**Predicting Rental Bike Counts to Improve Environmental and Social Welfare**

**1. Introduction**

The city of Ourra has developed a bike sharing system called Drpia in order to improve environmental and social wellbeing. The secretary of transportation is attempting to understand the drivers of rental bike demand in order to effectively balance the available supply at any given time. I am a Data Science Consultant for the transportation department. As previously stated, my objective is to forecast and model rental bike counts (demand) for the bike sharing system. There are some findings that can help us examine the rental bike counts in the future.

**2. Summary**

Looking at the figures below, we found out the rental bike counts in summer has the largest proportion 34% of the total rental bike counts. The rental bike counts in non-holiday days was accounted for 96% of the total number of bikes. The rental bikes in functional hours were in demand for 96% of total number of bikes. More specifically, the rental bikes counts in June had the largest amount compared that in other months and the rental bike counts in Saturday was much more than that in other weekdays and the rental bikes counts in 18:00 was much more than that in other hours. Those findings were explainable, and people tend to ride bikes in warm, Saturdays around dinner time. Therefore, we can increase the rental bikes in summer, autumn and reduce the rental bikes in winter because there is the least proportion 8% of rental bikes in winter. In non-holiday, people likes riding the bikes and we can allocate more bikes during functional hours in non-holiday.

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