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Digital Transformation for Flexible Last-mile Distribution

Motivation / Background

The FMCG company's vision is to become the best-in-class provider to its customers, and distribution is one of the key strategic areas to drive a **customer-centric** and **demand-driven supply chain** strategy. This strategy demands a high degree of flexibility in the distribution to be able to deliver to customers when it is most convenient to them. Also, with 90+% of the FMCG company's customers in the traditional retail format (with a small footprint and large concentration in urban areas), flexible last-mile distribution becomes a critical differentiator.

In the last few years, there has been a big drive at BeverageCo for transforming the distribution process with the goal of improving customer-centricity and making it more demand-driven to improve flexibility. However, these initiatives did not deliver the expected outcomes as they lacked an overarching strategy and a clear path to transformation.

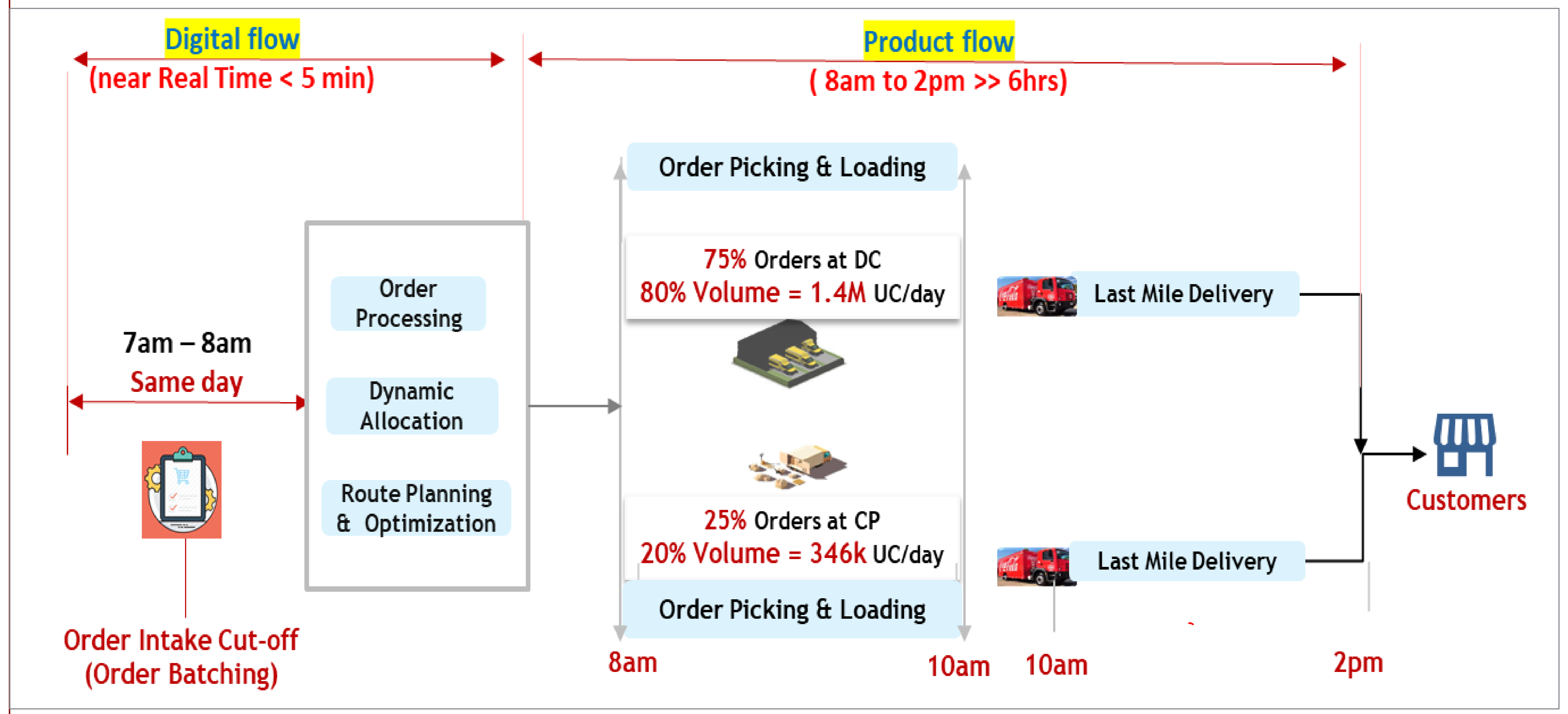
Key Question / Hypothesis

- **What is the 'value' behind flexibility in distribution and how could it be measured?**
- **What is the impact of flexibility to the current distribution network and processes?**

