A Glossary of Supply Chain and Operations Management Terms

Business Research and Service Institute

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A

ABC Classification: Classification of a group of items in decreasing order of annual dollar volume or other criteria. This array is then split into three classes called A, B, and C. The A group represents about 20% by number of items, and about 80% by value. The next grouping, B, represents about 30% of the items and 15% of the dollar volume. The C-class contains the rest of the items, and represents about 5% of the dollar volume. This classification is mainly used for Cycle Counting purposes, whereby the significant few items are monitored more frequently, than the trivial many.

Accounts Payable (A/P): The value of goods and services acquired for which payment has not yet been made.

Accounts Receivable (A/R): The value of goods shipped or services rendered to a customer on whom payment has not been received. Usually includes an allowance for bad debts.

Actual Demand: Actual demand is composed of customer orders (and often allocations of items, ingredients, or raw materials to production or distribution). Actual demand nets against or consumes the forecast, depending on the rules chosen over a time horizon. For example, actual demand will totally replace forecast inside the sold-out customer order backlog horizon (often called the demand time fence) but will net against the forecast outside this horizon based on the chosen forecast consumption rule.

Advanced Planning and Scheduling (APS): Techniques that deal with analysis and planning of logistics and manufacturing over the short, intermediate, and long-term time periods. APS describes any computer program that uses advanced mathematical algorithms or logic to perform optimization or simulation on finite capacity scheduling, sourcing, capital planning, resource planning, forecasting, demand management, and others. These techniques simultaneously consider a range of constraints and business rules to provide real-time planning and scheduling, decision support, available-to-promise, and capable-to-promise capabilities. APS often generates and evaluates multiple scenarios. Management then selects one scenario to use as the official plan. The five main components of an APS system are demand planning, production planning, production scheduling, distribution planning, and transportation planning.

After-Sale Service: Services provided to the customer after products have been delivered. This can include repairs, maintenance, and/or telephone support. *Synonym: Field Service*

Agent: An enterprise authorized to transact business for, or in the name of, another enterprise.

Aggregate Forecast: An estimate of sales, oftentimes phased, for a grouping of products or product families produced by a facility or firm. Stated in terms of units, dollars, or both, the aggregate forecast is used for sales and production planning (or for sales and operations planning) purposes.

Aggregate Planning: A process to develop tactical plans to support the organization's business plan. Aggregate planning usually includes the development, analysis and maintenance of plans for total sales, total production, targeted inventory, and targeted inventory, and targeted customer backlog for families of products. The production plan is the result of the aggregate planning process. Two approaches to aggregate planning exist - production planning and sales and operations planning.

Air Cargo Agent: An agent appointed by an airline to solicit and process international airfreight shipments.

Air Cargo Containers: Containers designed to conform to the inside of an aircraft. There are many shapes and sizes of containers. Air cargo containers fall into three categories: 1) air cargo pallets 2) lower deck containers 3) box type containers.

Air Waybill (AWB): A bill of lading for air transport that serves as a receipt for the shipper, indicates that the carrier has accepted the goods listed, obligates the carrier to carry the consignment to the airport of destination according to specified conditions.

Artificial Intelligence: A field of research seeking to understand and computerize the

Assemble to Order: A production environment where a good or service can be assembled after receipt of a customer's order. The key components (bulk, semifinished, intermediate, sub-assembly, fabricated, purchased, packing, and so on) used in the assembly or finishing process are planned and usually stocked in anticipation of a customer order. Receipt of an order initiates assembly of the customized product. This strategy is useful where a large number of end products (based on the selection of options and accessories) can be assembled from common components.

Assembly: A group of subassemblies and/or parts that are put together and constitute a major subdivision for the final product. An assembly may be an end item or a component of a higher-level assembly.

Audit: In reference to freight bills, the term audit is used to determine the accuracy of freight bills.

Available to Promise (ATP): The uncommitted portion of a company's inventory and planned production maintained in the master schedule to support customer-order promising. The ATP quantity is the uncommitted inventory balance in the first period and is normally calculated for each period in which an MPS receipt is scheduled. In the first period, ATP includes on-hand inventory less customer orders that are due and overdue. Three methods of calculation are used: discrete ATP, cumulative ATP with look ahead, and cumulative ATP without look ahead.

AWB: *See Air Waybill*

B

B2B: *See Business-to-Business (B2B).*

B2C: *See Business-to-Customer (B2C).*

Back Order: Product ordered but out of stock and promised to ship when the product becomes available.

Backhaul: The process of a transportation vehicle returning from the original destination point to the point of origin. The 1980 Motor Carrier Act deregulated interstate commercial trucking, thereby allowing carriers to contract for the return trip. The backhaul can be with a full, partial, or empty load. An empty backhaul is called deadheading. *Also see: Deadhead*

Backorder: (1) The act of retaining a quantity to ship against an order when other order lines have already been shipped. Backorders are usually caused by stock shortages. (2) The quantity remaining to be shipped if an initial shipment(s) has been processed. *Note:* In some cases, backorders are not allowed. This results in a lost sale when sufficient quantities are not available to completely ship an order or order line.

Backsourcing: Pulling a function back in house as an outsourcing contract expires.

Balanced Scorecard: A structured measurement system based on a mix of financial and non-financial measures of business performance. 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. *Also see: Scorecard.*

Balance of Trade: The surplus or deficit which results from comparing a country's exports and imports of merchandise only.

Bar Code: A symbol consisting of a series of printed bars representing values. A system of optical character reading, scanning, tracking of units by reading a series of printed bars for translation into a numeric or alphanumeric identification code. A popular example is the UPC code used on retail packaging.

Bar Code Scanner: A device to read bar codes and communicate data to computer systems.

Bar Coding: A method of encoding data for fast and accurate readability. Bar codes are a series of alternating bars and spaces printed or stamped on products, labels, or other media, representing encoded information which can be read by electronic readers called bar.

Barrier to Entry: Factors that prevent companies from entering into a particular market, such as high initial investment in equipment.

Benchmarking: The process of comparing performance against the practices of other leading companies for the purpose of improving performance. Companies also benchmark internally by tracking and comparing current performance with past performance.

Benefit-Cost Ratio: An analytical tool used in public planning; a ratio of total measurable benefits divided by the initial capital cost. *Also see: Cost Benefit Analysis.*

Best in Class: An organization, usually within a specific industry, recognized for excellence in a specific process area.

Best Practice: A specific process or group of processes which have been recognized as the best method for conducting an action. Best practices may vary by industry or geography depending on the environment being used. Best-practices methodology may be applied with respect to resources, activities, cost object, or processes.

Bill of Lading (B/L): A transportation document that is the contract of carriage containing the terms and conditions between the shipper and carrier.

Bill of Lading, Through: A bill of lading to cover goods from point of origin to final destination when interchange or transfer from one carrier to another is necessary to complete the journey.

Bill of Material (BOM): A structured list of all the materials or parts and quantities needed to produce a particular finished product, assembly, subassembly, or manufactured part, whether purchased or not.

Bottleneck: A constraint, obstacle, or planned control that limits throughput or the utilization of capacity.

Branding: The use of a name, term, symbol, or design, or a combination of these, to identify a product.

Break-Even Point: The level of production or the volume of sales at which operations are neither profitable nor unprofitable. The break-even point is the intersection of the total revenue and total cost curves.

Broker: There are 3 definitions for the term "broker": 1) an enterprise that owns and leases equipment2) an enterprise that arranges the buying & selling of transportation of, goods, or services 3) a ship agent who acts for the ship owner or charterer in arranging charters.

Bucketed System: An MRP, DRP, or other time-phased system in which all time-phased data are accumulated into time periods, or buckets. If the period of accumulation is one week, then the system is said to have weekly buckets.

Buffer: 1) A quantity of materials awaiting further processing. It can refer to raw materials, semi-finished stores, or hold points, or a work backlog that is purposely maintained behind a work center. 2) In the theory of constraints, buffers can be time or material, and support throughput and/or due date performance. Buffers can be maintained at the constraint, convergent points (with a constraint part), divergent points, and shipping points.

Buffer Management: In the theory of constraints, a process in which all expediting in a shop is driven by what is scheduled to be in the buffers (constraint, shipping, and assembly buffers). By expediting this material into the buffers, the system helps avoid idleness at the constraint and missed customer due dates. In addition, the causes of items missing from the buffer are identified, and the frequency of occurrence is used to prioritize improvement activities.

Buffer Stock: A quantity of goods or articles kept in storage to safeguard against unforeseen shortages or demands.

Bullwhip Effect: An extreme change in the supply position upstream in a supply chain generated by a small change in demand downstream in the supply chain. Inventory can quickly move from being backordered to being in excess. This is caused by the serial nature of communicating orders up the chain with the inherent transportation delays of moving product down the chain. The bullwhip effect can be eliminated by synchronizing the supply chain.

Business Continuity Plan (BCP): A contingency plan for sustained operations during periods of high risk, such as labor unrest or natural disaster. CSCMP provides suggestions for helping companies do continuity planning in their *Securing the Supply Chain* research. A copy of this research is available on CSCMP's web site at www.cscmp.org.

Business Logistics: The process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.

