PROJECT TITLE

DATE

Project Authors	Team OK: Ouyang Du, Kara Wei
Industrial Area of Application	Garment Industry, Labor Market

Status: On target/ at risk

Project Description / Deliverables

[summary of your project and deliverables]

Decisions Impacted

Weekly Progress

We started by developing histograms for all numerical variables: 1) Productivity Index, 2) Target Productivity, 3) Standard Minute Value, 4) Work in Progress, 5) Over Time, 6) Financial Incentive, 7) Idle Time, 8) Idle Workers, 9) Number of Style Changed, and 10) Number of Workers in a Team. After observing the distribution, our main task was to deal with the missing values. We noticed that the variable wip has almost half of the values as NA. We then implemented multiple methods: 1) remove rows with missing values, 2) replacing with zeros, 3) replacing with mean, 4) replacing with median, 5) replacing with predictive values after regressing wip to other variables (MICE package).

For each method, we used the histogram of wip as reference for validity purpose. We looked into whether the distribution is biased: 1) is the model bell shaped? 2) are there heavy tails presented?

- **Describe activities performed during week towards your milestones**

Agenda for next week:
Our next goal is to deal with the potential imbalanced dataset. We will first draw out the pie charts for all categorical variables to see if we have enough variables represented from each category. We have observed that there are multiple categorical variables and numerical variables contained in our dataset. So we are likely to build a model that deal with both types of variables. Therefore, we ought to check assumptions for modeling and start the model building process.

References:

https://www.r-bloggers.com/2022/03/imputing-missing-values-in-r/
https://www.analyticsvidhya.com/blog/2016/03/tutorial-powerful-packages-imputing-missing-values/
https://cran.r-project.org/web/packages/mice/readme/README.html

Expected Business Value

- **[what is the business value of your project]**