Module 9
Section A: Design the Logistics Framework

Term
Functional organizational structure

Module 9
Section A: Design the Logistics Framework

Term
Matrix organizational structure

Module 9
Section A: Design the Logistics Framework

Term
Strategic alliance

Module 9
Section B: Coordinate Strategic Performance Management

Term
Audit

Module 9
Section B: Coordinate Strategic Performance Management

Term
Balanced scorecard

Module 9
Section B: Coordinate Strategic Performance Management

Term
Benchmarking

Module 9
Section B: Coordinate Strategic Performance Management

Term
Best practice

Module 9
Section B: Coordinate Strategic Performance Management

Term
Cost of goods sold (COGS)

An organizational structure in which two (or more) channels of command, budget responsibility, and performance measurement exist simultaneously. For example, both product and functional forms of organization could be implemented simultaneously—that is, the product and functional managers have equal authority, and employees report to both managers.

An organizational structure based on functional specialization, such as sales, engineering, manufacturing, finance, and accounting.

An objective comparison of actions to policies and plans.

A relationship formed by two or more organizations that share proprietary information, participate in joint investments, and develop linked and common processes to increase the performance of both companies. Many organizations form strategic alliances to increase the performance of their common supply chain.

Comparing products, processes, and services to those of another organization thought to have superior performance. The benchmark target may or may not be a competitor or even in the same industry. There are seven common forms of benchmarking. See: competitive benchmarking, financial benchmarking, functional benchmarking, performance benchmarking, process benchmarking, product benchmarking, strategic benchmarking.

A list of financial and operational measurements used to evaluate organizational or supply chain performance. The dimensions of the balanced scorecard might include customer perspective, business process perspective, financial perspective, and innovation and learning perspectives. It formally connects overall objectives, strategies, and measurements. Each dimension has goals and measurements.

An accounting classification for determining the amount of direct materials, direct labor, and allocated overhead associated with the product(s) sold during a given period of time. See: cost of sales.

1) A method or technique that consistently shows results superior to those achieved through other means. As a result, the method or technique often is used as a benchmark. Best practices can be defined within an organization, within an industry, or across industries. 2) Practices that have had a proven and positive impact on organizational or supply chain performance. They are categorized as follows: current (not emerging), which means not obsolete; structured, or featuring a clearly stated goal, scope, process, and procedure; proven, or demonstrated in a working environment and linked to key metrics; and repeatable, which means it has been proven in multiple organizations and industries.

Module 9
Section B: Coordinate Strategic Performance Management

Term
Customer order fulfillment cycle time

Module 9
Section B: Coordinate Strategic Performance Management

Term
Dashboard

Module 9
Section B: Coordinate Strategic Performance Management

Term
Days of supply (DOS)

Module 9
Section B: Coordinate Strategic Performance Management

Term
Days outstanding

Module 9
Section B: Coordinate Strategic Performance Management

Term
Digital Capabilities Model (DCM) for Supply Networks

Module 9
Section B: Coordinate Strategic Performance Management

Term
Key performance indicator (KPI)

Module 9
Section B: Coordinate Strategic Performance Management

Term
Order fulfillment dwell time

Module 9
Section B: Coordinate Strategic Performance Management

Term
Perfect order

An easy-to-read management tool similar to an automobile's dashboard designed to address a wide range of business objectives by combining business intelligence and data integration infrastructure. See: executive dashboard.

The average actual cycle time consistently achieved to fulfill customer orders. For each individual order, this cycle time starts at the order receipt and ends at customer acceptance of the order.

A term used to imply the amount of an asset or liability measured in days of sales. For example, accounts payable (AP) days are the typical number of days that a firm delays payment of invoices to its suppliers. See: days payable outstanding (DPO), days sales outstanding (DSO).

1) Inventory-on-hand metric converted from units to how long the units will last. For example, if there are 2,000 units on hand and the company is using 200 per day, then there are 10 DOS. 2) A financial measure of the value of all inventory in the supply chain divided by the average daily cost of goods sold (COGS) rate.