Business Plan: (1) A statement of long-range strategy and revenue, cost, and profit objectives usually accompanied by budgets, a projected balance sheet, and a cash flow (source and application of funds) statement. A business plan is usually stated in terms of dollars and grouped by product family. The business plan is then translated into synchronized tactical functional plans through the production planning process (or the sales and operations planning process). Although frequently stated in different terms (dollars versus units), these tactical plans should agree with each other and with the business plan. (2) A document consisting of the business details (organization, strategy, and financing tactics) prepared by an entrepreneur to plan for a new business.

Business-to-Business (B2B): As opposed to business-to-consumer (B2C). Many companies are now focusing on this strategy, and their web sites are aimed at businesses (think wholesale) and only other businesses can access or buy products on the site. Internet analysts predict this will be the biggest sector on the web.

Business-to-Consumer (B2C): The hundreds of e-commerce web sites that sell goods directly to consumers are considered B2C. This distinction is important when comparing web sites that are B2B as the entire business model, strategy, execution, and fulfillment is different.

Business Unit: A division or segment of an organization generally treated as a separate profit-and-loss center.

Buyer: An enterprise that arranges for the acquisition of goods or services and agrees to payment terms for such goods or services.

Buyer Behavior: The way individuals or organizations behave in a purchasing situation. The customer-oriented concept finds out the wants, needs, and desires of customers and adapts resources of the organization to deliver need-satisfying goods and services.

C

C & F: *See Cost and Freight*

Calendar Days: The conversion of working days to calendar days is based on the number of regularly scheduled workdays per week in your manufacturing calendar. *Calculation:* To convert from working days to calendar days: if work week = 4 days, multiply by 1.75; = 5 days, multiply by 1.4; = 6 days, multiply by 1.17

Call Center: A facility housing personnel who respond to customer phone queries. These personnel may provide customer service or technical support. Call center services may be in house or outsourced. *Synonym: Customer Interaction Center*.

Capacity Management: The concept that capacity should be understood, defined, and measured for each level in the organization to include market segments, products, processes, activities, and resources. In each of these applications, capacity is defined in a hierarchy of idle, non-productive, and productive views.

Capacity Planning: Assuring that needed resources (e.g., manufacturing capacity, distribution center capacity, transportation vehicles, etc.) will be available at the right time and place to meet logistics and supply chain needs.

Capacity: The physical facilities, personnel, and processes available to meet the product or service needs of customers. Capacity generally refers to the maximum output or producing ability of a machine, a person, a process, a factory, a product, or a service. *Also see: Capacity Management*

CAPEX: A term used to describe the monetary requirements (CAPital EXpenditure) of an initial investment in new machines or equipment.

Capital: The resources, or money, available for investing in assets that produce output.

Cargo: Merchandise carried by a means of transportation.

Carrier: A firm that transports goods or people via land, sea, or air.

Cartel: A group of companies that agree to cooperate rather than compete, in producing a product or service. Thus limiting or regulating competition.

Cash-to-Cash Cycle Time: The time it takes for cash to flow back into a company after it has been spent for raw materials. *Synonym:* Cash Conversion Cycle. *Calculation:* Total Inventory Days of Supply + Days of Sales Outstanding - Average Payment Period for Material in Days.

Cash with Order (CWO): A method of payment for goods where cash is paid at the time of order, and the transaction becomes binding on both buyer and seller.

Cause-and-Effect Diagram: In quality management, a structured process used to organize ideas into logical groupings. Used in brainstorming and problem-solving exercises. Also known as Ishikawa or fish bone diagram.

CELL: A manufacturing or service unit consisting of a number of workstations, and the materials transport mechanisms and storage buffers that interconnect them.

Certificate of Compliance: A supplier's certification that the supplies or services in question meet specified requirements.

Certificate of Insurance: A negotiable document indicating that insurance has been secured under an open policy to cover loss or damage to a shipment while in transit.

Certificate of Origin: A document containing an affidavit to prove the origin of imported goods. Used for customs and foreign exchange purposes.

Certificated Carrier: A for-hire air carrier that is subject to economic regulation and requires an operating certification to provide service.

Certified Supplier: A status awarded to a supplier who consistently meets predetermined quality, cost, delivery, financial, and count objectives. Incoming inspection may not be required.

Change Management: The business process that coordinates and monitors all changes to the business processes and applications operated by the business, as well as to their internal equipment, resources, operating systems, and procedures. The change management discipline is carried out in a way that minimizes the risk of problems that will affect the operating environment and service delivery to the users.

Changeover: Process of making necessary adjustments to change or switchover the type of products produced on a manufacturing line. Changeovers usually lead to downtime and for the most part, companies try to minimize changeover time to help reduce costs.

Channel: **1.** A method whereby a business dispenses its product, such as a retail or distribution channel, call center, or a web-based electronic storefront. **2.** A push technology that allows users to subscribe to a web site to browse offline, automatically display updated pages on their screen savers, and download or receive notifications when pages in the web site are modified. Channels are available only in browsers that support channel definitions such as Microsoft Internet Explorer version 4.0.

Channel Conflict: This occurs when various sales channels within a company's supply chain compete with each other for the same business. An example is where a retail channel is in competition with a web-based channel set up by the company.

Channel Partners: Members of a supply chain (i.e., suppliers, manufacturers, distributors, retailers, etc.) who work in conjunction with one another to manufacture, distribute, and sell a specific product.

Channels of Distribution: Any series of firms or individuals that participates in the flow of goods and services from the raw material supplier and producer to the final user or consumer. *Also see: Distribution Channel.*

Claim: A charge made against a carrier for loss, damage, delay, or overcharge.

Classification: An alphabetical listing of commodities, the class or rating into which the commodity is placed, and the minimum weight necessary for the rate discount; used in the class rate structure.

Classification yard: A railroad terminal area where railcars are grouped together to form train units.

Clearance: A document stating that a shipment is free to be imported into the country after all legal requirements have been met.

Clearinghouse: A conventional or limited-purpose entity generally restricted to providing specialized services, such as clearing funds or settling accounts.

Co-Packer: A contract co-packer produces goods and/or services for other companies, usually under the other company's label or name. Co-packers are more frequently seen in consumer packaged goods and foods.

Co-Managed Inventory (CMI): A form of continuous replenishment in which the manufacturer is responsible for replenishment of standard merchandise, while the retailer manages the replenishment of promotional merchandise.

Commercial Invoice: A document created by the seller. It is an official document which is used to indicate, among other things, the name and address of the buyer and seller, the product(s) being shipped, and their value for customs, insurance, or other purposes.

Commodities: Any article exchanged in trade, most commonly used to refer to raw materials and agricultural products.

Commodity Buying: Grouping like parts or materials under one buyer's control for the procurement of all requirements to support production.

Commodity Code: A code describing a commodity or a group of commodities pertaining to goods classification. This code can be carrier tariff or regulating in nature.

Common Carrier: Transportation available to the public that does not provide special treatment to any one party and is regulated as to the rates charged, the liability assumed, and the service provided. A common carrier must obtain a certificate of public convenience and necessity from the Federal Trade Commission for interstate traffic. *Antonym: Private Carrier.*

Company Culture: A system of values, beliefs, and behaviors inherent in a company. To optimize business performance, top management must define and create the necessary culture.

Competitive Advantage: Value created by a company for its customers that clearly distinguishes it from the competition, provides its customers a reason to remain loyal.

Competitive Benchmarking: Benchmarking a product or service against competitors. *Also see: Benchmarking.*

Competitive Bid: A price/service offering by a supplier that must compete with offerings from other suppliers.

Complete and On-Time Delivery (COTD): A measure of customer service. All items on any given order must be delivered on time for the order to be considered as complete and on time.

Compliance: Meaning that products, services, processes, and/or documents comply with requirements.

Component: Material that will contribute to a finished product but is not the finished product itself. Examples include tires for an automobile, power supply for a personal computer, or a zipper for a ski parka.

Conference: A group of vessel operators joined for the purpose of establishing freight rates.

Conference Carrier: An ocean carrier who is a member of an association known as a "conference." The purpose of the conference is to standardize shipping practices, eliminate freight rate competition, and provide regularly scheduled service between specific ports.

Configuration: The arrangement of components as specified to produce an assembly.

Configure/Package to Order: A process where the trigger to begin to manufacture, final assembly, or packaging of a product is an actual customer order or release rather than a market forecast. In order to be considered a configure-to-order environment, less than 20% of the value added takes place after the receipt of the order or release, and virtually all necessary design and process documentation is available at time of order receipt.

Conformance: An affirmative indication or judgment that a product or service has met the requirements of a relevant specification, contract, or regulation. *Synonym: Compliance.*

Consignee: The party to whom goods are shipped and delivered. The receiver of a freight shipment.

Consignment: (1) A shipment that is handled by a common carrier. (2) The process of a supplier placing goods at a customer location without receiving payment until after the goods are used or sold. *Also see: Consignment Inventory*.

Consignment Inventory: (1) Goods or products that are paid for when they are sold by the reseller, not at the time they are shipped to the reseller. (2) Goods or products which are owned by the vendor until they are sold to the consumer.

Consignor: The party who originates a shipment of goods (shipper). The sender of a freight shipment, usually the seller.

Consolidation: Combining two or more shipments in order to realize lower transportation rates. Inbound consolidation from vendors is called make-bulk consolidation; outbound consolidation to customers is called break-bulk consolidation.

