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Back-End Process Improvement for Increased Efficiency

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Author Note: Our team of five students has diverse experience and education from Binghamton University in the field of Industrial and Systems Engineering. Working closely with Dr. Mark Poliks and Professor Kenneth McLeod, our work has centered around process improvement as requested by company mentor Cindy Beeman.

Abstract: Susquehanna County Interfaith is a thrift-store/boutique-based organization selling donated items at a discounted price, to fund relief efforts. The organization was recently granted the ownership of a church, which they plan to renovate before beginning to move into over the coming years. The team's objective is to design an innovative way to lay out and run the back end of both facilities that will cut costs, increase efficiency and safety, and will accommodate an increase in donation volume, measured in item count. Our project's purpose is to improve the efficiency of their system for their transfer to the new facility. Our work aims to identify the greatest sources of inefficiency in the current facility through time studies, data analysis, and a working Simio model to demonstrate the effects of existent bottlenecks, as well as implemented improvements stemming from the principles of sort, set in order, shine, standardize, and sustain.

Keywords: Donations, Layout, Donation Volume, System Design, Efficiency, Process Improvement