1) A financial or nonfinancial measure that is used to define and assess progress toward specific organizational goals and that typically is tied to an organization's strategy and business stakeholders. A KPI should not be contradictory to other departmental or strategic business unit performance measures. 2) A metric used to measure the overall performance or state of affairs. Supply Chain Operations Reference (SCOR) level 1 metrics are considered KPIs.

A reference model for supply chain professionals to guide the development of digital supply networks. The model is designed in a relational manner to help envision and then build the digitally enabled capabilities required to transform linear supply chains into a set of dynamic networks.

1) An order in which the seven Rs—the right product, the right quantity, the right condition, the right place, the right time, the right customer, and the right cost—are satisfied. 2) A fulfillment metric used to measure order proficiency, including being on time, complete, accurate, and undamaged.

Any lead time caused by customer requirements during the order fulfillment process when no activity takes place. Note that this dwell time is different from idle time or non-value-added lead time, which are caused by inefficiencies in the organization's processes and therefore ultimately under responsibility of the organization. These latter kinds of idle time should not be deducted from Order Fulfillment Cycle Time.

Module 9
Section B: Coordinate Strategic Performance Management

Term
Perfect order fulfillment

Module 9
Section B: Coordinate Strategic Performance Management

Term
Performance measurement system

Module 9
Section B: Coordinate Strategic Performance Management

Term
Return on supply chain fixed assets

Module 9
Section B: Coordinate Strategic Performance Management

Term
Return on working capital

Module 9
Section B: Coordinate Strategic Performance Management

Term
SCOR metrics

Module 9
Section B: Coordinate Strategic Performance Management

Term
Standard

Module 9
Section B: Coordinate Strategic Performance Management

Term
Supply Chain Operations Reference (SCOR) model

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
Analytics

A system for collecting, measuring, and comparing a measure to a standard for a specific criterion for an operation, item, good, service, business, etc. Syn.: metric. See: performance criterion, performance measure, performance standard.

A measure of an organization's ability to deliver a perfect order.

A measure of profit on the amount of capital consumed. It is calculated as after-tax operating income divided by net working capital.

A measurement of the return an organization receives from its invested capital in supply chain fixed assets. This includes the fixed assets used in Orchestrate, Plan, Order, Source, Transform, Fulfill, and Return. It is calculated as (Supply Chain Revenue - Total Supply Chain Management Cost) ÷ Supply Chain Fixed Assets.

1) An established norm against which measurements are compared. 2) An established norm of productivity defined in terms of units of output per set time (e.g., units per hour) or in standard time (e.g., minutes per unit). 3) The time allowed to perform a specific job including quantity of work to be produced. See: standard time.

In Supply Chain Operations Reference (SCOR), metrics measure the ability of processes to achieve the strategic objectives associated with performance attributes. SCOR recognizes three levels of predefined metrics: Level 1 metrics are diagnostics for the overall health of the supply chain. Level 2 metrics serve as diagnostics for the level 1 metrics. Level 3 metrics serve as diagnostics for level 2 metrics.

The review of typically large sets of business data using mathematics, statistics, and computer software to identify meaningful patterns in the data to help in decision-making.

A process reference model developed by the Supply Chain Council and endorsed by the Association for Supply Chain Management (ASCM) as the standard cross-industry diagnostic tool for supply chain management. The SCOR model describes the business activities associated with satisfying a customer's demand, which include Orchestrate, Plan, Source, Order, Transform, Fulfill, and Return. Use of the model includes analyzing the current state of a company's processes and goals, quantifying operational performance, and comparing company performance to benchmark data. SCOR has developed a set of metrics for supply chain performance, and ASCM members have formed industry groups to collect best practices information that companies can use to evaluate their supply chain performance.