Consolidation Point: The location where consolidation takes place.

Consolidator: An enterprise that provides services to group shipments, orders, and/or goods to facilitate movement.

Consolidator's Bill of Lading: A bill of lading issued by a consolidator as a receipt for merchandise that will be grouped with cargo obtained from other shippers. See also House Air Waybill.

Constraint: A bottleneck, obstacle, or planned control that limits throughput or the utilization of capacity.

Container: (1) A box, typically 10 to 40 feet long, which is primarily used for ocean freight shipments. For travel to and from ports, containers are loaded onto truck chassis or on railroad flatcars. (2) The packaging, such as a carton, case, box, bucket, drum, bin, bottle, bundle, or bag, that an item is packed and shipped in.

Container Chassis: A vehicle built for the purpose of transporting a container so that, when a container and chassis are assembled, the produced unit serves as a road trailer.

Container Depot: The storage area for empty containers.

Container Freight Station Charge: The charge assessed for services performed at the loading or discharge location.

Container Freight Station to Container Freight Station (CFS/CFS): A type of steamship-line service in which cargo is transported between container freight stations, where containers may be stuffed, stripped, or consolidated. Usually used for less-than-container load shipments.

Container I.D.: An identifier assigned to a container by a carrier.

Containerization: A shipment method in which commodities are placed in containers, and after initial loading, the commodities, per se, are not rehandled in shipment until they are unloaded at the destination.

Container on Flat Car (COFC): A container that is transported on a rail flatcar. It can be shipped via tractor/trailer using a chassis as the wheel section.

Container Terminal: An area designated to be used for the stowage of cargo in containers that may be accessed by truck, rail, or ocean transportation.

Container Vessel: A vessel specifically designed for the carriage of containers.

Container Yard: The location designated by the carrier for receiving, assembling, holding, storing, and delivering containers, and where containers may be picked up by shippers or redelivered by consignees.

Container Yard to Container Yard (CY/CY): A type of steamship-line service in which freight is transported from origin container yard to destination container yard.

Contingency Planning: Preparing to deal with calamities (e.g., floods) and non-calamitous situations (e.g., strikes) before they occur.

Continuous Improvement (CI): A structured, measurement-driven process that continually reviews and improves performance.

Continuous Process Improvement (CPI): A never-ending effort to expose and eliminate root causes of problems; small-step improvement as opposed to big-step improvement. *Synonym:* Continuous Improvement. *Also see:* Kaizen.

Contract: An agreement between two or more competent persons or companies to perform or not to perform specific acts or services or to deliver merchandise. A contract may be oral or written. A purchase order, when accepted by a supplier, becomes a contract. Acceptance may be in writing or by performance, unless the purchase order requires acceptance in writing.

Contract Administration: Managing all aspects of a contract to guarantee that the contractor fulfills his obligations.

Contract Carrier: A for-hire carrier that does not serve the general public but serves shippers with whom the carrier has a continuing contract. The contract carrier must secure a permit to operate.

Contribution: The difference between sales price and various costs. Contribution is used to cover fixed costs and profits.

Contribution Margin: An amount equal to the difference between sales revenue and variable costs.

Controlled Access: Referring to an area within a warehouse or yard that is fenced and gated. These areas are typically used to store high-value items and may be monitored by security cameras.

Conveyance: The application used to describe the function of a vehicle of transfer.

Conveyor: A materials handling device that moves freight from one warehouse area to another. Roller conveyors utilize gravity, whereas belt conveyors use motors.

Coordinated Transportation: Two or more carriers of different modes transporting a shipment.

Core Competency: Bundles of skills or knowledge sets that enable a firm to provide the greatest level of value to its customers in a way that's difficult for competitors to emulate and that provides for future growth. Core competencies are embodied in the skills of the workers and in the organization. They are developed through collective learning, communication, and commitment to work across levels and functions in the organization and with the customers and suppliers. A core competency could be the capability of a firm to coordinate and harmonize diverse production skills and multiple technologies. *To illustrate:* advanced casting processes for making steel require the integration of machine design with sophisticated sensors to track temperature and speed, and the sensors require mathematical modeling of heat transfer. For rapid and effective development of such a process, materials scientists must work closely with machine designers, software engineers, process specialists, and operating personnel. Core competencies are not directly related to the product or market.

Core Process: That unique capability that is central to a company's competitive strategy.

Cost Accounting: The branch of accounting that is concerned with recording and reporting business operating costs. It includes the reporting of costs by departments, activities, and products.

Cost and Freight (C & F): The seller quotes a price that includes the cost of transportation to a specific point. The buyer assumes responsibility for loss and damage and pays for the insurance of the shipment.

Cost Allocation: In accounting, the assignment of costs that cannot be directly related to production activities via more measurable means, e.g., assigning corporate expenses to different products via direct labor costs or hours.

Cost–benefit Analysis: Sometimes called benefit costs analysis, is a systematic approach to estimating the strengths and weaknesses of alternatives used to determine options which provide the best approach to achieving benefits while preserving savings.

Cost Center: In accounting, a sub-unit in an organization that is responsible for costs.

Cost Driver: In accounting, any situation or event that causes a change in the consumption of a resource, or influences quality or cycle time. An activity may have multiple cost drivers. Cost drivers do not necessarily need to be quantified; however, they strongly influence the selection and magnitude of resource drivers and activity drivers.

Cost Driver Analysis: In cost accounting, the examination, quantification, and explanation of the effects of cost drivers. The results are often used for continuous improvement programs to reduce throughput times, improve quality, and reduce cost.

Cost Element: In cost accounting, the lowest level component of a resource activity, or cost object.

Cost, Insurance, Freight (CIF): A freight term indicating that the seller is responsible for cost, the marine insurance, and the freight charges on an ocean shipment of goods.

Cost Management: The management and control of activities and drivers to calculate accurate product and service costs, improve business processes, eliminate waste, influence cost drivers, and plan operations. The resulting information can be very useful in setting and evaluating an organization's strategies.

Cost of Capital: The cost to borrow or invest capital.

Cost-of-Goods Sold (COGS): The amount of direct materials, direct labor, and allocated overhead associated with products sold during a given period of time.

Cost of Lost Sales: The forgone profit companies associate with a stockout.

Cost Trade-Off: The interrelationship among system variables in which a change in one variable affects other variables' costs. A cost reduction in one variable may increase costs for other variables, and vice versa.

Cost Variance: In cost accounting the difference between what has been budgeted for an activity and what it actually costs.

Country of Destination: The country that will be the ultimate or final destination for goods.

Country of Origin: The country where the goods were manufactured.

Courier Service: A fast, door-to-door service for high-valued goods and documents; firms usually limit service to shipments weighing fifty pounds or less.

Crane: A materials handling device that lifts heavy items. There are two types: bridge and stacker.

Credit Level: The amount of purchasing credit a customer has available. Usually defined by the internal credit department and reduced by any existing unpaid bills or open orders.

Credit Terms: The agreement between two or more enterprises concerning the amount and timing of payment for goods or services.

Critical Success Factor (CSF): Those activities and/or processes that must be completed and/or controlled to enable a company to reach its goals.

Critical Value Analysis: A modified ABC analysis in which a company assigns a subjective critical value to each item in an inventory.

CRM: *See Customer Relationship Management (CRM).*

Cross-dock: Cross-dock operations in a warehouse involve moving goods between different trucks to consolidate loads without intermediate storage.

Cross Docking: A distribution system in which merchandise received at the warehouse or distribution center is not put away, but instead is readied for shipment to retail stores. Cross docking requires close synchronization of all inbound and outbound shipment movements. By eliminating the put-away, storage, and selection operations, it can significantly reduce distribution costs.

Cross Sell: The practice of attempting to sell additional products to a customer during a sales call. For example, when the CSR presents a camera case and accessories to a customer that is ordering a camera.

Cross Shipment: Material flow activity where materials are shipped to customers from a secondary shipping point rather than from a preferred shipping point.

Cubage: Cubic volume of space being used or available for shipping or storage.

Cube Out: The situation when a piece of equipment has reached its volumetric capacity before reaching the permitted weight limit.

Cube Utilization: In warehousing, a measurement of the utilization of the total storage capacity of a vehicle or warehouse.

Cubic Capacity: The carrying capacity of a piece of equipment according to measurement in cubic feet.

Cubic Space: In warehousing, a measurement of space available, or required, in transportation and warehousing.

Cumulative Lead Time: The total time required to source components, build, and ship a product.

Cumulative Source/Make Cycle Time: The cumulative internal and external lead time to manufacture shippable product, assuming that there is no inventory on hand, no materials or parts on order, and no prior forecasts existing with suppliers. (An element of Total Supply Chain Response Time) *Calculation:* The critical path along the following elements: Total Sourcing Lead Time, Manufacturing Order Release to Start Manufacturing, total Manufacture Cycle Time (Make to Order, Engineer to Order, Configure/Package to Order) or Manufacture Cycle Time (Make to Stock), Complete Manufacture to Ship Time. *Note:* Determined separately for Make-to-Order, Configure/Package-to-Order, Engineer-to-Order, and Make-to-Stock products.

Currency Adjustment Factor (CAF): A surcharge imposed by a carrier on ocean freight charges to offset foreign currency fluctuations.

