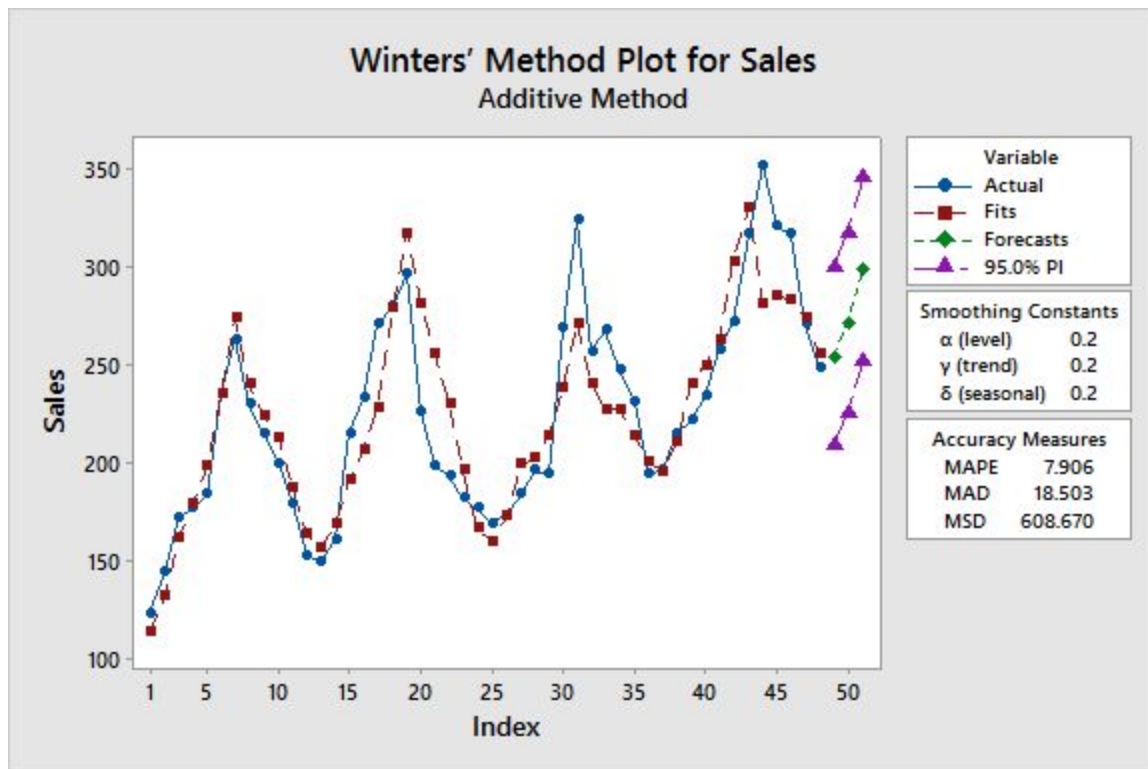


Forecasting Assignment

Physical Distribution Management

Team members: Joshua Lake, Jonah Gray, Emmanuel Ricks, Khalid Alharthi, Ngun Lian, Tamara Holeman

