**REPORT WRITING**

**Problem Statement**

The data I am working on is data from the autolib dataset ofAutolib electric car-sharing service company explaining about the number of blue cars taken.

Null Hypothesis

Our null hypothesis states that the number of bluccars taken during the weekend has a population mean and sample mean which are significantly the same

Alternative Hypothesis

Our alternative hypothesis states that there is a significant difference in the population mean and sample mean of the blue cars taken.

For our analysis we wanted to find out if by the use of sample mean if our result would be significant hence we did a hypothesis testing to see if the population mean and sample mean of the blue car taken were the same.

**DATA DESCRIPTION**

Our data was obtained from the autolib dataset.Our dataset contained data that showed electric car usage.Our choice of car was Blue Cars which were taken in a particular time at a particular area.

We used stratified random sampling which we first obtained data for weekends only then we found the population mean for the blue cars taken.

We then choose a sample of 1000 from that and obtain the sample mean and standard deviation.

**Hypothesis Testing Procedure**

STEP 1

We used a sample mean of 1000 so we used z score for our test statistic and also our sample standard deviation was known

State the null and alternative hypothesis

Null hypothesis - There population mean and sample mean of the blue cars taken are significantly the same

Alternative hypothesis - There is significant difference between the population mean and sample mean of the blue cars taken

STEP 2

CHOOSE THE LEVEL OF SIGNIFICANCE

My level of significance was 0.05.

STEP 3

Finding the critical values

From the calculations my critical value was found to by 1.96

STEP 4

Find the test statistic

Here we are going to use the zscore for the test statistic

Z = x -m/sd

Our test statistic = -0.04

**Hypothesis Testing Results.**

Since 1.96 >0.04 we accept the null hypothesis stating there is no significant difference in the population mean and sample mean of BlueCars taken.

The P Value of the Zscore at 95 % confidence interval is 0.98

Hence 0.98>0.05 hence it's not significant.

**Discussion of Test Sensitivity**

For my test sensitivity if the null hypothesis was rejected it would mean that the population mean and sample mean would be considered different.

If the sample size was increased the significant level would increase hence my data would be more significant

**Summary and Conclusions**

For our project we conclude that since our p value > 0.05 it wasn't significant hence we cannot make further decisions from that.