Customer: 1) In VMI, the trading partner or reseller, i.e., Wal-Mart, Safeway, or CVS. 2) In direct consumer, the end customer or user.

Customer Acquisition or Retention: The rate at which new customers are acquired, or existing customers are retained. A key selling point to potential marquis partners.

Customer Driven: The end user, or customer, motivates what is produced or how it is delivered.

Customer Facing: Those personnel whose jobs entail actual contact with the customer.

Customer Order: An order from a customer for a particular product or a number of products. It is often referred to as an actual demand to distinguish it from a forecasted demand.

Customer/Order Fulfillment Process: A series of customers' interactions with an organization through the order-filling process, including product/service design, production and delivery, and order stats reporting.

Customer Profitability: The practice of placing a value on the profit generated by business done with a particular customer.

Customer Relationship Management (CRM): This refers to information systems that help sales and marketing functions as opposed to the ERP (Enterprise Resource Planning), which is for back-end integration.

Customer Segmentation: Dividing customers into groups based on specific criteria, such as products purchased, customer geographic location, etc.

Customer Service: The series of activities involved in providing the full range of services to customers.

Customer Service Representative (CSR): An individual who provides customer support via telephone in a call-center environment.

Customer-Supplier Partnership: A long-term relationship between a buyer and a supplier characterized by teamwork and mutual confidence. The supplier is considered an extension of the buyer's organization. The partnership is based on several commitments. The buyer provides long-term contracts and uses fewer suppliers. The supplier implements quality assurance processes so that incoming inspection can be minimized. The supplier also helps the buyer reduce costs and improve product and process designs.

Customization: Creating a product from existing components into an individual order. *Synonym: Build to Order*.

Customs: The authorities designated to collect duties levied by a country on imports and exports.

Customs Broker: A firm that represents importers/exporters in dealings with customs. Normally responsible for obtaining and submitting all documents for clearing merchandise through customs, arranging inland transport, and paying all charges related to these functions.

Customs Clearance: The act of obtaining permission to import merchandise from another country into the importing nation.

Customs House Broker: A business firm that oversees the movement of international shipments through Customs, and ensures that the documentation accompanying a shipment is complete and accurate.

Customs Invoice: A document that contains a declaration by the seller, the shipper, or the agent as to the value of the shipment.

Customs Value: The value of the imported goods on which duties will be assessed.

CWT: The abbreviation for hundredweight, which is the equivalent of 100 pounds. *See Hundredweight.*

Cycle Inventory: An inventory system where counts are performed continuously, often eliminating the need for an annual overall inventory. It is usually set up so that A items are counted regularly (i.e., every month), B items are counted semi-regularly (every quarter or six months), and C Items are counted perhaps only once a year.

Cycle Time: The amount of time it takes to complete a business process.

D

Dangerous Goods: Articles or substances capable of posing a significant risk to health, safety, or property, and that ordinarily require special attention when transported. *See also Hazardous Goods*.

Dashboard: A performance measurement tool used to capture a summary of the key performance indicators/metrics of a company. Metrics dashboards/scorecards should be easy to read and usually have red, yellow, green indicators to flag when the company is not meeting its metrics targets. Ideally, a dashboard/scoreboard should be cross functional in nature and include both financial and non-financial measures. In addition, scorecards should be reviewed regularly - at least on a monthly basis, and weekly in key functions such as manufacturing and distribution where activities are critical to the success of a company. The dashboards/scorecards philosophy can also be applied to external supply chain partners like suppliers to ensure that their objectives and practices align. *Synonym: Scorecard.*

Data Mining: The process of studying data to search for previously unknown relationships. This knowledge is then applied to achieving specific business goals.

Data Warehouse: A repository of data that has been specially prepared to support decision-making applications. *Synonym: Decision-Support Data.*

Database: Data stored in computer-readable form, usually indexed or sorted in a logical order by which users can find a particular item of data they need.

Days of Supply: Measure of quantity of inventory on hand in relation to number of days for which usage will be covered. For example, if a component is consumed in manufacturing at the rate of 100 per day and there are 1,585 units available on hand, this represents 15.85 days' supply.

Deadhead: The return of an empty transportation container to its point of origin. *See Backhaul.*

Deadweight Tons (DWT): The cargo carrying capacity of a vesel, including fuel oil, stores and provisions.

Decentralized Authority: A situation in which a company management gives decision-making authority to managers at many organizational levels.

Declared Value for Carriage: The value of the goods, declared by the shipper on a bill of lading, for the purpose of determining a freight rate or the limit of the carrier's liability.

Dedicated Contract Carriage: A third party service that dedicates equipment (vehicles) and drivers to a single customer for its exclusive use on a contractual basis.

Delivery Appointment: The time agreed upon between two enterprises for goods or transportation equipment to arrive at a selected location.

Delivered, Duty Paid: Supplier/manufacturer arrangement in which suppliers are responsible for the transport of the goods they've produced, which are being sent to a manufacturer. This responsibility includes tasks such as ensuring that products get through Customs.

Delivery Instructions: A document issued to a carrier to pick up goods at a location and deliver them to another location. *See also Delivery Order*

Delivery Order: A document issued by the customs broker to the ocean carrier as authority to release the cargo to the appropriate party.

Demand and Capacity Balancing: The concept of keeping the capacity flexible in order to produce a variety of product versions based on customer orders. This requires a proper deployment of Push/Pull strategy and operations agility. This is an improvement over balancing demand and supply, which relies on inventory only which carries a risk of redundancy.

Demand Chain Management: The same as supply chain management, but with an emphasis on consumer pull versus supplier push.

Demand Planning Systems: The systems that assist in the process of identifying, aggregating, and prioritizing all sources of demand for the integrated supply chain of a product of service at the appropriate level, horizon, and interval.

Demand Pull: The triggering of material movement to a work center only when that work center is ready to begin the next job. In effect, it eliminates the queue from in from of a work center, but it can cause a queue at the end of a previous work center.

Demand Signal: A signal from a consumer, customer or using operation that triggers the issue of product or raw material.

Demand and Supply Balancing: The process of identifying and measuring the gaps and imbalances between demand and resources in order to determine how to best resolve the variances through marketing, pricing, packaging, warehousing, outsource plans, or some other action that will optimize service, flexibility, costs, assets, (or other supply chain inconsistencies) in an iterative and collaborative environment.

Deming Circle: The concept of a continuously rotating wheel of plan-to-do-check-action (PDCA) used to show the need for interaction among market research, design, production, and sales to improve quality. *Also see: Plan-Do-Check-Action.*

Demographic Segmentation: In marketing, dividing potential markets by characteristics of potential customers, such as age, sex, income, and education.

Demurrage: The carrier charges and fees applied when rail freight cars and ships are retained beyond a specified loading or unloading time. *Also see: Detention, Express.*

Density: A physical characteristic measuring a commodity's mass per unit volume or pounds per cubic foot; an important factor in ratemaking, since density affects the utilization of a carrier's vehicle.

Density rate: A rate based upon the density and shipment weight.

Deregulation: Revisions or complete elimination of economic regulations controlling transportation. The Motor Carrier Act of 1980 and the Staggers Act of 1980 revised the economic controls over motor carriers and railroads, and the Airline Deregulation Act of 1978 eliminated economic controls over air carriers.

Derived demand: The demand for a product's transportation is derived from the product's demand at some location.

Destination: The location designated as a receipt point for goods/shipment.

Detention: The carrier charges and fees applied when rail freight cars and ships are retained beyond a specified loading or unloading time. *Also see: Demurrage, Express*.

Direct Channel: This is when your own sales force sells to the customer. Your company may ship to the customer, or a third party may handle shipment, but in either case, your company owns the sales contract and retains rights to the receivable from the customer. Your end customer may be a retail outlet. The movement to the customer may be direct from the factory, or the product may move through a distribution network owned by your company. Order information in this channel may be transmitted by electronic means.

Direct Cost: A cost that can be directly traced to a cost object since a direct or repeatable cause-and-effect relationship exists. A direct cost uses a direct assignment or cost causal relationship to transfer costs. *Also see: Indirect Cost, Tracing*

Direct Production Material: Material that is used in the manufacturing/content of a product. (*Example: purchased parts, solder, SMT glues, adhesives, mechanical parts, bill-of-materials parts, etc.)*

Direct Retail Locations: A retail location that purchases products directly from your organization or responding entity.

Direct Store Delivery (DSD): Process of shipping direct from a manufacturer's plant or distribution center to the customer's retail store, thus bypassing the customer's distribution center. Also called *Direct-to-Store Delivery*.

Direct-to-Store (DTS) Delivery: Same as Direct Store Delivery.

Disaster Recovery Planning: Contingency planning specifically related to recovering hardware and software (e.g., data centers, application software, operations, personnel, telecommunications) in information system outages.

Discharge Port: The name of the port where the cargo is unloaded from the export vessel. This is the port reported to the U.S. Census on the Shipper's Export Declaration, Schedule K, which is used by U.S. companies when exporting. This can also be considered the first discharge port.

Discrete Manufacturing: Discrete manufacturing processes create products by assembling unconnected distinct parts as in the production of distinct items such as automobiles, appliances, or computers.

Dispatching: The carrier activities involved with controlling equipment; involves arranging for fuel, drivers, crews, equipment, and terminal space.