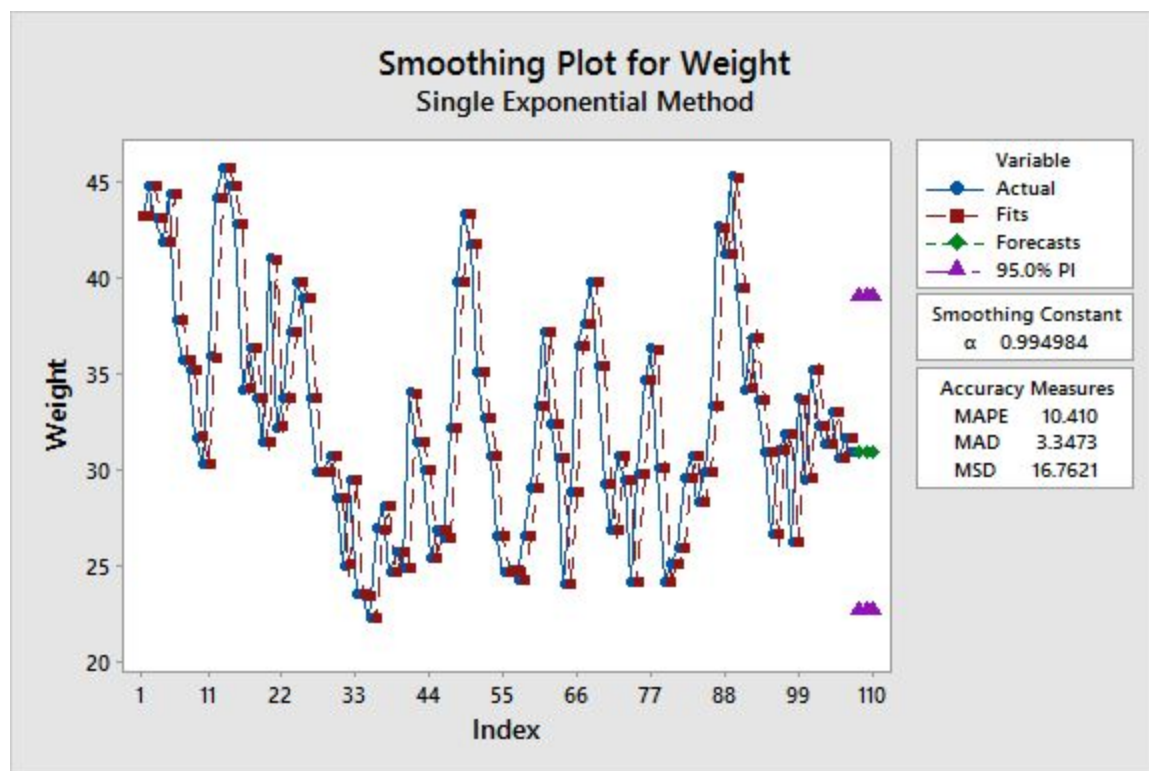
#1 Golf Driver Sales Data



After going through an assortment of forecasting methods we have found Winters method to be the most accurate and the most useful because it gave us the lowest MAPE and has 95% PI with data that shows the overall trend of the forecast. As seen in the graph above the triangles are pointing upwards showing a trend and movement of the forecast. The S-curve model with MAPE 15.90, MAD of 35.85 and 1876,7 was useful for showing the overall base live growth of demand. The moving average model is useful for in the moment forecasting and can help to predict demand for JIT inventory systems such as fast food trends. This model also is useful for daily forecasting and predicting future trends. The MAPE was 8.897 and more accurate than the S-curve analysis. In conclusion for part one of this assignment as there going through various

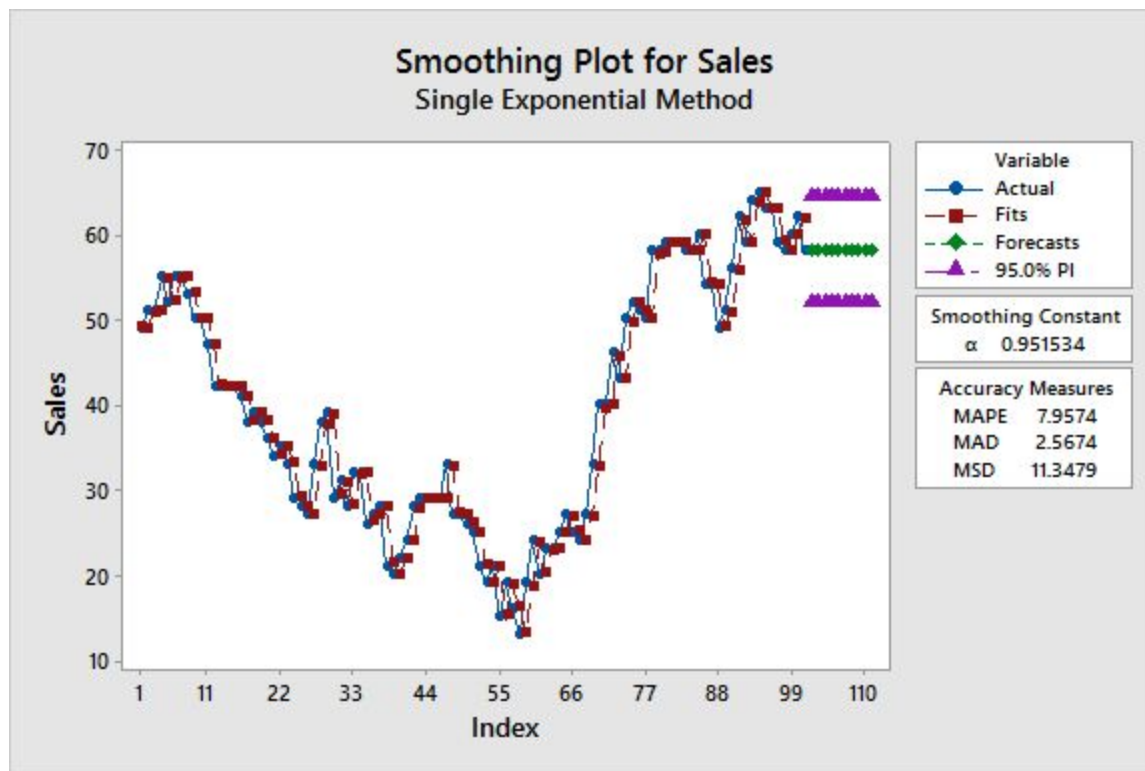
forecasting methods Winters method was chosen because it was the most detailed and accurate of all methods used.

