

The Secret Recipe for Modeling Warehouse Throughput

Motivation / Background

Dry Network Supply Chain

- 100+ brands, 2000+ SKUs
- 8 CSFs, 50+ manufacturing sites
- \$600 million in logistics



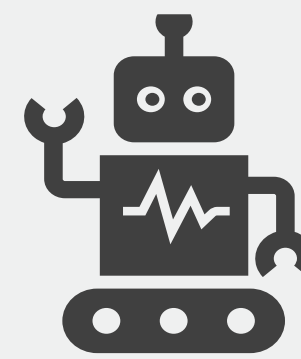
Throughput Constraints

- High monthly turnover at warehouses
- Competitive labor market
- ~12 million pallets handled



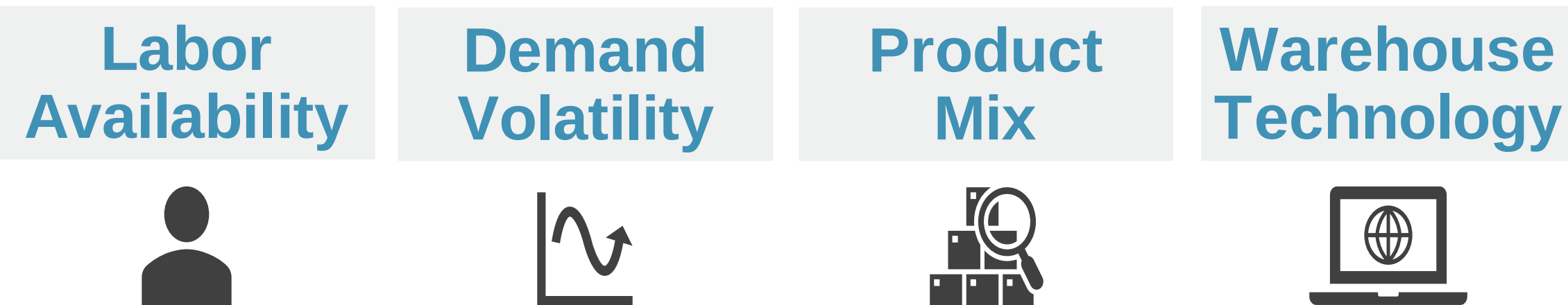
Food for the Future

- General Mills is behind other CPGs
- Integration of technology



Key Questions / Hypothesis

What Factors Influence Warehouse Throughput?
 How Can These Factors be Modeled to Improve Warehouse Throughput?

