

## Insights:

- There is equal amount of data for each season i.e., 25% for each season
- Only 3% are holidays in the available data
- 68% days are working days
- 66% of times the weather is clear and 26% of times cloudy
- Equal amount of data for both 2011 and 2012 years
- Almost equal amount of data for all 7 days
- 37% of times temperature is average (15-25 degree C) higher than other ranges
- Humidity is high (50-75) for most records
- Windspeed is average (25-50) for most of the times
- Median for number of rented cycles for very high temperature bin (35-45), low humidity bin (0-25) and high, very high windspeed bin (13-57) are higher than other bins in same category
- 0.028% outliers are present in column count (number of cycles rented)
- There are 81.2% are registered users and 18.8% are casual users
- In the season of summer and fall, total count of rented cycles is more than other seasons
- As expected, total count of rented cycles is more in clear weather followed by cloudy weather
- There is significant increase in demand from 2011 to 2012. Number of cycles rented has almost doubled in 2012 compare to 2011
- Rented cycles count peaks between 8-9 hours and 17-19 hours so users mostly are using rented cycles for work commute
- Average number of rented cycles peaks at work commute hours on working days but for non-working days the opposite trend is observed
- Number of rented cycles are higher in the month of June, July and August
- Count (number of rented cycles) is negatively correlated with humidity so an increase in humidity may reduce the number of rented cycles
- There is a positive Correlation between Temperature and Number of cycles rented
- **Statistical Test Results:**
  1. Average numbers of rented cycles on working days are equal to average number of rented cycles on non-working days
  2. Number of cycles rented are different in different weather
  3. Number of cycles rented are different in different season
  4. There is statistically significant relationship between Weather and Season
  5. There is statistically significant relationship between Weather and temperature
  6. There is statistically significant relationship between season and humidity
  7. There is statistically significant relationship between weather and humidity
  8. Number of cycles rented are different in different windspeed

## Recommendations:

- As there are 81.2 % registered users and 18.8% casual users. Which is good for business. Yulu can attract more casual users through incentives and try to convert these casual users into registered users
- More cycles are being rented in the season of summer and fall so Yulu can focus on these two seasons to attract more users
- As expected, Users mostly renting cycles in clear and cloudy weather so Yulu can divert the cycles available from the places where it's raining to a place where weather is clear to sustain
- On working days most users are using cycles for work commute so Yulu can focus on these work commute hours to lure more users
- On non-working days the trend is opposite than working days so on these days Yulu can also focus on day hours where the numbers are more
- June, July and August are the months in which the number of cycles rented are more. So Yulu can aim these months to increase user base and registering more users which might increase the numbers of cycles rented in other months as well
- Users prefer low humidity (0-25) to ride on an electric cycle. So Yulu can keep an eye on places where humidity is low and make more cycles available there to gain profit from this
- Users are using more cycles when the windspeed is between 13 to 50 so Yulu can keep an eye on windspeed at all places where it operates and accordingly keep the cycles available at those places