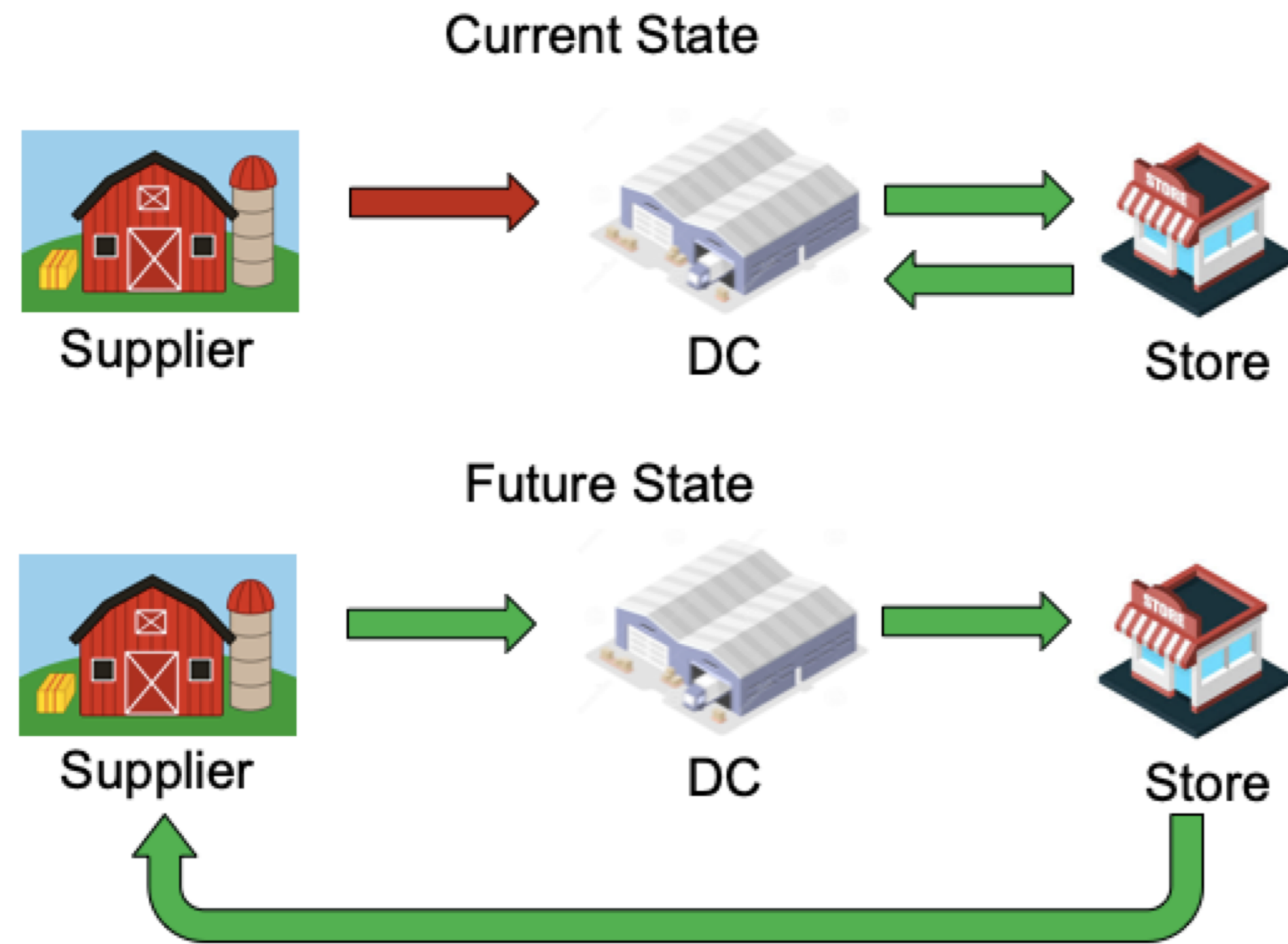


# Optimization of Transportation Fleet Using Backhauls

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 Sponsor: Ahold-Delhaize

January 2019 Poster Session

## Motivation / Background



## Key Question / Hypothesis

Using new standardized practice for route planning using VRP with backhauls will lead to optimum fleet utilization and cost savings

## Relevant Literature

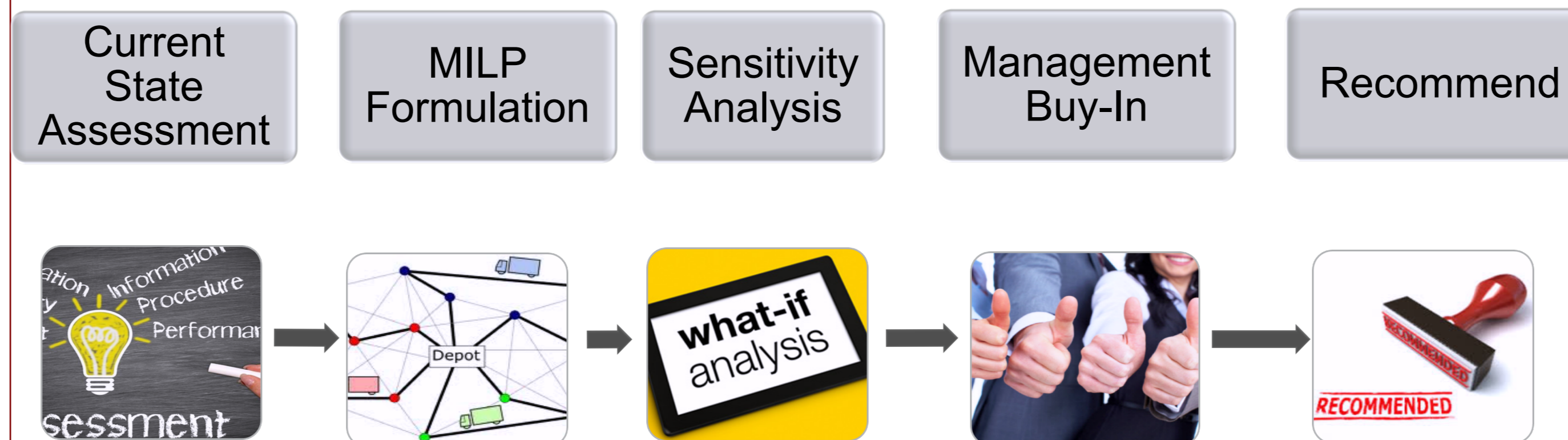
- **Tavakkoli-Moghaddam, R., Saremi, A. R., & Ziaee, M. S.** (2006). A memetic algorithm for a vehicle routing problem with backhauls.
- **Wade, A. C., & Salhi, S.** (2002). An investigation into a new class of vehicle routing problem with backhauls.



## The Problem

Determine the optimal network to use backhauls of outbound fleets for inbound transportation and reduce transportation spend by minimizing empty miles

## Methodology



## Initial Results

### Ahold Delhaize At a Glance

>700 Suppliers	1100 trucks
>30 DC's	\$50 million per month on 3 <sup>rd</sup> party deliveries
>1200 Stores	20 million miles driven per month

## Expected Contribution



An optimized transportation route that would minimize empty backhauls and reduce transportation costs

Geetika Tahilyani



Shrihari Venkatesh