#2 Shipping Data



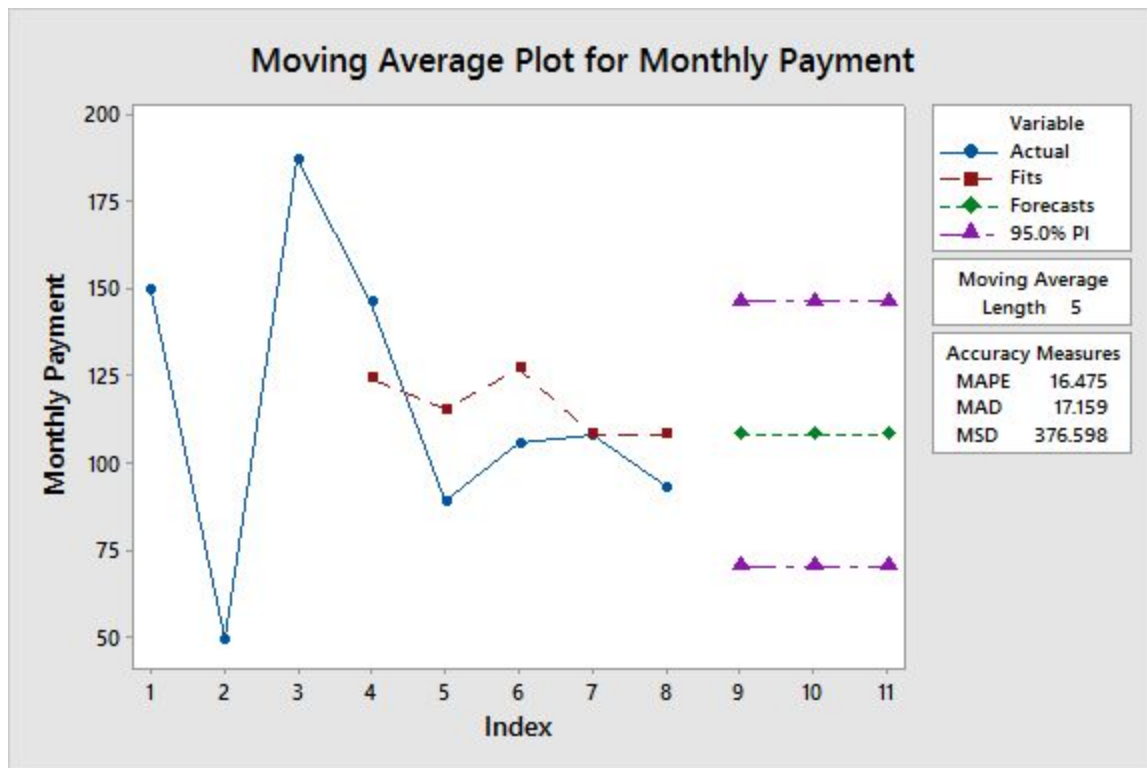
The Single Exponential Method was used for forecasting because it gave us the best accuracy measures. There is a 95 % chance that the next three numbers will be between 22 and 39. MiniTab forecasts a quantity of 30 over the next three months. This method is unrealistic but it gives us a fairly good idea on where the numbers should show up. It gives us a range and a possible location as to where the next three numbers might appear.

#3 Toothpaste Sales



The accuracy measures show that single smoothing method is the most accurate method for toothpaste sales' forecasting for the next 6 months. The retailer can be 95% confident that the sales will be around 58 with a range of approximately 51 and 64.

4



Part 2: Jonah's past 8 months electricity bills data

The next 3 periods are forecasted to be 108, 108, and 108.

This moving average plot graph for the previous 8 months was the graph chosen for the forecasts because the accuracy measures were the lowest out of all the other graphs that were tried. Most importantly, the MAPE accuracy measure was used most prominently and showed to be the lowest. The 'Moving Average Length' of 5 was chosen because the previous 5 periods seemed like plenty of data to forecast from. The graph tells us that there is a 95% chance that the next three data points will be between 146 and 70. This helps Jonah forecast for the upcoming three months of bills.

One minor issue with the moving average plot graph gives us an average. The forecast being a straight line and consistently the same number for the next three periods is unrealistic. This forecast will not happen, like all forecasts, but it does give us an idea of how much the next three months electricity bills will cost.

Monthly Payment	Period
149.15	1
49.16	2
186.75	3
145.88	4

88.70	5
105.31	6
107.56	7
92.61	8