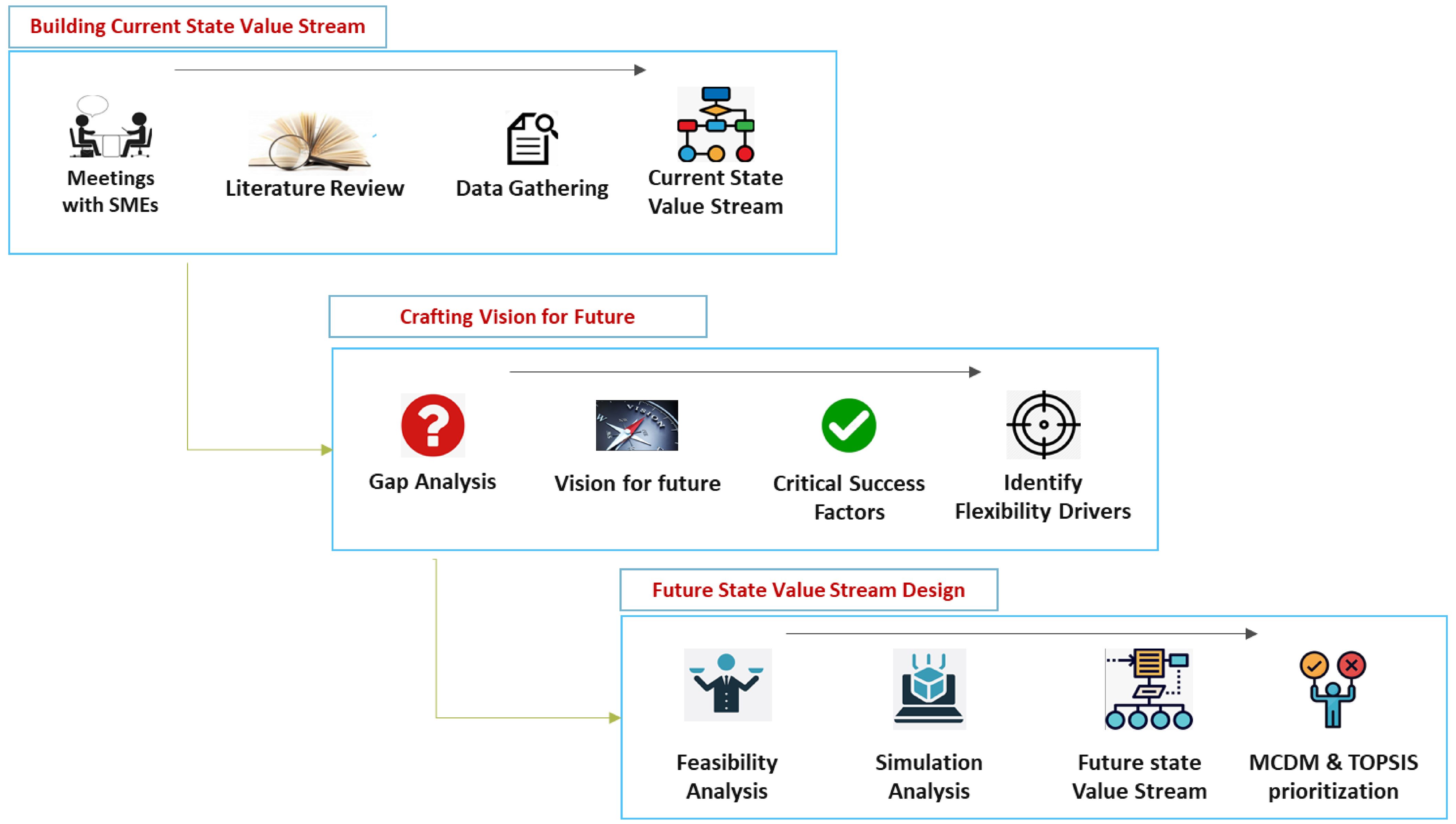
Relevant Literature

- Value stream mapping : how to visualize work and align leadership for organizational transformation. Martin and Osterling. (2014)
- The value of physical distribution flexibility in serving dense and uncertain urban markets. Winkenbach and Snoeck. (2020).
- Multi-criteria Decision-Making Model for Digital Transformation in Manufacturing. Beyaz and Yıldırım. (2020).

Value Stream Mapping for Digital Transformation



Methodology



Results

- 2-hour last-mile delivery is infeasible with the current network design.
- 4-hour last-mile delivery is feasible with the following considerations:
  - Vehicle utilization and Vehicle occupancy improving to 85% from its current ~75%
  - Premium of 5-8% charged to customers for expedited delivery.
- 8-hour (same-day) delivery is feasible and is highly recommended as a starting point as this delivery model could generate significant cost savings for the FMCG company and could potentially fund the larger transformation across all regions.

Key Recommendations

The FMCG company must pilot with digitalization as the core driver of flexibility due to

1. significant reduction in cost and time involved in driving a large transformation initiative;
2. ability to pilot, fail-fast and learn quickly without making network changes;
3. ability to customize and fine tune the distribution model for different customer segments to achieve best results;
4. fourth, the minimal impact to the current processes and people involved
5. High 'value' to cost ratio

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