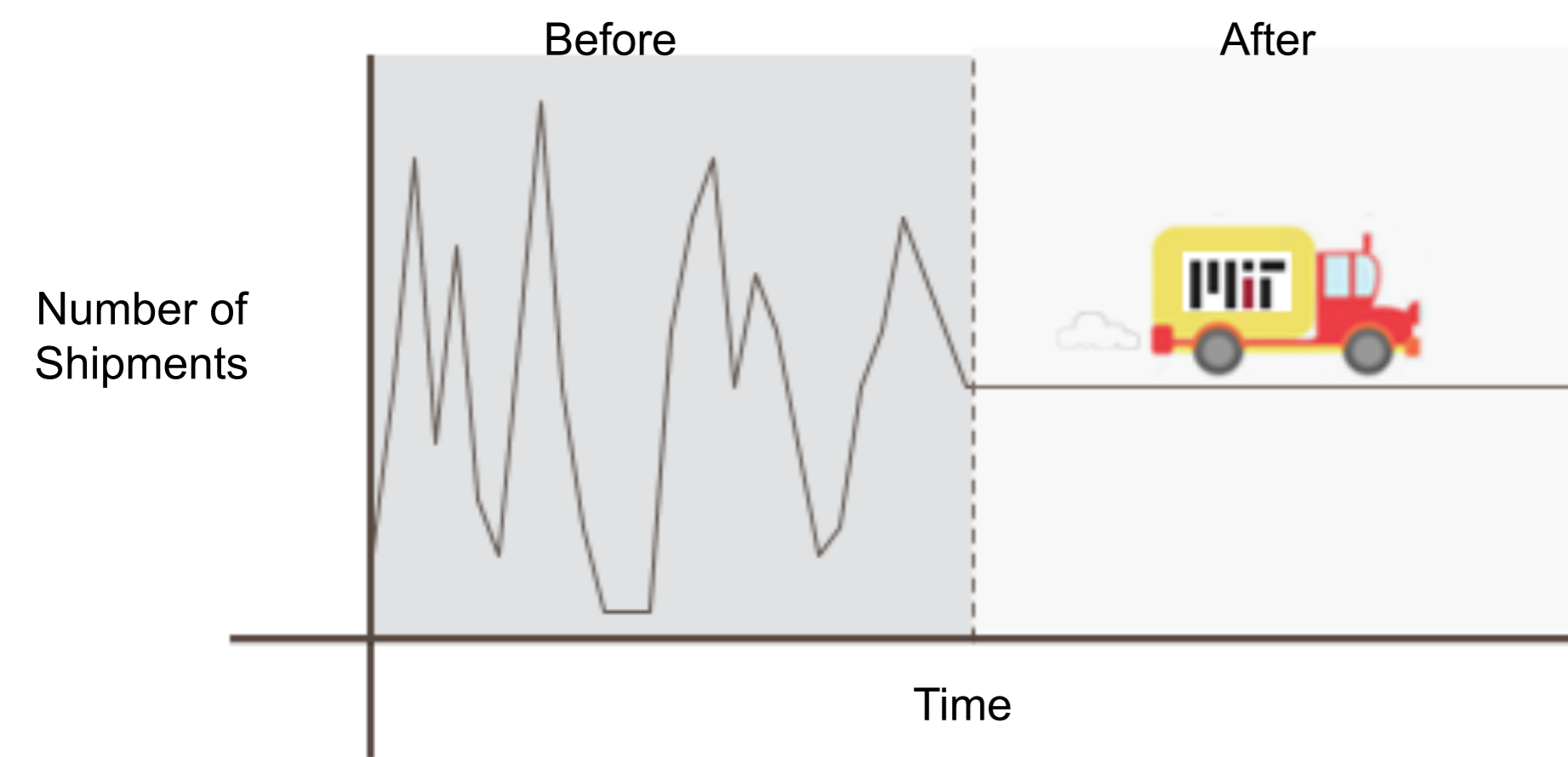


Reducing Shipment Variability

Background

- High shipment variability causes supply chain wide inefficiencies.
- Current strategies lead to high inventory levels and increased transportation costs.
- Variability is highest for companies with large numbers of SKUs such as those in the Consumer Goods Industry.

