During our analysis of the app sales information provided by Quimera Interactive, it was noted that the average amount of transactions by day of the month peaked on the seventeenth and eighteenth. We formulated a hypothesis that sales could increase on these days every month due to the nearly universal bi-monthly payday that falls on the 15th and on the 1st of every month. This hypothesis was weakened by the fact that the average amount of transactions for the second and third days of the month does not also increase. We decided to conduct an analysis of variance to determine whether or not any change in the amount of transactions was more than just chance. The results of our initial ANOVA can be seen in figure 1.

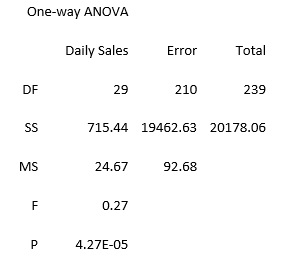


Figure - 8 Month ANOVA

The result leads us to believe that there is a high probability that there is variance in the number of transactions by day of month. To gain a better understanding of this variance we produce a scatter plot as seen in figure 2.

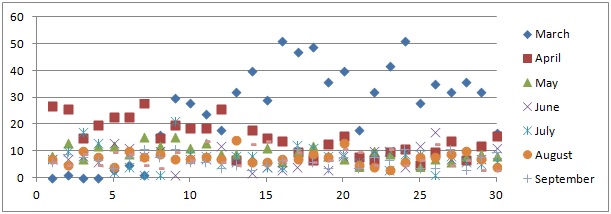


Figure - Scatter plot by day of month

This scatter plot reveals that the months of March and April are producing a large amount of outliers in the data. It appears that the increased mean number of transactions that we observed to be on the 17th and 18th of the month are a result of the outliers in the March data alone. Because of this observation, another analysis of variance is run, this time excluding the months of March and April. If the hypothesis that more transactions are made in concurrence with the normal paydays, then the ANOVA will at least indicate that variance exists.

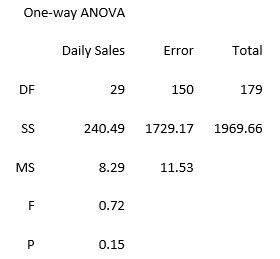


Figure - 6 Month ANOVA

In order