



Sundeep Mathur, SCM 2020
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Sponsor: Healthcare Company



Continuous Multi-Echelon Inventory Optimization Program (cMEIO)

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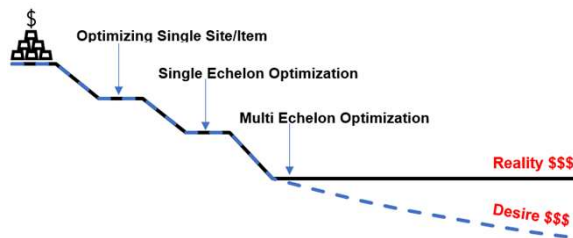


January 2020 Poster Session

Motivation / Key Question

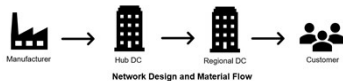
Companies desire **progressive inventory reductions** for **stable products**. Many adopt statistical tools that lead to a **step reduction** in inventory.

However, progressive reduction is not easily attainable without understanding of **parameters** that drive inventory and a **program** to scientifically execute improvements.



Key Question:

Analyze key drivers of statistical safety stock in customized software used at sponsor company and design a Continuous Inventory Optimization Program to help reduce inventory year over year



Relevant Literature

- Eddoug, ElHaq, and Echcheikh, "Performance Evaluation of Complex Multi-Echelon Distribution Supply Chain."
- Castilho et al., "Quantifying Variability Impacts upon Supply Chain Performance."
- de Kok et al., "A Typology and Literature Review on Stochastic Multi-Echelon Inventory Models."

Who likes admiring aging inventory?



Methodology (6 Sigma Process)



Results

Result #1: Analyzed drivers of supply variability for pilot products and determined 10% improvement can improve MEIO software generated safety stock by 7% without sacrificing service level



Result #2: Methodology used in the pilot can serve as a framework for companies trying to create a Continuous Multi-Echelon Inventory Optimization Program

Inventory Optimization Model Evolution



Expected Contribution

- Shifting the dialogue from benefits of advanced optimization tools to better management of input parameters to improve inventory
- This project stresses the need for companies to create a program to understand parameters that drive MEIO and continuously eliminate root causes. Process is termed as **cMEIO**.