Distributed Inventory: Inventory that is geographically dispersed. For example, where a company maintains inventory in multiple distribution centers to provide a higher level of customer service.

Distribution: Outbound logistics, from the end of the production line to the end user. The activities associated with the movement of material, usually finished goods or service parts, from the manufacturer to the customer. These activities encompass the functions of transportation, warehousing, inventory control, material handling, order administration, site and location analysis, industrial packaging, data processing, and the communications network necessary for effective management. It includes all activities related to physical distribution, as well as the return of goods to the manufacturer. In many cases, this movement is made through one or more levels of fieldwarehouses. *Synonym: Physical Distribution*. The systematic division of a whole into discrete parts having distinctive characteristics.

Distribution Center (DC): The warehouse facility which holds inventory from manufacturing pending distribution to the appropriate stores.

Distribution Channel: One or more companies or individuals who participate in the flow of goods and services from the manufacturer to the final user or consumer.

Distribution Channel Management: The organizational and pipeline strategy for getting products to customers. Direct channels involve company sales forces, facilities, and/or direct shipments to customers; indirect channels involve the use of wholesalers, distributors, and/or other parties to supply the products to customers. Many companies use both strategies, depending on markets and effectiveness.

Distribution Planning: The planning activities associated with transportation, warehousing, inventory levels, materials handling, order administration, site and location planning, industrial packaging, data processing, and communications networks to support distribution.

Distribution Requirements Planning (DRP): A system of determining demands for inventory at distribution centers and consolidating demand information in reverse as input to the production and materials system.

Distribution Resource Planning (DRP II): The extension of distribution requirements planning into the planning of the key resources contained in a distribution system: warehouse space, workforce, money, trucks, freight cars, etc.

Distribution Warehouse: A finished goods warehouse from which a company assembles customer orders.

Distributor: A business that does not manufacture its own products, but purchases and resells these products. Such a business usually maintains a finished goods inventory. *Synonym: Wholesaler.*

Dock Receipt: A document used to accept materials or equipment at an ocean pier or accepted location. Provides the ocean carrier with verification of receipt and the delivering carrier with proof of delivery.

Document: In EDI, a form, such as an invoice or purchase order, that trading partners have agreed to exchange and that the EDI software handles within its compliance-checking logic.

Documentation: The papers attached or pertaining to goods requiring transportation and/or transfer of ownership.

Domestic Trunk Line Carrier: A classification for air carriers that operate between major population centers. These carriers are now classified as major carriers.

Door to Door: The through-transport of goods from consignor to consignee.

Door to Port: The through transport service from consignor to port of importation.

Double Bottoms: A motor carrier operation that involves one tractor pulling two trailers.

Downstream: One or more companies or individuals who participate in the flow of goods and services moving from the manufacturer to the final user or consumer.

Driving Time Regulations: U.S. Department of Transportation rules that limit the maximum time a driver may drive in interstate commerce; the rules prescribe both daily and weekly maximums.

Drop Ship: To take the title of the products but not actually handle, stock, or deliver it, e.g., to have one supplier ship directly to another or to have a supplier ship directly to the buyer's customer.

Drum-Buffer-Rope (DBR): In the theory of constraints, the generalized process used to manage resources to maximize throughput. The drum is the rate or pace of production set by the system's constraint. The buffers establish the protection against uncertainty so that the system can maximize throughput. The rope is a communication process from the constraint to the gating operation that checks or limits material released into the system to support the constraint.

Dumping: When a product is sold below cost in a foreign market and/or when a product is sold at a lower price in the foreign market than in a domestic market, with the intention of driving out competition in the foreign market.

Dunnage: The packing material used to protect a product from damage during transport.

Duty: A tax imposed by a government on merchandise imported from another country.

Duty Drawback: A refund of duty paid on imported merchandise when it is exported later, whether in the same or a different form.

Duty Free Zone (DFZ), also called Special Economic Zone or Export Processing Zone: An area where goods or cargo can be stored without paying import customs duties while awaiting manufacturing or future transport.

80/20 Rule: A term referring to the Pareto principle. This principle suggests that most effects come from relatively few causes; that is, 80% of the effects (or sales or costs) come from 20% of the possible causes (or items). *Also see: ABC Classification, Pareto*

E

better designs in less time and ones that are easier to manufacture with high quality.

Earnings Before Interest, Taxes and Additional items (EBITA): A measure of a company's earning power from ongoing operations, equal to earnings (revenues minus cost of sales, operating expenses, and taxes) before deduction of interest payments and income taxes. Also called operating profit.

E-Commerce: *See Electronic Commerce.*

Economic Order Quantity (EOQ): An inventory model that determines how much to order by determining the amount that will meet customer service levels while minimizing total ordering and holding costs.

Economy of Scale: A phenomenon whereby larger volumes of production reduce unit cost by distributing fixed costs over a larger quantity.

EDI Transmission: A functional group of one or more EDI transactions that are sent to the same location in the same transmission, and are identified by a functional group header and trailer.

Electronic Data Interchange (EDI): Intercompany, computer-to-computer transmission of business information in a standard format. For EDI purists, computer to computer means direct transmission from the originating application program to the receiving or processing application program. An EDI transmission consists only of business data, not any accompanying verbiage or free-form messages. Purists might also contend that a standard format is one that is approved by a national or international standards organization, as opposed to formats developed by industry groups or companies.

Electronic Data Interchange Association: A national body that propagates and controls the use of EDI in a given country. All EDIAs are nonprofit organizations dedicated to encouraging EDI growth. The EDI in the United States was formerly TDCC and administered the development of standards in transportation and other industries.

Electronic Mail (E-Mail): The computer-to-computer exchange of messages. E-mail is usually unstructured (free-form) rather than in a structured format. X.400 has become the standard for e-mail exchange.

Embargo: A prohibition upon exports or imports, either with specific products or specific countries.

End Item: A product sold as a completed item or repair part; any item subject to a customer order or sales forecast. *Synonym: Finished Goods Inventory*.

End-of-Life Inventory: Inventory on hand that will satisfy future demand for products that are no longer in production at your company.

End User: The final buyer of the product who purchases the product for immediate use.

Enterprise Resource Planning (ERP) System: A class of software for planning and managing enterprise-wide the resources needed to take customer orders, ship them, account for them, and replenish all needed goods according to customer orders and forecasts. Often includes electronic commerce with suppliers. Examples of ERP systems are the application suites from SAP, Oracle, PeopleSoft, and others.

Equipment: The rolling stock carriers use to facilitate the transportation services that they provide, including containers, trucks, chassis, vessels, and airplanes, among others.

ETA: The Estimated Time of Arrival.

ETD: The Estimated Time of Departure.

Ethical Standards: A set of guidelines for proper conduct by business professionals.

Exempt Carrier: A for-hire carrier that is free from economic regulation. Trucks hauling certain commodities are exempt from Interstate Commerce Commission economic regulation. By far, the largest portion of exempt carriers transports agricultural commodities or seafood.

Expediting: (1) Moving shipments through regular channels at an accelerated rate. (2) To take extraordinary action because of an increase in relative priority. *Synonym: Stock chase*

Export: To send goods and services to another country.

Export Compliance: Complying with rules for exporting products, including packaging, labeling, and documentation.

Export Broker: An enterprise that brings together buyer and seller for a fee, then eventually withdraws from the transaction.

Export Declaration: A document required by the U.S. Treasury department and completed by the exporter to show the value, weight, consignee, destination, etc., pertinent to the export shipment. The document serves two purposes: to gather trade statistics and to provide a control document if the goods require a valid export license.

Export License: A document secured from a government authorizing an exporter to export a specific quantity of a controlled commodity to a certain country. An export license is often required if a government has placed embargoes or other restrictions upon exports.

Export Management Company: A private firm that serves as the export department for several manufacturers, soliciting and transacting export business on behalf of its clients in return for a commission, salary, or a retainer plus commission.

Extensible Markup Language (XML): A computer term for a language that facilitates direct communication of data among computers on the Internet. Unlike the older hypertext markup language (HTML) which provides data tags that give instructions to a web browser on how to display information, XML tags give instructions to a browser or to application software which help to define specifics about the category of information.

Ex Works: The price that the seller quotes applies only at the point of origin. The buyer takes possession of the shipment at the point of origin and bears all costs and risks associated with transporting the goods to the destination.

4PL: **See Fourth Party Logistics (4PL)*

5-S Program: A program under Lean methodology for organizing work areas. Sometimes referred to as elements, each of the five components of the program begins with the letter "S." They include sort, systemize, shine or sweep, standardize, and sustain. In the UK, the concept is converted to the 5-C program comprising five comparable components: clear out, configure, clean and check, conformity, and custom and practice.
* *Sort* - get rid of clutter; separate out what is needed for the operations. * *Systemize/Set in Order* - organize the work area; make it easy to find what is needed.
* *Shine* - clean the work area; make it shine.
* *Standardize* - establish schedules and methods of performing the cleaning and sorting.
* *Sustain* - implement mechanisms to sustain the gains through involvement of people, integration into the performance measurement system, discipline, and recognition.
The 5-S program is frequently combines with precepts of the Lean Manufacturing Initiative. Even when used separately, however, the 5-S (or 5-C) program is said to yield excellent results. Implementation of the program involves introducing each of the five elements in order, which reportedly generates multiple benefits, including product diversification, higher quality, lower costs, reliable deliveries, improved safety, and higher availability rate.

