INDUSTRIAL, MANUFACTURING, & SYSTEMS ENGINEERING

CAPSTONE PROJECT /INTERNSHIP
SUMMARY

Your Name: Juan V. Fernandez, Jose Gutierrez, Fernie Najera

Type of Capstone: Industrial Engineering Senior Capstone Design Course

Capstone Project Title:
Define, Measure, Analyze, Implement, and Control (DMAIC) for waste reduction in VersaWipes.

Year and semester: Fall, 2015

Jose Gutierrez, Juan Fernandez, and Fernie Najera

INTRODUCTION

The Industrial Engineering senior capstone design course is primarily intended as a design experience in solving real world Industrial Engineering problems. Our capstone project was done in CareFusion, a global medical technology corporation that serves the health industry. CareFusion produces a product called ChloraPrep which is the most profitable item they manage. Our team landed the opportunity to work in several projects, and one project that was implemented is the reduction of the versawipes consumption. Versawipe is a special wipe that they use since it is lint free for that reason this product is costly and within the company there is no control of its utilization causing the company to spend approximately $200,000 annually. Our capstone project object was to control the utilization of the wipes, to standardize its usage, reduce inventory and increase savings. We then analyzed the flow of the product, and conducted time studies to identify the causes for the high consumption. Having identified the causes our team implemented and programed a macro using visual basic to track the product since there was no information on the consumption. The macros is a tool we are using to track who is using the wipes and which machine is consuming the most. The importance in taking this project is that the company wanted a solution and we had the opportunity to implement it, and for many senior capstone design projects not many groups have that opportunity to implement that is why we were motivated to take on this project and create a change in the company by to applying our knowledge. In order to be successful in accomplishing our objectives we decided to create a schedule to reach short term goals every three weeks. Our short term goals were the phases of DMAIC the definition of the project, measurements,

analysis, implementation and control phase by structuring our project in this manner we were successful. Within the company we had to present every week to our supervisor and that was another factor that maintained us organized and guided us in right path hence, the implementation of our project.

PROJECT OUTCOMES

Reduced daily versawipe wipe consumption by 10%. The zone with the highest wipe consumption reduced its consumption by 56%. The supply clerks are the ones using the macro we designed and we have received positive feedback it has made their job easier because with this tool they know exactly how much inventory there is which allows a faster process when placing orders. The client should expect a savings of $30,000 annually. The biggest success in this project is that everyone in the floor plant is helping make this a success by following instructions and base on many surveys made the employees are happy with the implementation. In our own belief we will not change anything that was done in this project because it is a life experience that will guide us in future challenges face in the workplace.

INDUSTRIAL ENGINEERING PROGRAM ASSESSMENT

This program is really great the professors and staff are willing to help you and there are plenty research opportunities. What I enjoyed the most is the laboratories because there I learned how to use several different programs that will allow me to conduct a variety of studies in the workplace. The degree plan in my opinion needs to add a course to it, a course in which students learn how to program in different software. This experience in a company made me realize that something as simple as programming a macro is essential in the workplace and we might believe that we won't have to program in our job but I rather learn it and be more prepare for the future.

It has been a journey going through all the industrial engineering courses this experience made me realize that most of what is taught is used in real world scenarios. What I enjoyed the most was the classes that integrated software such as Matlab, because you can apply it in a real case scenario to facilitate complex computations. I would recommend adding a class design for applying Matlab to real world scenarios to better prepare us to take any challenge in the future.