ABSTRACT

CAL POLY CHOCOLATES

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Our design for this project began with building a strong understanding of the current production process. A meeting with the manager, Anna Nakayama, provided a detailed overview of the entire process and outlined some areas of concern. In addition, she provided us with access to critical data such as standard operating procedures and inventory spreadsheets. From there, time studies were conducted for each of the 8 types of chocolate. These time studies helped identify three main issues facing Cal Poly Chocolates. The first issue is in the packaging area of production. The process is entirely manual and has become a large bottleneck. Secondly, there is a need for a reordering system due to packaging supplies frequently being unavailable. And lastly, Cal Poly Chocolates recently faced the challenge of changing facilities and they have yet to find an efficient layout to optimize their process flow.

In an attempt to eliminate the bottleneck in production, research into a packaging machine was conducted. From there, the total cost of ownership was calculated as well as a return on investment to determine if the purchase was feasible. We discovered the machine will dramatically cut the packaging process times and provide a greater production capacity. To solve the issue of unavailable material, three different reorder systems were developed. There was a need for three different systems due to the variation in demand and order sizes. Assuming the employees are well trained and the demand is monitored correctly, these systems should solve Cal Poly Chocolate’s stockout issues. Finally, to aid Cal Poly Chocolates in their facility change we developed a proposed layout that saved thirty feet in excess travel distance.