**BI Final Tableau**

# Prepping the data:

1. Loaded the data from excel sheets into Tableau Prep.
2. Essential moves were made and the data was cleaned
3. Forward filled values in work in progress
4. Changed type of to string

# Strategy:

Need to see how productivity varies across dimensions. The factor which affects the productivity scale the most or bring the most difference will be improved. Need to figure out any anomaly which decreases or increases the productivity scale. Any factors which decrease the productivity will be discarded in future as goal is maintain the highest level of productivity of workers. Need to find trends as to why targeted productivity goal of the day was achieved or not.

# Data Wrangling:

Renaming the column value alias.

1. Wip changed to work in progress
2. Data type changed of team from int to number
3. Data type changed of number of worker to int
4. Forward filled the missing values of work in progress
5. Sweing changed to sewing

# Dimensions:

1. Department
2. Date (hierarchy was made)

# Measures:

1. Actual Productivity (Summation/Average/Running Total/Percentage Change)
2. Targeted productivity (Summation/Average/Running Total/Percentage Change)

# Charts Analysis:

The productivity (Actual v Target) varies across time (overview of factory performance) :

Jan: The actual productivity is far less than target productivity and surpasses the goal on 25th Jan. Overall, there’s a rising trend and it seems the workforce is slowly catching up. In month of Jan lowest productivity day: 0.674 (22nd Jan) Highest productivity day: 0.8550 (31st Jan)

Feb: The actual productivity fell behind significantly and it seems to be performing worse than January. The lowest productivity is 0.63 and highest is 0.792. The trend is decreasing with time.

March: The trend seems to be rising.

Overall: In January the actual productivity surpass target productivity by +2.9%. In February it was decrease -1.6%. In March it was closer to target within -0.087%. The trend lines forecast the actual productivity will fall with time. This means garment goals of the factory won’t be met for 2015. Its lagging behind. It needs to step up.

Productivity across departments (maybe one department is lagging)?:

Overall (target v actual): The finishing department is outperforming the sewing department. The finishing department surpassed target productivity by +2.11% whereas sewing underperformed and fell behind by -0.27%. The sewing department tends to lag. Possibly there must be an issue (maybe it’s more time consuming or more interrupted?)

Individual month analysis?

Productivity across teams (maybe a specific team is lagging ?) :

Overall: Team 6-11 seems to be underperforming. Team 1-5&12 seems to at least achieve target productivity.

Team 1: +9.96% Team 2: +4.2% Team 3: +8.33% Team 4: +7.3% Team 5: +3.6% Team 12: +0.63%

Team 6: -6.3% Team 7: -6.5% Team 8: -4.83% Team 9: -3.13% Team 10: -2.62% Team 11: -3.13%

Top 3 performing team: 1 , 3 , 4

Bottom 3 performing team: 7 , 6 , 8

Does number of workers in each department varies? :

Workforce is divided into 42% (finishing) and 58% (sewing). This means we should’ve seen more productivity from sewing department. This hints that there could be potentially another problem. Either the workers are relatively more idle or the process i.e. idle time is a lot for sewing department. Another possible scenario could be that finishing department may be given more incentives. Maybe SMV for both department varies

How does SMV and Overtime varies across department?

Overall: The average SMV of sewing is 6x fold greater than SMV of finishing. The average overtime of sewing is 3x fold greater than overtime of finishing. To increase productivity of sewing department maybe we incentivize it or somehow make the process efficient. It’s possible that due to significant difference between the sewing and finishing workers are exhausted. This explains the fall in productivity in February after a great productivity trend in January.

How does incentive varies across departments?

Total and average incentive of sewing was greater (2x fold) than finishing. Then what seems to be the problem?

How does the idle time and men vary across department?

Overall: The sewing department total idle time was 850+ minutes whereas it was zero for finishing department. The total idle men in sewing are 400+ men whereas it was zero for finishing. The problem with the fall in productivity is finally discovered. It’s the interruption in the sewing process which creates a lot of idle men which decreases productivity significantly. The solution would be to monitor what is the cause of the interruption and limit it. The data is limited and doesn’t shed a light on interruption reasons we could’ve drilled down further and eliminated top 3 which would’ve increased productivity.