness of the dashboard.