

ABSTRACT

The goal of this project was to design a new manufacturing system for Patio Pacific that would reduce the learning curve and the skilled labor required in the production process. Multiple ideas to decrease the scrap rate in the vert manufacturing process were tested. It was determined that outsourcing the manufacturing of the vertical frame piece was the most optimal because it would reduce overall cost and increase product quality. A new facility and production layout were designed in order to accommodate the new pre-manufactured parts. The approved facility design included a new production flow that transitioned manufacturing from single employees performing batch production methods to a component based manufacturing system. This included the introduction of job shops around the facility to reduce distance travelled by employees. To further increase standardization within the production process, the work benches were redesigned using 5S methods. The design was aimed to reduce strain on the employee during production and increase flexibility in the workplace. Many secondary results came from the start of implementation of these changes, such as: increased throughput, increased product quality, increased inventory accuracy and a reduced employee training time. Moving forward, Patio Pacific will continue to implement these designs and train their new employees accordingly.