F

FAS: *See Final Assembly Schedule. This acronym is also used for Free Along Side.*

Fabricator: A manufacturer that turns the product of a raw materials supplier into a larger variety of products. A fabricator may turn steel rods into nuts, bolts, and twist drills, or may turn paper into bags and boxes.

Facilities: The physical plant, distribution centers, service centers, and related equipment.

Field Warehouse: A warehouse that stores goods on the goods' owner's property while the goods are under a bona fide public warehouse manager's custody. The owner uses the public warehouse receipts as collateral for a loan.

FIFO: *See First In First Out.*

Fill Rate: The percentage of order items that the picking operation actually found.

Final Assembly: The highest level assembled product, as it is shipped to customers. This terminology is typically used when products consist of many possible features and options that may only be combined when an actual order is received. *Also see: End Item, Assemble to Order*

Final Assembly Schedule (FAS): A schedule of end items to finish the product for specific customers' orders in a make-to-order or assemble-to-order environment. It's also referred to as the finishing schedule because it may involve operations other than just the final assembly; also, it may not involve assembly, but simply final mixing, cutting, packaging, etc. The FAS is prepared after receipt of a customer order as constrained by the availability of material and capacity, and it schedules the operations required to complete the product from the level where it is stocked (or master scheduled) to the end-item level.

Financial Responsibility: Motor carriers must have bodily injury and property damage (not cargo) insurance of not less than $500,000 per incident per vehicle; higher financial responsibility limits apply for motor carriers transporting oil or hazardous materials.

Finished Goods Inventory (FG or FGI): Products completely manufactured, packaged, stored, and ready for distribution. *Also see: End Item*

Firm Planned Order: In a DRP or MRP system, a planned order whose status has been updated to a fixed order.

First In First Out (FIFO): In inventory control and financial accounting, this refers to the practice of using stock from inventory on the basis of what was received first and is consumed first. *Antonym: Last In First Out.*

Fixed Costs: Costs which do not fluctuate with business volume in the short run. Fixed costs include items such as depreciation on buildings and fixtures.

Fixed Order Quantity: A lot-sizing technique in MRP or inventory management that will always cause planned or actual orders to be generated for a pre-determined fixed quantity, or multiples thereof, if net requirements for the period exceed the fixed order quantity.

Fixed Overhead: Traditionally, all manufacturing costs, other than direct labor and direct materials, that continue even if products are not produced. Although fixed overhead is necessary to produce the product, it cannot be directly traced to the final product. *Also see: Indirect Cost*

Fixed Quantity Inventory Model: A setup wherein a company orders the same (fixed) quantity each time it places an order for an item.

Flatbed: A flatbed, also called a haul brite, is a type of trailer on a truck that consists of a floor and no enclosure.

Flatcar: A railcar without sides, used for hauling machinery.

Flexibility: Ability to respond quickly and efficiently to changing customer and consumer demands.

Flexible-Path Equipment: Materials handling devices that include hand trucks and forklifts.

Flow-Through Distribution: A process in a distribution center in which products from multiple locations are brought in to the D.C. and are re-sorted by delivery destination and shipped in the same day. Also known as a "cross-dock" process in the transportation business. *See Cross Docking.*

FOB: A term of sale defining who is to incur transportation charges for the shipment, who is to control the shipment movement, or where title to the goods passes to the buyer; originally meant "free on board ship." *See Free on Board.*

FOB Destination: Title passes at destination, and seller has total responsibility until shipment is delivered.

FOB Origin: Title passes at origin, and buyer has total responsibility over the goods while in shipment.

Forecast: An estimate of future demand. A forecast can be constructed using quantitative methods, qualitative methods, or a combination of methods, and can be based on extrinsic (external) or intrinsic (internal) factors. Various forecasting techniques attempt to predict one or more of the four components of demand: cyclical, random, seasonal, and trend.

Forecasting: Predictions of how much of a product will be purchased by customers. Relies upon both quantitative and qualitative methods. *Also see: Forecast.*

For-Hire Carrier: A carrier that provides transportation service to the public on a fee basis.

Forklift Truck: A machine-powered device used to raise and lower freight and to move freight to different warehouse locations.

Form Utility: The value the production process creates in a good by changing the item's form.

Forwarder's Bill of Lading: *See Consolidator's Bill of Lading.*

Four P's: A set of marketing tools to direct the business offering to the customer. The four P's are product, price, place, and promotion.

Fourth Party Logistics (4PL): Differs from third party logistics in the following ways: (1) 4PL organization is often a separate entity established as a joint venture or long-term contract between a primary client and one or more partners; (2) 4PL organization acts as a single interface between the client and multiple logistics service providers; (3) All aspects (ideally) of the client's supply chain are managed by the 4PL organization; (4) It is possible for a major third party logistics provider to form a 4PL organization within its existing structure (*Strategic Supply Chain Alignment*; John Gattorna).

Free Along Side (FAS): The seller agrees to deliver the goods to the dock alongside the overseas vessel that is to carry the shipment. The seller pays the cost of getting the shipment to the dock; the buyer contracts the carrier, obtains documentation, and assumes all responsibility from that point forward.

Free Alongside Ship: A term of sale indicating that the seller is liable for all changes and risks until the goods sold are delivered to the port on a dock that will be used by the vessel. Title passes to the buyer when the seller has secured a clean dock or ship's receipt of goods.

Free on Board (FOB): Contractual terms between a buyer and a seller that define where title transfer takes place.

Free Time: The period of time allowed for the removal or accumulation of cargo before charges become applicable.

Free Trade Zone (FTZ): *See Foreign Trade Zone (FTZ).*

Freight: Goods being transported from one place to another.

Freight Bill: The carrier's invoice for payment of transport services rendered.

Freight Carriers: Companies that haul freight, also called "for-hire" carriers. Methods of transportation include trucking, railroads, airlines, and sea borne shipping.

Freight Charge: The rate established for transporting freight.

Freight Collect: The freight and charges to be paid by the consignee.

Freight Consolidation: The grouping of shipments to obtain reduced costs or improved utilization of the transportation function. Consolidation can occur by market area grouping, grouping according to scheduled deliveries, or using third party pooling services such as public warehouses and freight forwarders.

Freight Forwarder: An organization which provides logistics services as an intermediary between the shipper and the carrier, typically on international shipments. Freight forwarders provide the ability to respond quickly and efficiently to changing customer and consumer demands and international shipping (import/export) requirements.

Freight Prepaid: The freight and charges to be paid by the consignor.

Freight Quotation: A quotation from a carrier or forwarder covering the cost of transport between two specified locations.

Fronthaul: The first leg of the truck trip that involves hauling a load or several loads to targeted destinations.

FTL: *See Full Truck Load.*

FTZ: *See Foreign Trade Zone and Free Trade Zone.*

Fulfillment: The act of fulfilling a customer order. Fulfillment includes order management, picking, packaging, and shipping.

Full Containerload (FCL): A term used when goods occupy a whole container.

Full-Service Leasing: An equipment-leasing arrangement that includes a variety of services to support the leased equipment; a common method for leasing motor carrier tractors.

Full Truckload (FTL): Same as Full Containerload, but in reference to motor carriage instead of containers.

Fully Allocated Cost: The variable cost associated with a particular output unit plus a common cost allocation.

G

Gain Sharing: A method of incentive compensation where supply chain partners share collectively in savings from productivity improvements. The concept provides an incentive to both the buying and supplier organizations to focus on continually reevaluating, reenergizing, and enhancing their business relationship. all aspects of value delivery are scrutinized, including specification design, order processing, inbound transportation, inventory management, obsolescence programs, material yield, forecasting and inventory planning, product performance, and reverse logistics. The focus is on driving out limited value cost while protecting profit margins.

General Agreement on Tariffs and Trade (GATT): A multilateral trade agreement aimed at expanding international trade as a means of raising world welfare.

Global Positioning System (GPS): A system which uses satellites to precisely locate an object on earth. Used by trucking companies to locate over-the-road equipment.

Global Strategy: A strategy that focuses on improving worldwide performance through the sales and marketing of common goods and services with minimum product variation by country. Its competitive advantage grows through selecting the best locations for operations in other countries.

Globalization: The process of making something worldwide in scope or application.

Goods: A term associated with more than one definition: 1) Common term indicating movable property, merchandise, or wares. 2) All materials which are used to satisfy demands. 3) Whole or part of the cargo received from the shipper, including any equipment supplied by the shipper.

Grandfather Clause: A provision that enabled motor carriers engaged in lawful trucking operations before the passage of the Motor Carrier Act of 1935 to secure common carrier authority w/o proving public convenience and necessity; a similar provision exists for other modes.

Gravity Location Approach: A supply chain planning methodology for locating distribution centers at approximately the location representing the minimum transportation costs between the plants, the distribution centers, and the markets.

Gross Margin: The difference between total revenue and the cost-of-goods sold. *Synonym: Gross Profit Margin.*

Gross National Product (GNP): A measure of a nation's output; the total value of all final goods and services a nation produces during a time period.

