Designing supply chain networks
March 2021

Vaughan Grant
Practical Approach to Supply Chain Network Design

• What’s the purpose of a supply chain network?

• Improving inventory availability for customers whilst reducing working capital

• Increasing customer visibility, transparency, and traceability of its supply chain

• Reducing supply chain cost to serve, from international operations, distribution centre operations, transport services, and transacting cost.

• Optimizing capacity whilst building a future proofed and resilient network
Practical Approach to Supply Chain Network Design

• High level factors to consider

  • Customer expectations for range, service, and cost
  • Supply chain channels to market that best meet customers needs
  • Inventory ordering / holding practices to optimise working capital and network footprint
  • What supply chain network assets required to deploy to meet customer expectations?
  • Transport network to execute
  • Network cost, now and in the future
  • Capabilities (people, policy, process, digital capabilities, capital) to execute; and the associated business case
  • Transformation program, speed and risks to execute the strategy
A five-stage approach to network design

1. Situation Analysis
2. Network Alternatives
3. Network Evaluation
4. Change Program
5. Strategic Alignment
Identifying the current state – data driven
Agreeing the business drivers – customer first

- Service Level
- Availability
- Lead-times
- Customer Promise
Agreeing the business drivers – future orientated

1. Situation Analysis

- Volume Growth
- Procurement
- New Categories
- Cost Changes
- Geographic Shift
- Competitor Insights
- Customer Collect
- Freight Capability
- Sales Strategy
- BCP requirements
- Co-location with Competitors/ Customers
- Leveraging Competitive Adv.
1. Situation Analysis

Inventory Impacts – now and in the future

- Core range definition
- Source of supply rules
- Availability requirements
- Replenishment Logic
- Safety Stock requirements
- Inventory Planning Model

**The Total-Cost Curve is U-Shaped**

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IC = \frac{Q}{2}H + \frac{D}{Q}S
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A five-stage approach to network design

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2. Network Alternatives

The art of the possible – 5 years ++

- Inventory Holding Options
- Role of international logistics
- Role, Location, Sizing, and Cost of Distribution Centres and Branches
- Transport Delivery Laneways
- What would have to be true?
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Start to focus

- Cost based modelling comparison of network options where possible
- Model DC/branch size, labour and transport costs
- Service levels
- Process complexity
- Solution applicability to different divisions
- Technical complexity of change, Business impact of change
- Level of certainty of benefits capture
- Implementation cost
3. Network Evaluation

Start to focus

Alternative 1  Alternative 2  Alternative 3  Alternative 4  Alternative 5

Service Levels  Management Complexity  Macro Solution Risk  Alignment with Digital Future

Qualitative Evaluation

Alternative $n$  Alternative $n$  Alternative $n$

Quantitative Evaluation
Network Costs Analysis

3. Network Evaluation

Start to focus
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Preparing for delivery

- Capabilities Required
- Implementation Risk Analysis
- Implementation Roadmap
- Quick Wins
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Bringing it Together

5. Strategic Alignment

Overall Strategic Case for Change

Investment Case

Network Design and Key Decisions

Implementation Roadmap (including Quick Win Program)
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