Key Question



Will a consistent, pre-determined customer shipment profile based on the Lean levelling principle reduce variability and enable improvements in:

- Transportation cost
- Inventory
- Service levels

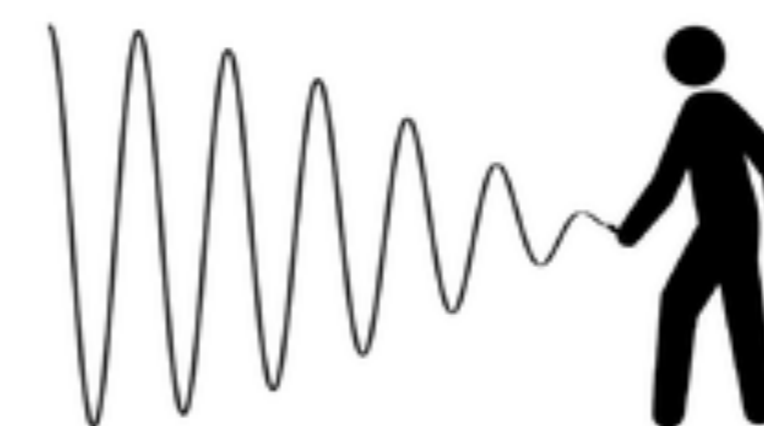
Relevant Literature



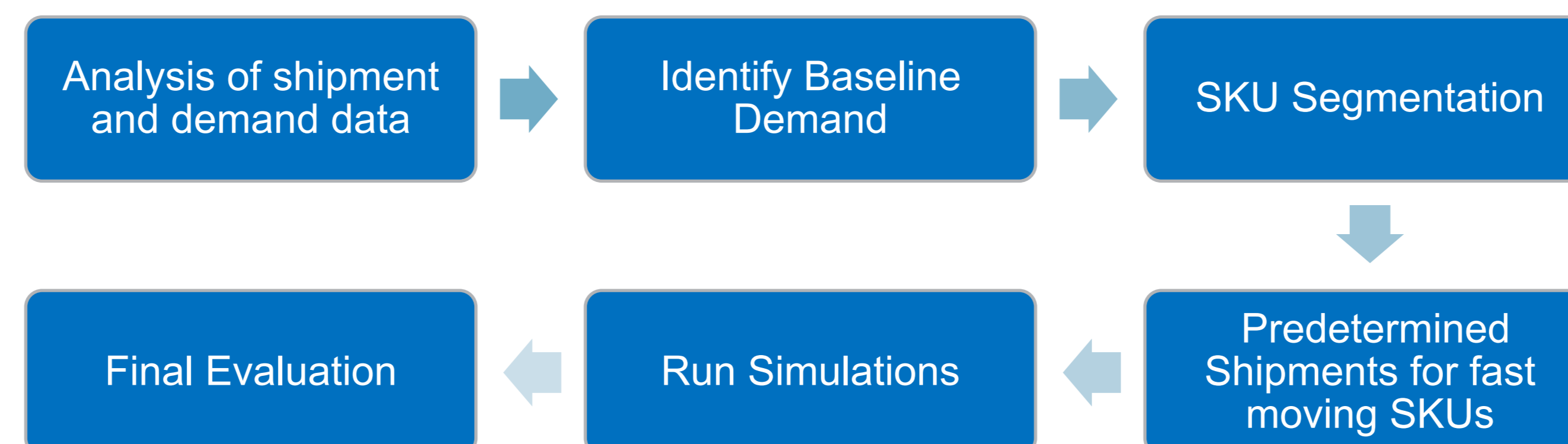
Problem and consequences

High shipment variability between manufacturer and customer DC generate:

- Late deliveries
- Stock outs
- Incomplete shipments
- Increased transportation costs
- High Inventory Levels

