Abstract

The project deals with a problem that Malone's CNC Inc. has been facing for the last few years. They are in need of someone to provide them information. Is the Chem-Film process still beneficial for them to keep? Malone's CNC Machining is a manufacturer of military aircraft parts and assemblies. About 10% of the products that they manufacture go through the in-house Chem-Film lab. This area is not utilized daily and an operator spends on average of four hours per week for maintenance only. The annual operating and maintenance costs for the Chem-Film process are estimated at $27,804 annually. The objective of this project is to conduct cost analysis and analyze whether or not the Chem-Film lab is beneficial for Malone's CNC Machining to keep operating. We have estimated a saving of $38,532 annually by keeping the Chem-Film lab in-house. About 90% of data that we used was historical ranging from 2011-2015. For 2016 we created an updated data collection sheet that accounted for setup and maintenance time. The data included the run hours, general admin, labor, machine wear and tear, setup, maintenance, test samples, and cost of supplies. Using this data, we used a two moving average forecasting method to project the total units, total costs, and the profits made annually for the next five years. We broke it down to find our unit price and compared it to the quote from another vendor. This will show us whether it is still beneficial for Malone's CNC to keep the Chem-Film lab in house or better to outsource it. After analyzing all the data, we came to a conclusion that it is more beneficial for Malone's CNC Inc. to keep the lab in-house rather to outsource it. Since the lab is beneficial to keep we are going to focus on how to improve the process. One of my recommendation on this project is to conduct a time study. By conducting a time study, we will be able to improve efficiency by eliminating any type of waste. Also, to improve the effective use of manpower and equipment and to set up standards of performance for the activities being performed. Another recommendation is to create a Process Failure Mode Effect Analysis (PFMEA). The PFMEA will help us focused to prevent defects, enhance safety, and increase customer satisfaction. In addition, it will also help increase efficiency and reduced costs.

Chem-Film Cost Analysis

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