Case: BikeShare

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Introduction

The following report presents insights into behavioral patterns of users of a bike sharing service based on two years of data. We use key variables such as seasons, weather, temperature, dates, and time to answer the following three important business questions through visualizations and written explanations.

The three questions are as follows:

1. What are the peak hours of bike usage, and how do casual and registered users' patterns differ throughout the day?
2. How does the day of the week influence bike rentals for casual and registered users?
3. How does usage differ between holidays, weekends, and working days for casual and registered users?

Business Question 1: What are the peak hours of bike usage, and how do casual and registered users' patterns differ throughout the day?

- *Tableau Link*

The chart highlights two key peaks in bike usage, with registered users leading during the morning (7–9 AM) and evening (5–7 PM) commute hours. These surges suggest that registered riders are primarily using the service for commuting, whereas casual users are more active in the midday hours (11 AM–3 PM), likely for leisure or non-work-related activities. Late-night usage is low for both groups, bike usage for both casual and registered users steadily decreases during the evening, with no notable increase around 10 PM.

From this, we can take away a few important points. To better meet demand, more bikes should be allocated to key areas during peak commuting hours. There's also a clear opportunity to target casual users with promotions or packages focused on midday rides. Lastly, since late-night usage is minimal, reducing bike availability during those hours could save resources while keeping the focus on high-traffic times.

Business Question 2: How does weather impact bike rentals for casual and registered users?

- *Tableau Link*

Weather significantly impacts bike rentals. Clear weather sees high rentals for both casual and registered users, with registered users consistently renting more. Cloudy weather causes a slight decline, more noticeable among casual users. Rainy and snowy conditions lead to a sharp drop in rentals for casual users, while registered users also reduce their rentals but less drastically.

To address this, bike rental services could offer weather-protected bikes or incentives during bad weather to encourage casual users. For registered users, improving infrastructure like covered bike lanes could help maintain consistent rentals..

Business Question 3: How does usage differ between holidays, weekends, and working days for casual and registered users?

- *Tableau Link*

Casual users rent more bikes during holiday weekends, indicating leisure use, while their rentals drop on non-holiday weekends and working days. Registered users maintain high usage across all days, with a slight increase on non-holiday weekdays, suggesting regular commuting.

To meet demand, increase bike supply during holiday weekends for casual users and ensure steady availability throughout the week for registered users.

Note: All sheets are accessible through a single Tableau link, click through and navigate between different worksheets.