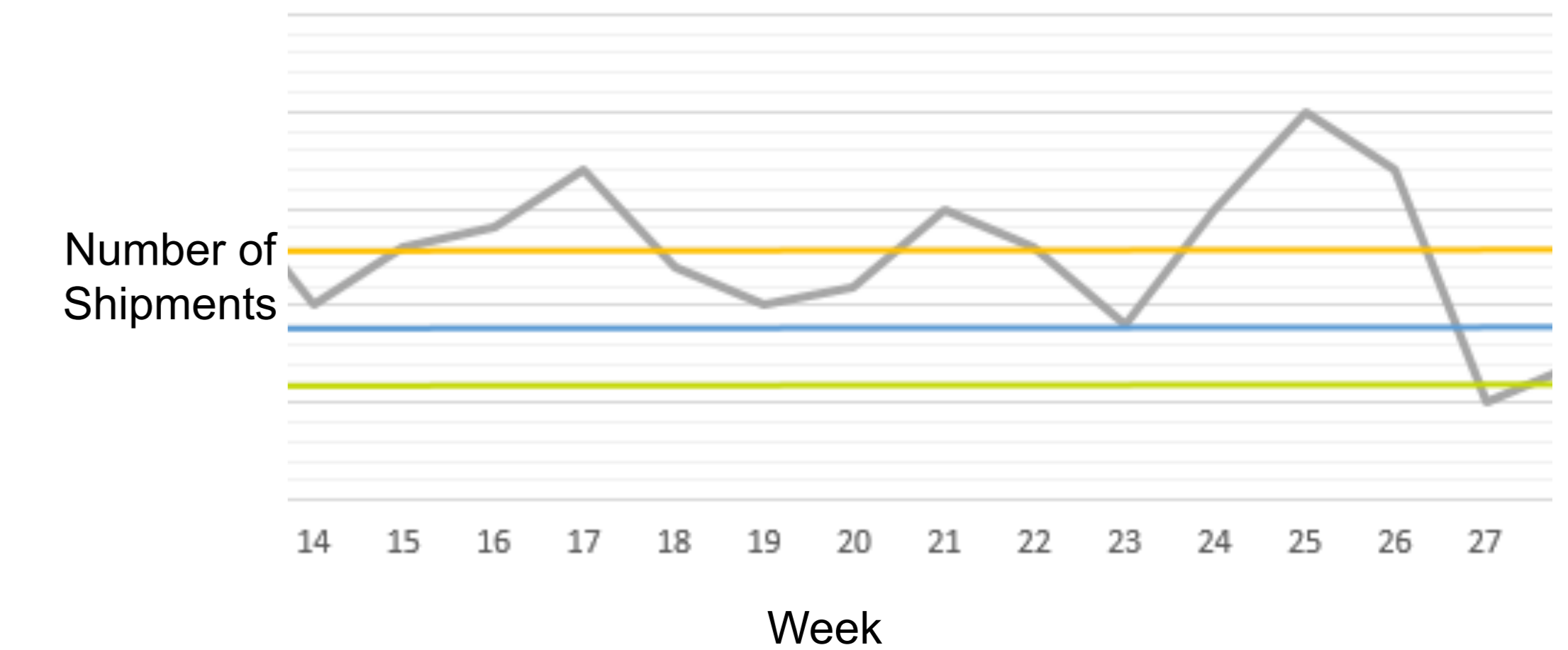


Methodology



Initial Observations

- 1 Current contingency plans are costly and only treat the symptoms
- 2 Lean Six Sigma principles have mainly been applied to manufacturing, whereas logistics has received relatively little attention in academic literature.



- 3 The weekly shipment data suggest that there is a reliable baseline demand.
- 4 The optimal number of customer shipments is between the baseline and the average demand.

Expected Contribution

This thesis will provide insights on how to create Pre-determined Customer Shipment Profiles through the use of lean levelling. We will provide an overview of the subsequent effects on shipment variability. Finally, we will demonstrate the strategy's impact on supply chain performance.

Fabian Brenninkmeijer



Melissa Botero

