

EXECUTIVE SUMMARY

Tennis Warehouse has a need to increase the supply of strung racquets and man hours to complete these strung racquets over the course of a year. That is, the demand can be increased by up to 4 times its average load during certain hectic parts of the year (professional tournaments, holidays, and competitive seasons). Not meeting this demand can lead to upset customers, unnecessary waste and replacing of rushed items and shipping costs, and a discouraged customer service representative workforce. The objective of this project is to use a set of checklists to address this problem and attempt to increase the amount of time allocated to stringing racquets by eliminating wastes, retraining employees, and providing a safe and efficient workplace for employees to work in.

The checklists were created in accordance with national standard safety procedures, ergonomic justification, and lean manufacturing and process improvement tenants. Each checklist took into account the amount of time each check would save in a mock simulation. This simulation took into account many factors including the amount of time it would take to retrain an employee on certain aspects, the amount a broken part (racquet or string) would cost, the amount of time and money an injury or sickness would cost the company, and the time it takes for an employee to complete a part (string a racquet). Best assumptions were made in discussion with employees about other aspects, such as defective parts per month, the amount it takes for set up and shut down of a work station, and time spent on running through these checklists.

The simulated improvements made as a result of the checklist turned to address up to three quarters of the increased demand. Although this is a rough estimate based on the few assumptions were made, this simulation proves to provide a massive improvement to the problem of increased demand. It also serves to provide a justification for Tennis Warehouse's use of checklists as a

possible tool to use in the future to satisfy demand.

The overall results served to back up and provide extreme evidence of checklist effectiveness not only in a retailer like Tennis Warehouse, but possibly has uses in other fields such as medical, automotive manufacturing, and construction. Recommendations for Tennis Warehouse are to use the provided checklist as an example and not only utilize them in everyday operations, but to record the effects over a couple months to evaluate their value further.