

Module-1: Supply Chain Design

Supply chains determine the ability of the firms included in them to compete in the marketplace. How supply chains are designed will affect their ability to compete. A firm that is attempting to compete in a market where low cost determines who gets the business will have difficulty if it includes high cost suppliers in its supply chain. The characteristics of the end-market in which a firm is competing must be considered when designing supply chains. Supply chain design is an integral part of enabling an organization to compete and be profitable in today's dynamic business environment. The supply chain strategy should align with the organization's business strategy and plan, support the value proposition, and leverage core capabilities.

- A. **Develop the Supply Chain Strategy:** The supply chain strategy for companies with high performing supply chains should closely align with and enable the overall business strategy of the company. Achieving appropriate alignment requires an understanding of the forms of competitive advantage being pursued. It also requires an understanding of the organizational strategy, priorities and capabilities.
- B. **Design the Supply Chain:** Supply Chain Design involves making decisions on how to structure the supply chain that supports and aligns with the organization's business strategy. This involves: making decisions on suppliers; location and capacity of plant, warehouses and distribution centers; and, distribution channels to move products to customers. How information and data are managed, communicated, and the technology employed is also planned. Sound project management and effective communication is required.

Module-2: Supply Chain Planning and Execution

Supply chain planning (SCP) is the forward-looking process of coordinating assets to optimize the delivery of goods, services and information from supplier to customer, balancing supply and demand. An SCP suite sits on top of a transactional system to provide planning, what-if scenario analysis capabilities and real-time demand commitments, considering constraints. Supply Chain Planning is the set of processes related to the estimation of future client demand and its balance with capacity and supply, both from production and from suppliers. This planning can encompass one or several trading partners, from the end consumer to the raw material producer, including reverse logistics. Supply chain execution (SCE) is the process of managing a supply chain, in essence, getting supply chain items where they need to go.

- A. **Procure and Deliver Goods and Services:** Procurement and delivery of goods and/or services operationalizes the supply chain design through the development and deployment of coordinated long-term and short-term planning for sourcing, acquisition, controlling, delivery, invoicing, and payment of goods and/or services.
- B. **Manage the Relationship with Supply Chain Partners:** Understanding the market and the critical roles played by both the upstream and downstream supply chain partners are important to the success of the Supply Chain. Tailoring, aligning and managing the relationships with the supply chain partners will enhance the performance of the entire supply chain.
- C. **Manage Reverse Logistics including Return, Recall, and End to Life:** Managing reverse logistics and reverse supply chains involves understanding that product returns, repair, remanufacturing, end of life, and related topics are organic elements in the overall supply chain management execution process. It is also important to understand how reverse supply chains allow opportunities for cost avoidance and revenue generation while enabling compliance with regulations regarding waste and hazardous materials.

Module-3: Supply Chain Improvement and Best Practices

Changing market requirements, new technologies, geopolitical shifts, weather-related factors, and changes in availability of resources require supply chains to be constantly evolving. Supply chains must be continually improving by gathering key performance data, analyzing current performance, and creating and implementing improvement plans. The supply chain should ensure compliance with existing standards, regulations, and apply sustainable best practices. Instead of only reacting to risk events, companies need to model, anticipate, and prevent risk.

- A. **Measure, Analyze, and Improve the Supply Chain:** Enhancing the competitiveness of a supply chain requires an understanding of the techniques and tools of continuous improvement and the appropriate application of each. It also requires an understanding of how to measure the performance and capabilities of the supply chain and how the communication of these findings can contribute to performance improvement.

- B. **Comply with Standards, Regulations, and Sustainable Best Practices:** Managing globally dispersed sources of supply and demand requires an understanding of the standards and regulations of the jurisdictions in which goods and funds flow. In addition, designing and operating a supply chain requires an understanding of the concepts of sustainable business practices and how to adapt and apply them to a specific supply chain.

- C. **Manage Risk in the Supply Chain:** Risk is inherent in supply chains, and companies may go out of business due to a major risk event. Instead of only responding to risk events, companies must be able to model, anticipate, and prevent risk events. An understanding of the techniques to identify, mitigate, and manage risks is important for supply chain management and overall business success.
