Planning Solutions at MTC (Demand Forecast Planning)

1. How does your forecast differ from what MTC has done initially? Describe the differences and highlight what the improvements are.

Ans By analyzing the MTC’s initial forecast, I noticed that for both years 2013 and in 2014, there is only a slight difference or so between shipping and production costs of all 12 months. Hence due to this I predict that the demand and supply according to this forecast would have had a huge difference and impact on the overall supply chain process of MTC.

For my forecast analysis, I implemented all of the forecasting methods which I came across that includes Naive, Cumulative Mean, Moving Average with number of periods with 3 and 5 and exponential smoothing with alpha value as 0.5 for 2013 and 0.2 for 2014. If you observe my graphs for both years to my surprise I noticed that the naive forecast has been the lowest of all the other forecasts. The MSE of the naive forecasts is also observed as not low or too high. By looking at the forecast which I have put forth, I would say that even if there is a sudden increase in the production costs, say for eg in the next 2-3 years, the demand is not going to be very high or low and it will remain constant. Unless MTC wants to improve their supply and demand heavily in the next couple of years then they will have to keep a large amount of safety stock available in their inventory.

1. How would your forecast change the production and fulfillment plans.

Ans: The current practice of MTC where they are holding up their inventory with the sales reps, which is leading to lead time delays and additional transportation costs is not at all helping their inventory and production supply. This is leading them to a loss of profit and net earnings with a 2.3% excise tax.

According to the demand forecast plan which I have analyzed and put forth, if they produce more in house and ship with only few of the distributors and not include the sales person to hold up the inventory, then they should be able to gain more profit without any additional expenses and this will yield them a good net earning annually which currently its very vague and stagnant with demand and supply not at all seeming to increase.

Proper analysis by using different forecasting techniques, consulting with different forecasting consultancies or experts to help with and then preparing a proper budget plan where only the necessary expenses will be incurred should do the job and provide the best results for MTC in improving their production and fulfillment plans.