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
Center-of-gravity approach

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
Heuristic

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
Network design

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
Optimization models

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
Predictive analytics

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
SWOT analysis

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
Scope creep

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
Simulation

A form of problem-solving in which the results or rules have been determined by experience or intuition instead of by optimization. Heuristics can be used in such areas as forecasting; lot sizing; or determining production, staff, or inventory levels.

A methodology for locating distribution centers (DCs) at the location representing the minimum transportation costs between the plants, the DCs, and the markets in order to improve speed and minimize supply chain costs. See: grid technique.

A class of mathematical models used when the modeler wishes to find the ideal (maximum or minimum) value of some objective function subject to a set of constraints.

1) In supply chain management, the design of a supply chain's sourcing, manufacturing, and, distribution facilities and information flows to meet the organization's strategic goals. These strategic goals can include being efficient, responsive, customer-focused, or some other mix of priorities. The design includes determining the best locations, numbers, sizes, capacities, capabilities, and ownership models of facilities to support these goals. See: network optimization. 2) In logistics, the design and periodic review of inbound and outbound transportation networks and warehouses for the optimum mix of inventory levels per location to meet the organization's strategic goals. Considerations are made to balance tradeoffs among warehouse costs, transportation times and expenses, and customer service goals.

An analysis of the strengths, weaknesses, opportunities, and threats of and to an organization. SWOT analysis is useful in developing strategy. See: environmental scanning.

A method of extracting information from existing data analysis in order to identify patterns and predict future outcomes and trends. See: descriptive analysis, diagnostic analysis, prescriptive analysis.

1) The technique of using representative or artificial data to reproduce in a model various conditions that are likely to occur in the actual performance of a system. It is frequently used to test the behavior of a system under different operating policies. 2) Within manufacturing resource planning, using the operational data to perform what-if evaluations of alternative plans to answer the question, "Can we do it?" If yes, the simulation can then be run in the financial mode to help answer the question, "Do we really want to?" See: what-if analysis.

The informal addition of unfunded features and services to a project. Scope creep is closely monitored and controlled to ensure that agreed-upon output of a project can be achieved within the budgeted timeline and costs.

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
Square root rule

Module 9
Section C: Facilitate Facilities Planning and Network Design

Term
Value stream

Module 9
Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Business process reengineering (BPR)

Module 9
Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Continuous process improvement (CPI)

Module 9
Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Cost of poor quality

Module 9
Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Define, measure, analyze, improve, control (DMAIC) process

Module 9
Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Employee empowerment

Module 9
Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Employee involvement (EI)

The processes of creating, producing, and delivering a good or service to the market. For a good, the value stream encompasses the raw material supplier, the manufacture and assembly of the good, and the distribution network. For a service, the value stream consists of suppliers, support personnel and technology, the service producer, and the distribution channel. A value stream may be controlled by a single business or a network of several businesses.

A technique that assists planners with calculating the change in total safety stock needed to maintain customer service levels within a distribution network when the number of stocking locations is changed. The square root rule states that total safety stock inventories in a specified number of facilities can be approximated by multiplying the total amount of inventory in existing facilities by the square root of the ratio of the number of future facilities divided by the number of existing facilities.

A never-ending effort to expose and eliminate root causes of problems through the use of small, incremental improvement steps. Syn.: continuous improvement (CI). See: kaizen.

A procedure that involves the fundamental rethinking and redesign of business processes to achieve organizational improvements in such critical measures of performance as cost, quality, service, and speed. Any BPR activity is distinguished by its emphasis on process, rather than functions and products, and the customers of the process.

A six sigma improvement process composed of five stages: (1) Determine the nature of the problem; (2) Measure existing performance, and commence recording data and facts that offer information about the underlying causes of the problem; (3) Analyze the information to determine the root causes of the problem; (4) Improve the process by effecting solutions to the problem; and (5) Monitor the process until the solutions become ingrained.

The costs associated with performing a task incorrectly and/or generating unacceptable output. These costs would include the costs of nonconformities, inefficient processes, and lost opportunities. See: quality costs.

