Project 3 - Manufacture - Enterprise Asset Maintenance

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https://github.com/rahulgupta271/DSC680_Project_3_Enterprise_Asset_Maintenance

Project 3 Check In

Any Surprises from the Domain?

As a way to get more acquainted with developments in Enterprise Asset Maintenance analysis, I chose this project. Apparently, there are a million and one views on Asset Management, and sadly, before realizing it really has nothing to do with the details, I'm taking a look at, I'll be reading about some idea I've never heard of and eventually get sidetracked.

The data I'm using is fairly straightforward for the most part and covers a lot of characteristics besides just Maintenance costs.

Data What I Thought it Would Be?

With very few "NA"s, the data is very clean. I have not worked a lot with time interval data, but this will give me a good opportunity to get my hands dirty with it given.

Any Adjustments?

I made no changes to my original query. I'd also like to see how Maintenance can be influenced by age, voltage and pressure, but I'm still interested to see how other factors can drive or impede Manufactures as well. Without any degree of speculation, it may be hard to determine, since I have no knowledge about what this Industries are doing internally with the assets. For instance, if the voltage and pressure have fallen or rise also could be some reason for increasing the Maintenance cost.

I will try to conduct individual research using the available data, just to see how industries can predict the Maintenance cost and prepare themselves.

Method Working?

I've only been using Python (Jupyter Lab) to explore the data so far. I intend to continue that, but I want to try to build a nice Power BI dashboard of this information if time permits, as well. I will pursue it for future projects if I don't have time to do it for this one.

Challenges?

So far, trying to sort out what is and is not important is the biggest challenge I've encountered. I don't know the internal and external factors of the asset Maintenance or what data they use to predict future maintenance costs, as I described above, so I think that any external and internal variables can increase the asset maintenance costs. I feel like I'm going to do more research in this case than initially expected.

Concluding Remarks

The ultimate objective is to establish a proactive maintenance plan that aims to anticipate potential failures in heavy machines with different components. It helps companies, as mentioned earlier, by reducing operating costs, long-term maintenance costs and optimizing production hours.