Gross Weight: The total weight of the vehicle and the payload of freight or passengers.

H

Handling Costs: The cost involved in moving, transferring, preparing, and otherwise handling inventory.

Hard Copy: Computer output printed on paper.

Harmonized Commodity Description & Coding System (Harmonized Code): An international classification system that assigns identification numbers to specific products. The coding system ensures that all parties in int'l. trade use a consistent classification for the purposes of documentation, statistical control, and duty assessment.

Haulage: The inland transport service which is offered by the carrier under the terms and conditions of the tariff and of the relative transport document.

HAWB: *See House Air Waybill (HAWB).*

Hazardous Goods: Articles or substances capable of posing a significant risk to health, safety, or property, and that ordinarily require special attention when transported. Also called Dangerous Goods.

Hazardous Material: A substance or material which the Department of Transportation has determined to be capable of posing a risk to health, safety, and property when stored or transported in commerce.

Heijunka: In the just-in-time philosophy, an approach to level production throughout the supply chain to match the planned rate of end product sales.

House Air Waybill (HAWB): A bill of lading issued by a forwarder to a shipper as a receipt for goods that the forwarder will consolidate with cargo from other shippers for transport.

Hub: 1) A large retailer or manufacturer having many trading partners. 2) A reference for a transportation network as a "hub and spoke" which is common in the airline and trucking industry. For example, a hub airport serves as the focal point for the origin and termination of long-distance flights where flights from outlying areas are fed into the hub airport for connecting flights. 3) A common connection point for devices in a network. 4) A web "hub" is one of the initial names for what is now known as a "portal." It came from the creative idea of producing a web site which would contain many different "portal spots" (small boxes that looked like ads with links to different, yet related content). This content, combined with Internet technology, made the idea a milestone in the development and appearance of web sites, primarily due to the ability to display a lot of useful content and store one's preferred information on a secured server. The web term "hub" was replaced with portal.
5) An Internet web site that provides a central repository for data or a central planning capability in an industry or supply network.

Hub Airport: An airport that serves as the focal point for the origin and termination of long-distance flights; flights from outlying areas meet connecting flights at the hub airport.

Hundredweight (CWT): a pricing unit used in transportation (equal to 100 pounds).

I

ICC: International Chambers of Commerce, with its headquarter in Geneva, Switzerland. The body is also the publisher of the International Commerce Terms (INCOTERMS).

Import: Movement of products from one country into another. The import of automobiles from Germany into the US is an example.

Importation Point: The location where goods will be cleared for importation into a country.

Import/Export License: Official authorization issued by a government allowing the shipping or delivery of a product across national boundaries.

In Bond: Goods are held or transported In-Bond under customs control either until import duties or other charges are paid, or to avoid paying the duties or charges until a later date.

Inbound logistics: The management of materials from suppliers and vendors into production processes or storage facilities.

INCOTERMS: International terms of sale developed by the International Chamber of Commerce to define sellers' and buyers' responsibilities.

Indirect Cost: A resource or activity cost that cannot be directly traced to a final cost object since no direct or repeatable cause-and-effect relationship exists. An indirect cost uses an assignment or allocation to transfer cost.

Indirect/Distributor Channel: Your company sells and ships to the distributor. The distributor sells and ships to the end user. This may occur in multiple stages. Ultimately, your product may pass through the Indirect/Distributor Channel and arrive at a retail outlet. Order information in this channel may be transmitted by electronic means. These means may include EDI, brokered systems, or linked electronic systems.

Indirect Retail Locations: A retail location that ultimately sells your product to consumers, but who purchases your products from an intermediary, like a distributor or wholesaler.

Inland Bill of Lading: The carriage contract used in transport from a shipping point overland to the exporter's international carrier location.

Inland Carrier: An enterprise that offers overland service to or from a point of export.

Insourcing: The opposite of outsourcing, that is, a service performed in house.

Inspection Certificate: A document certifying that merchandise (such as perishable goods) was in good condition immediately prior to shipment.

Insurance: A system of protection against loss under which a number of parties agree to pay certain sums (premiums) for a guarantee that they will be compensated under certain conditions for specified loss and damage.

Insurance Certificate: A document issued to the consignee to certify that insurance is provided to cover loss of or damage to the cargo while in transit.

Integrated Carrier: An airfreight company that offers a blend of transportation services such as air carriage, freight forwarding, and ground handling.

Integrated Logistics: A comprehensive, system-wide view of the entire supply chain as a single process, from raw materials supply through finished goods distribution. All functions that make up the supply chain are managed as a single entity rather than managing individual functions separately.

Interchange: In EDI, the exchange of electronic information between companies. Also, the group of transaction sets transmitted from one sender to one receiver at one time. Delineated by interchange control segments.

Intercoastal carriers: Water carriers that transport freight between East and West Coast ports, usually by way of the Panama Canal.

Intermediate Destination: A stopping point for a shipment prior to the final destination.

Intermittent-Flow, Fixed-Path Equipment: Materials handling devices that include bridge cranes, monorails, and stacker cranes.

Intermodal Container Transfer Facility: A facility where cargo is transferred from one mode of transportation to another, usually from ship or truck to rail.

Intermodal Transportation: Transporting freight by using two or more transportation modes, such as by truck and rail or truck and oceangoing vessel.

Internal Customer: The recipient (person or department) of another person's or department's output (good, service, or information) within an organization. *Also see: Customer*.

International Air Transport Association: An international air carrier rate bureau for passenger and freight movements.

International Standards Organization (ISO): An organization within the United Nations to which all national and other standard-setting bodies (should) defer. Develops and monitors international standards, including OSI, EDIFACT, and X.400.

Internet: A computer term which refers to an interconnected group of computer networks from all parts of the world, i.e., a network of networks. Accessed via a modem and an online service provider, it contains many information resources and acts as a giant electronic message routing system.

Inventory: Raw materials, work in process, finished goods, and supplies required for creation of a company's goods and services. The number of units and/or value of the stock of goods held by a company.

Inventory Accuracy: When the on-hand quantity is equivalent to the perpetual balance (plus or minus the designated count tolerances).

Inventory Carrying Cost: One of the elements comprising a company's total supply chain management costs. These costs consist of the following:
1. Opportunity Cost: The opportunity cost of holding inventory. This should be based on your company's own cost of capital standards using the following formula.
Calculation: Cost of Capital x Average Net Value of Inventory

2. Shrinkage: The costs associated with breakage, pilferage, and deterioration of inventories. Usually pertains to the loss of material through handling damage, theft, or neglect.
3. Insurance and Taxes: The cost of insuring inventories and taxes associated with the holding of inventory.
4. Total Obsolescence for Raw Material, WIP, and Finished Goods Inventory: Inventory reserves taken due to obsolescence and scrap and includes products exceeding the shelf life, i.e., spoils and is no good for use in its original purpose (do not include reserves taken for Field Service Parts).
5. Channel Obsolescence: Aging allowances paid to channel partners, provisions for buy-back agreements, etc. Includes all material that becomes obsolete while in a distribution channel. Usually, a distributor will demand a refund on material that goes bad (shelf life) or is no longer needed because of changing needs.
6. Field Service Parts Obsolescence: Reserves taken due to obsolescence and scrap. field service parts are those inventories kept at locations outside the four walls of the manufacturing plant i.e., distribution center or warehouse.

Inventory Cost: The cost of holding goods, usually expressed as a percentage of the inventory value; includes the cost of capital, warehousing, taxes, insurance, depreciation, and obsolescence.

Inventory, Days of: The number of days of inventory on-hand at any given time.

Inventory In Transit: Inventory in a carrier's possession, being transported to the buyer.

Inventory Management: The process of ensuring the availability of products through inventory administration.

Inventory Planning Systems: The systems that help to strategically balance the inventory policy and customer service levels throughout the supply chain. These systems usually calculate time-phased order quantities and safety stock using selected inventory strategies. Some inventory planning systems conduct what-if analysis and compare the current inventory policy with simulated inventory scenarios to improve the inventory ROI.

Inventory Turns: The cost of goods sold divided by the average level of inventory on hand. This ratio measures how many times a company's inventory has been sold during a period of time. Operationally, inventory turns are measured as total throughput divided by average level of inventory for a given period. How many times a year the average inventory for a firm changes over or is sold.

Inventory Turnover: *See Inventory Turns.*

Inventory Velocity: The speed at which inventory moves through a defined cycle (i.e., from receiving to shipping).

Invoice: A detailed statement showing goods sold or shipped and amounts for each. The invoice is prepared by the seller and acts as the document that the buyer will use to make payment.

Issuing Carrier: The carrier whose name is printed on the bill of lading and with whom the contract of carriage exists.

Item: Any unique manufactured or purchased part, material, intermediate, sub-assembly, or product.

J

Jidoka: The concept of adding an element of human judgment to automated equipment. In doing this, the equipment becomes capable of discriminating against unacceptable quality, and the automated process becomes more reliable.

JIT II: **See Just In Time II (JIT II)*

JIT: **See Just in Time (JIT)*

Just In Time (JIT): An inventory control system that controls material flow into assembly and manufacturing plants by coordinating demand and supply to the point where desired materials arrive just in time for use. An inventory reduction strategy that feeds production lines with products delivered just in time. Developed by the auto industry, it refers to shipping goods in smaller, more frequent lots.

