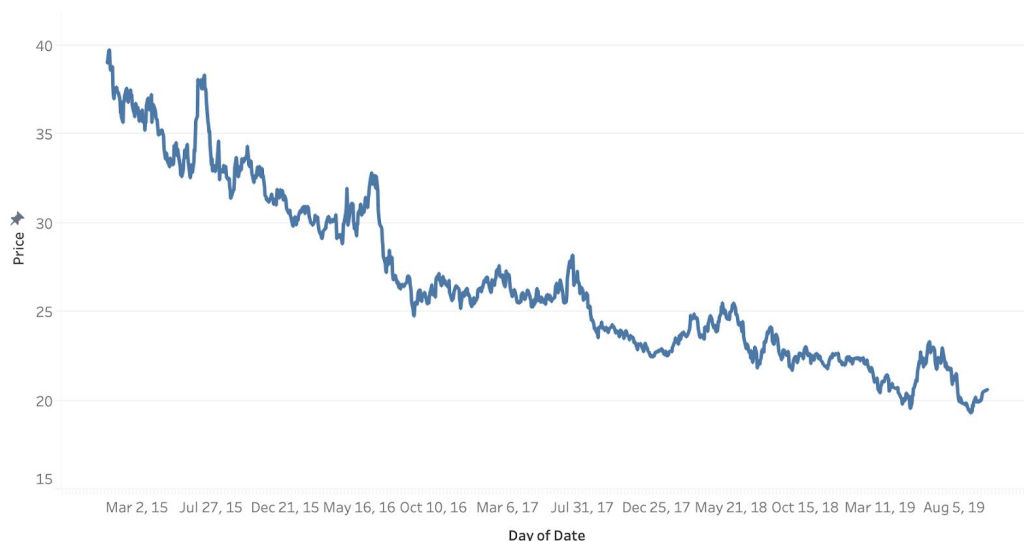


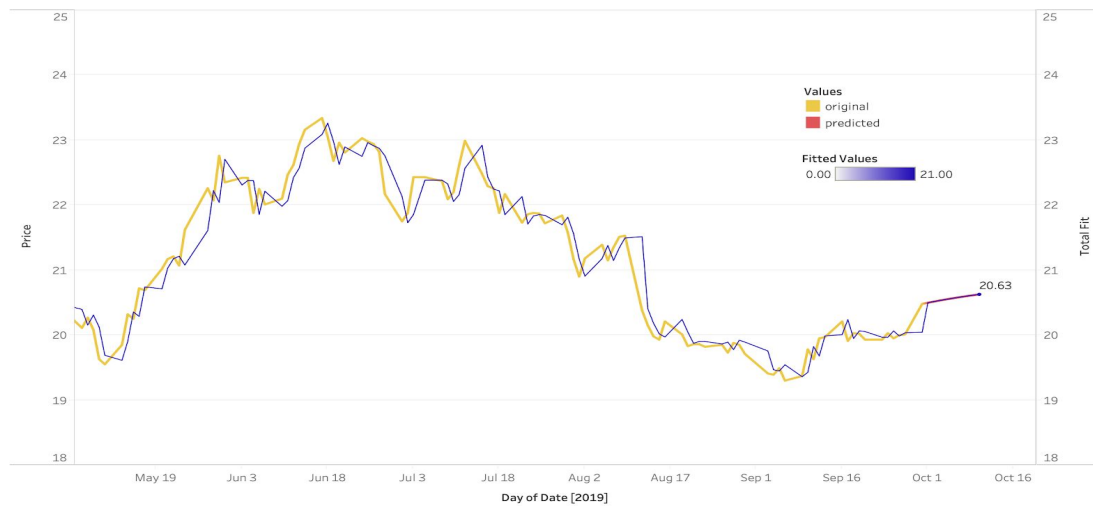
Will the Mediocre Social Network App Turn the Tide in the Last Quarter of 2019?

The Social Network App has become an important part of people's everyday lives. According to the data posted on Statista.com, the number of social network users worldwide from 2015 to 2019 has increased from 2.14 billion to 2.95 billion, which shows an increasing trend in the market. However, the Mediocre Social Network App has experienced a difficult time. The change in peoples' preferences has strongly affected this company's stock prices. Moreover, social app magnates have continued to expand their capital and users which squeezes other same types. There may be other factors that cause a decline in the Mediocre Social Network App's stock prices. Will this decreasing situation continue or turn around in the fourth quarter of 2019? Let's have a look.



From the plot above, which shows the stock prices of the Mediocre Social Network Apps from January 2015 to September 2019, we can see a downward tendency. After fitting the data with a quadratic trend and an autoregressive model, we had the plot of original data, fitted values, and predictions from May 2019 to October 2019 as follows:

Plot of original prices (yellow) + fitted values(blue and red)



The fitted values from our model are pretty close to the original ones, indicating our model of decreasing trend plus time-series performs reasonably well.

The figure above also shows that the stock prices for the next ten trading days in October 2019 are slightly increasing which are around \$20.6. The prediction is reasonable in the following two aspects. With eyeballing the plot of the original data, we could see that every October has an increasing trend during the last four years, and the trend in 2019 matches the ones from previous years. Meanwhile, the increase rate of 2019 is not as large as the previous years, which also matches the overall trend of the stock prices. This might be caused by the users' preference change or the negative impact of the privacy leakage scandal of some social network apps that happened in 2018.

The forecasting of the first ten trading days of October 2019's slow upward trend may not only indicate the seasonal changes of the market but also shows that the Mediocre Social Network App has taken an effective strategy to make development since we could find that the difference in the average price of Q3 and Q4 for each year has a decreasing trend in the above plot. Therefore, we suggest that the company should continue to follow its development strategy to keep the increasing trend. Moreover, as we stated before, the privacy disclosure issues may cause a decrease in the number of users of the social network so Mediocre Social Network App may upgrade its system to reduce information leakage to retain users so the stock price can maintain at a relatively stable level and not be too shocked by the market changes.