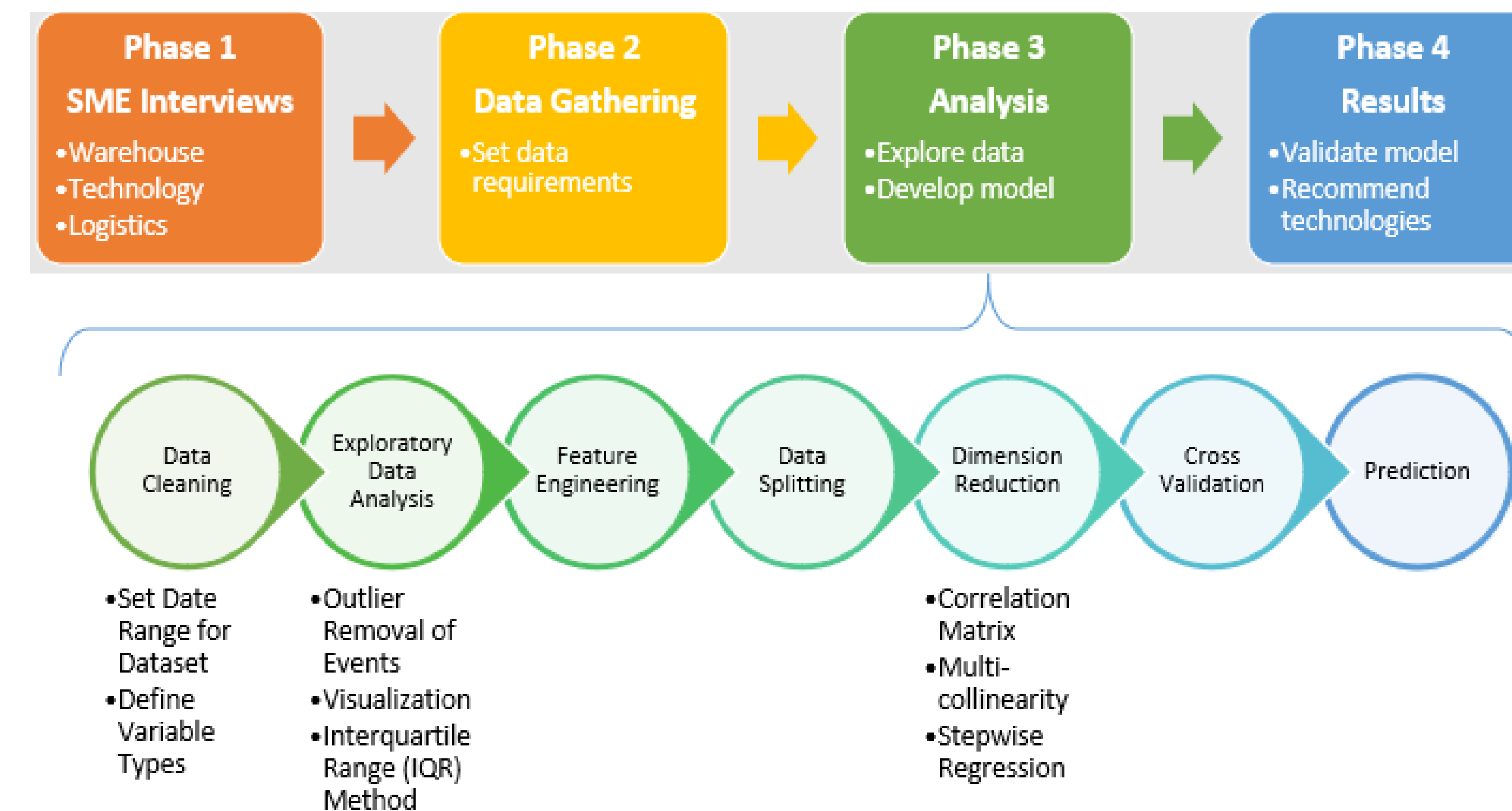


Relevant Literature

- Hoppenheit, S., & Günthner, W. (2015). Identifying Main Drivers on Inventory using Regression Analysis. Operational Excellence in Logistics and Supply Chains: Optimization Methods, Data-Driven Approaches and Security Insights, 22, 141–169.
- Stowe, J. D. (2016). Throughput optimization of multi-agent robotic automated warehouses [Thesis, Massachusetts Institute of Technology]. <https://dspace.mit.edu/handle/1721.1/104388>

