Ask, Prepare, Process, Analyze, Share, and Act

1. Ask

Guiding questions

● What is the problem you are trying to solve?
   - How do we convert casual members into annual memberships?

● How can your insights drive business decisions?
   - It will be necessary to spot trends in how membership users engage with Cyclistic to see if there is a way to upgrade casual users
   - Determine the frequency and location of when the casual members are renting the bikes.

Key Tasks

- Identify the business task
   - Identify trends of what membership users have compared with casual users
- Consider key stakeholders
   - Marketing Executive for Cyclist

2. Prepare

Guiding questions

● Where is your data located?

Microsoft Excel, CSV, Comma - Delimited

● How is the data organized?

Data is organized with ride_id and start and end stations.

● Are there issues with bias or credibility in this data? Does your data ROCCC?

The data seems credible.

● How are you addressing licensing, privacy, security, and accessibility?

● How did you verify the data's integrity?

There are no duplicates in the primary key (Ride_id)

● How does it help you answer your question?

Comparing what type of bikes the casual and members share. Displaying the location of where members and casual users rent a bike.

● Are there any problems with the data?
   - There were more end stations than starting stations.
   - The data type of the end and start station IDs were inconsistent in how they were formatted.

Key tasks

- Download data and store it appropriately.
  Yes
- Identify how it's organized.
- Sort and filter the data.
- Determine the credibility of the data

Deliverables

- Description of all data sources used

3. Process

Guiding Questions

- What tools are you choosing and why?
  Excel sort and filter, removing duplicates,
- Have you ensured your data's integrity?
  Yes, we have by identifying the primary key.
- What steps have you taken to ensure that your data is clean?
  Separated the data, based on relationships, entities, and attributes.
- How can you verify that your data is clean and ready to analyze?
  Because you've sorted and separated entities based on relationships.
- Have you documented your cleaning process so you can review and share those results?
  Yes, I saved the results in separate excel sheets.

Key Tasks

- Check the data for errors.
- Yes
- Choose your tools.
  - Sort and filter, removing duplicates.
- Transform the data so you can work with it effectively.
  - I separated the data into entities.
- Document the cleaning process.
- Copied the ride types into a separate worksheet to define how many ride types are available. We copied the start station name and id. We removed any duplicates. Identified how many start stations were available for riders - SAME process for end stations.

  Deliverables

- Documentation of any cleaning or manipulation of data

4. Analyze

Guiding Questions

- How should you organize your data to perform analysis on it?
    - Pivot tables
- Has your data been properly formatted?
  Organized by individual trends
- What surprises did you discover in the data?
  Members don't use their bikes for long. Casual users mainly use their bikes over the weekend.
- What trends or relationships did you find in the data?
  Members use their bikes during the week.
- How will these insights help answer your business questions?
  Show trends in how the bike is used. It will show who your customer is and how to better serve them.

Key Tasks

- Aggregate your data so it's useful and accessible.
- Organize and format your data.
- Perform calculations.
- Identify trends and relationships.

Deliverable

- Summary of your analysis
- The casual user rides during the weekend more often than members. Members ride more during the week.
  Casual – on average the casual user is using for about 31 minutes
  Member uses for 13 minutes
  Casual
  Monday's highest time is approximately 32 minutes Wednesday is the lowest with an average of 26 minutes
  Members ride the most on Sundays for 14.5 minutes and the least on Wednesdays for 12.3 minutes.
  Monday is the most popular days with Wednesday being the least popular
  Casual riders more commonly use Saturdays and Sundays on the weekends while members ride during the weekday.

5. Share

Guiding Questions

- Were you able to answer the question of how annual members and casual riders use Cyclistic bikes differently?
  Yes, casual riders use their bikes for longer periods of time on the weekends. Members use their bikes for shorter periods of time during the weekdays.
- What story does your data tell?

Members use their bike for work during the week. While casual riders use their bike for leisure on the weekends.
- How do your findings relate to your original question?
  They make finding a way to convert casual riders to Cyclist difficult.
- Who is your audience? What is the best way to communicate with them?
  Marketing Executive for Cyclist.
- Can data visualization help you share your findings?
  Yes, observers can easily spot trends within the data.
- Is your presentation accessible to your audience?
  Github

Key Tasks
- Determine the best way to share your findings.
  Please tell me.
- Create effective data visualizations.
- Present your findings.
- Ensure your work is accessible.

Deliverables
- Supporting visualizations and key findings

6. Act

Guiding Questions
- What is your final conclusion based on your analysis?
  Cyclist needs casual riders to ride during the week.
- How could your team and business apply your insights?
  The business could offer promotional discounts to memberships during the week.
- What next steps would you or your stakeholders take based on your findings?
  Offer promotions to casual riders to ride more during the week.
- Is there additional data you could use to expand on your findings?
  How and what Cyclist charges their customer.

Key Tasks
- Create your portfolio.
- Add your case study.
- Practice presenting your case study to a friend or family member.