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Thought Leadership Series

Nine Key Elements for Developing a Successful Supply Chain Network Strategy



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Executive summary

While understanding the day-to-day operations within the four walls of a warehouse distribution center is important, there is a bigger picture to examine: how product flows through individual distribution points and how the entire supply chain network is designed and utilized.

Building an efficient supply chain network strategy can be challenging as changes to one part of the network can have significant implications for transportation, inventory, customer service and costs. A successful strategy starts by understanding the business objectives and the decisions that need to be made.

Key takeaways

- **Understand the network.** Evaluate how changes across the distribution network affect costs and customer service.
- **Evaluate the options.** Use network modeling to compare alternatives and build a data-backed business case for investment.
- **Prepare for execution.** Develop an implementation roadmap that reviews operational constraints and investment requirements.

What is a distribution network?

A distribution network consists of physical buildings that move products from suppliers and manufacturers through a distribution center that receives, stores and fulfills customer orders. This can include multiple distribution facilities that transfer items within the network, orders shipped to customers or retail stores and returns processing.

Designing a distribution network strategy through informed decisions

A successful distribution network strategy starts with understanding the current network and how it supports the organization's business objectives. An assessment should consider facility locations and capabilities, product flows, transportation, inventory and customer service requirements, recognizing that decisions in one area can significantly influence performance and costs elsewhere in the network.

Network modeling provides valuable tools for evaluating alternative network configurations and understanding their potential impact. Organizations can analyze data on orders, shipments, facilities, transportation and inventory to develop a representation of their network and compare different scenarios.

The goal is to provide a fact-based foundation for making informed decisions that balance cost, service, investment, growth and resilience.



Key elements of a supply chain network strategy

1. Network layout
A key output of a supply chain network strategy is the number, location, function, size and capacity of facilities in the network. Organizations must strategically locate facilities and adjust their size and throughput capacity to meet customer expectations and be flexible for future growth.

Another important factor to consider for these distribution facilities is what their role and mission are in the supply chain:

- Full-service distribution center (DC)
- Centralized (hub) DC
- Forward stocking DC
- Cross-docking center
- Import center
- Mixing center
- Returns center

2. Cost controls
As with most organizations, cost control is a primary focus. Understanding capital and operational costs and realized savings after implementation are important factors when evaluating and creating a strategy to optimize your distribution network. Operations will need to understand key service metrics that include time in transit, on time in full (OTIF), and carbon footprint impacts. Other essential costs to consider are:

- Variable facility costs
- Inbound and outbound transfer freight costs
- Inventory carrying costs
- Leasing or rental fees
- Labor costs and availability
- Maintenance and repair costs
- Implementation and transition costs

3. Transportation
Transportation to and from a distribution operation can be as vital as the operation itself. A facility built on inexpensive land that lacks easy and shorter routes for trucks and air transport can hamper an operation's ability to meet customer demand. A sound network strategy should consider this, understand current transportation methods, and evaluate alternative options that can improve service and reduce costs.



4. Inventory
Inventory positioning is an important consideration in supply chain network design, because it can directly impact customer service and operating costs. Decisions about the location and role of facilities can significantly affect where inventory is held, how frequently it is replenished and the total inventory investment required.

For example, centralizing inventory may reduce duplication and working capital, while regional inventory positioning can improve responsiveness and customer service. Understanding these trade-offs helps organizations make better network decisions that balance product availability, transportation costs and inventory investment.

5. Service
Service to the customer is a critical component of a supply chain strategy as it defines the intended and promised service (delivery time, return policy, credit and communications). This part of a strategy drives the number of facilities needed, their size, throughput and automation. For example, if your organization promises next-day delivery and free returns, you will need to calculate the labor, automation and delivery costs to decide if the service offering is feasible and realistic in peak and non-peak periods.

6. Business case

A key output of a supply chain network strategy is to develop a sound, data-backed business case before any investments are made to expand and optimize a supply chain network. The output of the supply chain model will be the return on investment (ROI) of the new network configurations over the status quo, called the baseline network. Your business case should also make the trade-offs between cost, service, investment and other strategic priorities clear, enabling organizations to select the solution that best supports their objectives.

7. Risk/continuity

Risk and continuity are key factors to examine in a supply chain network strategy as they test the flexibility and resilience of the supply chain network. Performing sensitivity analysis around key inputs in the supply chain network model can answer questions about how the network would react to outside



forces like natural disasters, geopolitical unrest and economic instability. Sensitivity analysis can also evaluate how changes in demand, product mix, growth assumptions or customer service requirements affect network performance, helping organizations understand the flexibility and resilience of alternative network configurations.

Some questions to consider in the analysis are:

- What if the labor market continues to tighten and the labor pool continues to shrink?

- What if diesel fuel increases by 50% over the next five years?
- What if there is a trucking or port strike that affects shipments?

You can also test a network's resiliency by modeling; for example, if you were to temporarily or for an extended period of time lose a node to a natural disaster or some other type of downtime event. Running virtual scenarios and models can help an organization understand its risk and continuity concerns and help prepare for them.

8. Qualitative factors

While many of the outputs of a distribution network strategy are quantitative in nature, there is more to it than numbers. It will also include many qualitative factors, such as:

- Implementation complexities and challenges
- Availability of internal and external resources to support the project
- IT network structure and software
- Sustainability

A solid distribution network strategy needs to consider both quantitative and qualitative factors.

9. Implementation roadmap

An implementation roadmap translates the recommended network strategy into a practical plan for execution. Implementation considerations should inform the strategy throughout its development, ensuring that recommendations reflect real-world operational constraints and can be translated into achievable initiatives. This should include all major activities to move to the future state network and will typically include major activities such as:

- Acquiring a greenfield facility or renovating a brownfield site
- Creating an operational design, and processes and a plan for the automation to be used
- Implement distribution software such as a warehouse management system (WMS) or a warehouse execution system (WES)
- Lead times for material handling equipment manufacturing, installation, integration, and testing
- Plan for installation either in a new facility or in an operating facility
- Operational readiness and stress testing for the entire system
- Hiring new employees with skills needed for the new operation

A realistic implementation roadmap should prioritize initiatives, define key milestones and dependencies, and consider investment requirements and potential risks. This provides a practical path from strategic recommendations to implementation.

A connected approach to supply chain network strategy

An effective network strategy depends on understanding how the different elements of the supply chain work together. Organizations need to evaluate alternative strategies and account for interdependencies across their networks. By looking at the bigger picture, organizations can build a foundation for greater efficiency and long-term success.



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FORTNA CAN HELP

FORTNA combines supply chain strategy, advanced analytics and proven distribution experience to help organizations evaluate current networks and identify opportunities for improvement. From network design to implementation and ongoing support, FORTNA provides the expertise to turn strategic insights into solutions that support evolving business needs.

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