Keurig Dr. Pepper (KDP) is a leading producer and distributor of hot and cold beverages with a 24/7 production plant in Knoxville, TN. Our team has been working with KDP to determine:

- Processes
- Practices
- Equipment

needed to reduce and sustain their overall scrap rate from 1.8% down to 1.0%.

To reduce the overall average scrap rate, our team evaluated each of the processes to locate which area is significantly contributing to this high scrap rate. Using several tools and techniques, including value stream mapping and process flow charts, we determined the highest impact area in the process to be in the packaging sector.

Given the results of our fishbone diagram, we then established quantifiable action items that would provide improvement to the identified areas and their intersection within the packaging process.

After analyzing the results of our first experimentation, we were able to create a linear model for the response surface and use the steepest decent minimization technique to calculate the setting intervals for our second run of experiments. Upon running the second run, we were able to determine the optimal settings for the auger tubes.