The concept of using the experience, creative energy, and intelligence of all employees by treating them with respect, keeping them informed, and including them and their ideas in decision-making processes appropriate to their areas of expertise. Employee involvement focuses on quality and productivity improvements. Syn.: people involvement.

The practice of giving non-managerial employees the responsibility and power to make decisions regarding their jobs or tasks. It is associated with the practice of transfer of managerial responsibility to the employee. Empowerment allows the employee to take on responsibility for tasks normally associated with staff specialists. Examples include allowing the employee to make scheduling, quality, process design, or purchasing decisions. See: participative management.

Module 9
Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Heijunka

Module 9
Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Just-in-time (JIT) manufacturing

Module 9
Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Kaizen

Module 9
Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Lean metric

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Section D: Coordinate Digital Transformation and Continuous Improvement

Term
Lean production

Module 9
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Term
Load leveling

Module 9
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Term
Master data

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Term
Plan-do-check-act (PDCA)

A philosophy of manufacturing based on planned elimination of all waste and on continuous improvement of productivity. The primary elements of JIT manufacturing are to have only the required inventory when needed; to improve quality to zero defects; to reduce lead times by reducing setup times, queue lengths, and lot sizes; to incrementally revise the operations themselves; and to accomplish these activities at minimum cost. In the broad sense, it applies to all forms of manufacturing—job shop, process, and repetitive—and to many service industries as well. Syns.: short-cycle manufacturing, stockless production, zero inventories.

In just-in-time (JIT) philosophy, an approach to level production throughout the supply chain to match the planned rate of end product sales. See: load leveling, mixed-model production, mixed-model scheduling.

A quantitative measurement of performance of a process, team, or the organization overall that can be used to guide improvement efforts toward reducing waste, enhancing quality, and increasing efficiency. Lean metrics take a balanced approach, enabling organizations to measure their performance relative to the needs of their customers.

The Japanese term for improvement. Kaizen refers to continuing improvement involving everyone—managers and workers. In manufacturing, kaizen relates to finding and eliminating waste in machinery, labor, or production methods. See: continuous process improvement (CPI).

Spreading orders out in time or rescheduling operations so that the amount of work to be completed in sequential time periods tends to be distributed evenly and is achievable. Syns.: capacity smoothing, level loading. See: heijunka, level schedule.

A philosophy of production that emphasizes the minimization of the amount of all the resources (including time) used in the various activities of the enterprise. It involves identifying and eliminating non-value-adding activities in design, production, supply chain management, and customer management. Lean producers employ teams of multiskilled workers at all levels of the organization and use highly flexible, increasingly automated machines to produce volumes of products in potentially enormous variety. Lean production contains a set of principles and practices to reduce costs through the relentless removal of waste and through the simplification of all manufacturing and support processes. Syns.: lean, lean manufacturing.

A four-step process for quality improvement. In the first step (plan), a performance gap is identified, and a plan to effect improvement is developed. In the second step (do), the plan is carried out, preferably on a small scale. In the third step (check), the effects of the plan are monitored. In the last step (act), the results are studied to determine what was learned and what can be predicted to take corrective action or institutionalize the changes. Syns.: plan-do-check-act (PDCA) cycle, Shewhart circle of quality, Shewhart cycle, Deming circle.

An enterprise's essential core data consisting of basic information needed across the enterprise to conduct business. Master data describes the core entities of the enterprise, including products, customers, suppliers, locations, and charts of accounts.

Module 9

Section D: Coordinate Digital Transformation and Continuous Improvement

Term

Six sigma

Module 9

Section D: Coordinate Digital Transformation and Continuous Improvement

Term

Value stream mapping (VSM)

APICS CLTD Learning System

A lean production tool to visually understand the flow of materials from supplier to customer that includes the current process and flow as well as the value-added and non-value-added time of all the process steps. It is used to help reduce waste, decrease flow time, and make the process flow more efficient and effective.

A methodology that uses a set of management tools and techniques for the improvement of business processes. The intent is to reduce the probability of an error or defect by decreasing process variation and improve product quality.