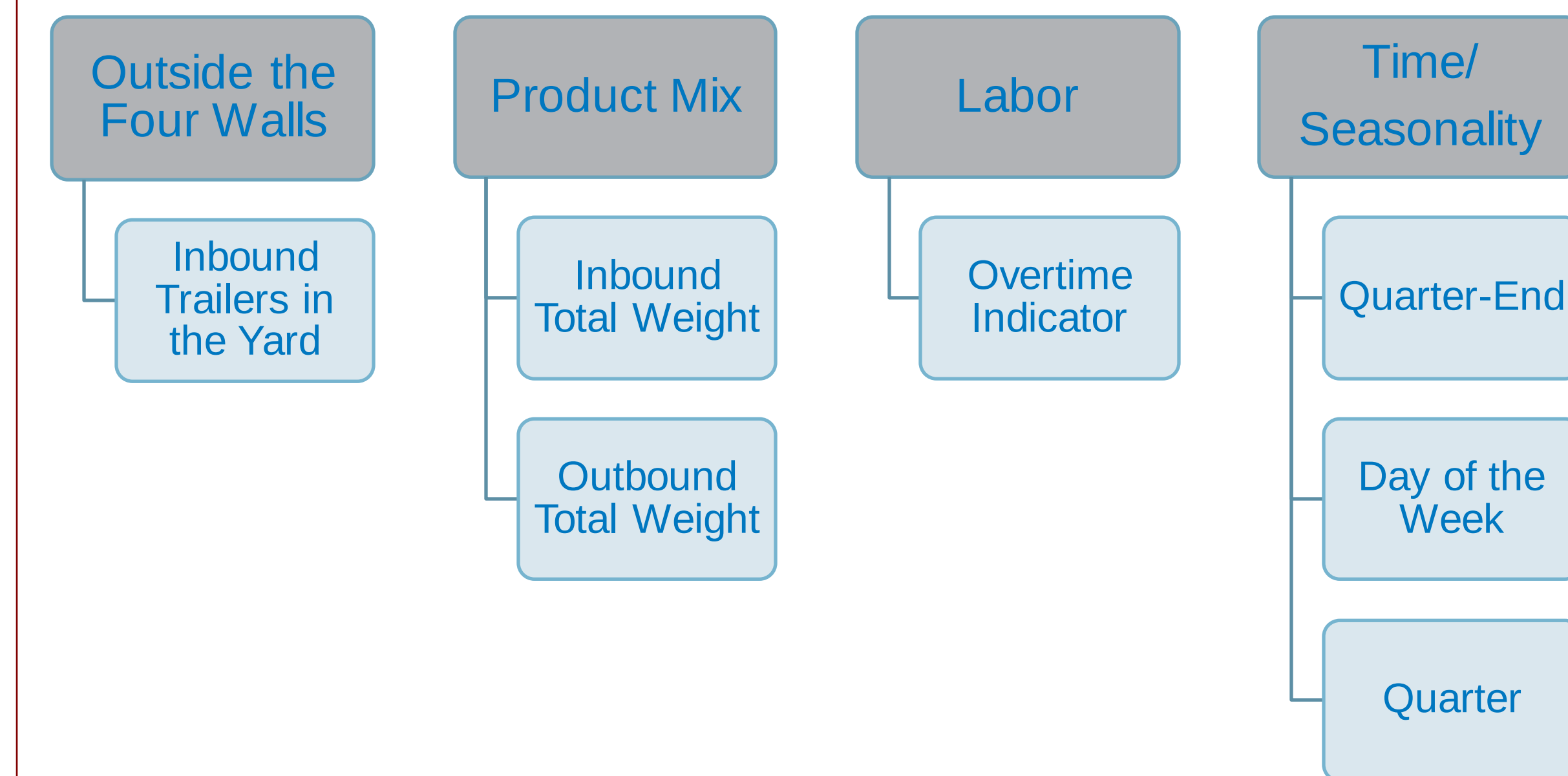


Methodology

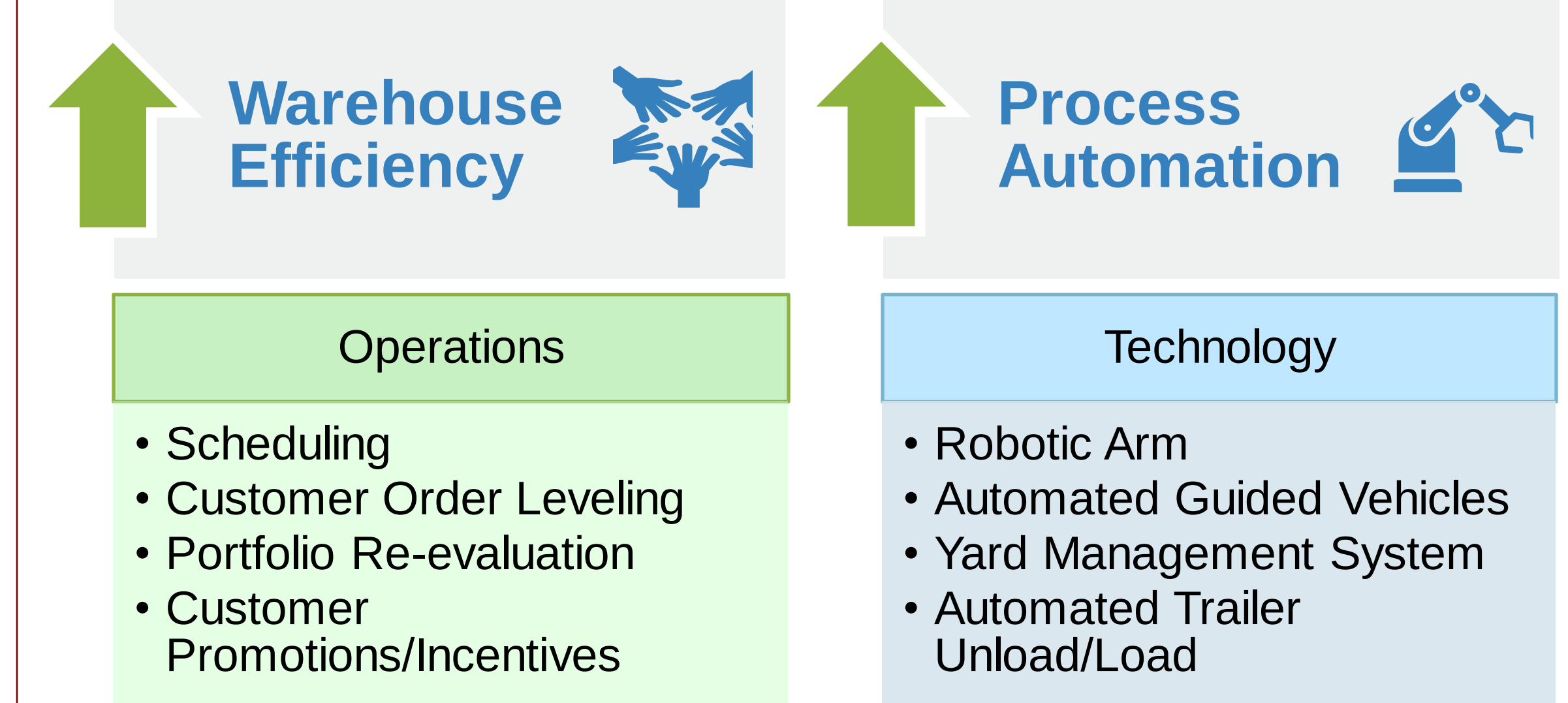


Results

Factors That Influence Throughput



Insights/Recommendation



Dana DeSutter



Sherry Gao