Just-in-Time Logistics (or Quick Response): The process of minimizing the times required to source, handle, produce, transport, and deliver products in order to meet customer requirements.

K

Kaizen: A Japanese term for improvement - continuing improvement involving everyone - managers and workers. In manufacturing, kaizen relates to finding and eliminating waste in machinery, labor, or production methods. *Also see: Continuous Process Improvement.*

Kanban: Japanese word for visible record, loosely translated means card, billboard, or sign. Popularized by Toyota Corporation, it uses standard containers or lot sizes to deliver needed parts to the assembly line just in time for use.

Key Performance Indicator (KPI): A measure which is of strategic importance to a company or department. For example, a supply chain flexibility metric is Supplier On-Time Delivery Performance which indicates the percentage of orders that fulfilled on or before the original requested date. *Also see: Scorecard.*

L

Lading: The cargo carried in a transportation vehicle.

Laid-Down cost: The sum of the product and transportation costs. The laid-down cost is useful in comparing the total cost of a product shipped from different supply sources to a customer's point of use.

LAN: *See Local Area Network (LAN).*

Land bridge: The movement of containers by ship-rail-ship on Japan-to-Europe moves; ships move containers to the U.S. Pacific Coast, rails move containers to an East Coast port, and ships deliver containers to Europe.

Landed Cost: Cost of product plus relevant logistics costs, such as transportation, warehousing, handling, etc. Also called Total Landed Cost of Net Landed Costs.

Last In First Out (LIFO): In inventory control and financial accounting, this refers to the practice of using stock from inventory on the basis of what was received last is consumed first. This has limited use in stock keeping and is primarily a cost-accounting method.

LCL: *See Less-Than-Carload and Less-Than-Containerload (LCL).*

Lead Time: The total time that elapses between an order's placement and its receipt. It includes the time required for order transmittal, order processing, order preparation, and transit.

Less-Than-Carload (LCL): Shipment that is less than a complete rail car load (lot shipment).

Less-Than-Containerload (LCL): A term used when goods do not completely occupy an entire container. When many shipper's goods occupy a single container, each shipper's shipment is considered to be LCL.

Less-Than-Truckload (LTL) Carriers: Trucking companies that consolidate and transport smaller (less than truckload) shipments of freight utilizing a network of terminals and relay points.

Less-Than-Truckload (LTL): Trucking companies that consolidate and transport smaller (less than truckload) shipments of freight by utilizing a network of terminals and relay points.

Lessee: A person or firm to whom a lessor grants a lease.

Lessor: A person or firm that grants a lease.

Letter of Credit (LOC): A method of payment for goods in which the buyer established his credit with a local bank, clearly describing the goods to be purchased, the price, the documentation required, and a time limit for completion of the transaction. Upon receipt of documentation, the bank is either paid by the buyer or takes title to the goods themselves and proceeds to transfer funds to the seller.

Leverage: Taking something small and exploding it. Leverage can be financial or technological.

Life Cycle Cost: In cost account, a product's life cycle is the period that starts with the initial product conceptualization and ends with the withdrawal of the product from the marketplace and final disposition. A product life cycle is characterized by certain defined stages, including research, development, introduction, maturity, decline, and abandonment. Life cycle cost is the accumulated costs incurred by a product during these stages.

LIFO: *See Last In First Out (LIFO).*

Line-Haul Shipment: A shipment that moves between cities and over distances more than 100 to 150 miles in length.

Line Item: A specific and unique identifier assigned to a product by the responsible enterprise.

Liner Service: International water carriers that ply fixed routes on published schedules.

Link: The transportation method a company uses to connect nodes (plants, warehouses) in a logistics system.

Local Area Network (LAN): A data communications network spanning a limited geographical area, usually a few miles at most, providing communications between computers and peripheral devices.

Load Factor: A measure of operating efficiency used by air carriers to determine a plane's utilized capacity percentage or the number of passengers divided by the total number of seats.

Loading Port: The port where the cargo is loaded onto the exporting vessel. This port must be reported on the Shipper's Export Declaration, Schedule D. Schedule D is used by U.S. companies when exporting to determine which tariff is used to freight rate the cargo for carriers with more than one tariff.

Logbook: A daily record of the hours an interstate driver spends driving, off duty, sleeping in the berth, or on duty but not driving.

Logistics: The process of planning, implementing, and controlling procedures for the efficient and effective storage of goods, services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements. This definition includes inbound, outbound, internal, and external movements.
Also see the Council of Supply Chain Management Professional's definition of Logistics.

Logistics Channel: The network of supply chain participants engaged in storage, handling, transfer, transportation, and communications functions that contribute to the efficient flow of goods.

Logistics Costs: The factors associated with the acquisition, storage, movement, and disposition of goods.

Lot Control also called Genealogy, Serialization or Traceability: A set of procedures (e.g., assigning unique batch numbers and tracing each batch) used to maintain lot integrity from raw materials, from the supplier through manufacturing to consumers.

Lot Size: The quantity of goods a company purchases or produces in anticipation of use or sale in the future.

LTL: *See Less-Than-Truckload Carriers (LTL).*

LTL shipment: A less-than-truckload shipment, one weighing less than the minimum weight a company needs to use the lower truckload rate.

M

Machine Downtimes: Time during which a machine cannot be utilized. Machine downtimes may occur during breakdowns, maintenance, changeovers, etc.

Macro Environment: The environment external to a business, including technological, economic, natural, and regulatory forces that marketing efforts cannot control.

Maintenance, Repair, and Operating Supplies (MRO): Items used in support of general operations and maintenance, such as maintenance supplies, spare parts, and consumables used in the manufacturing process and supporting operations.

Make-or-Buy Decision: The act of deciding whether to produce an item internally or buy it from an outside supplier. Factors to consider in the decision include costs, capacity availability, proprietary and/or specialized knowledge, quality considerations, skill requirements, volume, and timing.

Make to Order (Manufacture to Order): A manufacturing process strategy where the trigger to begin manufacture of a product is an actual customer order or release rather than a market forecast. For make-to-order products, more than 20% of the value added takes place after the receipt of the order or release, and all necessary design and process documentation is available at the time of order receipt.

Make to Stock (Manufacture to Stock): A manufacturing process strategy where finished product is continually held in plant or warehouse inventory to fulfill expected incoming orders or releases based on a forecast.

Manifest: A document which describes individual orders contained within a shipment.

Manufacturing Cycle Time: The average time between commencement and completion of a manufacturing process, as it applies to make-to-stock products.
Calculation: [Average # of units in WIP]/[Average daily output in units]

Manufacturing Calendar: A calendar used in inventory and production planning functions that consecutively numbers only the working days so that the component and work order scheduling may be done based on the actual number of workdays available. *Synonyms: M-Day Calendar, Planning Calendar, Production Calendar, Shop Calendar*

Manufacturing Execution Systems (MES): Programs and systems that participate in shop-floor control, including programmed logic controllers and process control computers for direct and supervisory control of manufacturing equipment; process information systems that gather historical performance information, then generate reports; graphical displays; and alarms that inform operations personnel what is going on in the plant currently and a short history into the past. Quality control information is also gathered **-** a laboratory information management system may be part of this configuration to tie process conditions to the quality data that are generated. Thereby, cause-and-effect relationships can be determined. The quality data at times affect the control parameters that are used to meet product specifications, either dynamically or offline.

Manufacturing Lead Time: The total time required to manufacture an item, exclusive of lower-level purchasing lead time. For make-to-order products, it's the length of time between the release of an order to the production process and shipment to the final customer. For make-to-stock products, it's the length of time between the release of an order to the production process and receipt into finished goods inventory. Included are order preparation time, queue time, set-up time, run time, move time, inspection time, and put-away time. *Synonym: Manufacturing Cycle Time.*

Manufacturing Resource Planning (MRP-II): A method for the effective planning of all resources of a manufacturing company. Ideally, it addresses operational planning in units, financial planning in dollars, and has a simulation capability to answer what-if questions. It consists of a variety of processes, each linked together: business planning, production planning (sales and operations planning), master production scheduling, material requirements planning, capacity requirements planning, and the execution support systems for capacity and material. Output from these systems is integrated with financial reports, such as business plan, purchase commitment report, shipping budget, and inventory projections in dollars. Manufacturing resource planning is a direct outgrowth and extension of closed-loop MRP.

Marginal Cost: The cost to produce one additional unit of output. The change in total variable cost resulting from a one-unit change in output.

Market Demand: In marketing, the total demand that would exist within a defined customer group in a given geographical area during a particular time period given a known marketing program.

Market Dominance: The absence of effective competition for railroads from other carriers and modes for the traffic to which the rail rate applies. The Staggers Act stated that market dominance does not exist if the rate is below the revenue-to-variable-cost ratio of 160 percent in 1981 and 170 percent in 1983.

Market-Positioned Warehouse: Warehouse positioned to replenish customer inventory assortments and afford maximum inbound transport consolidation economies from inventory origin points with relatively short-haul local delivery.

Market Segment: A group of potential customers sharing some measurable characteristics based on demographics, psychographics, lifestyle, geography, benefits, etc.

Mass Customization: The creation of a high-volume product with large variety so that a customer may specify his or her exact model out of a large volume of possible end items, while manufacturing cost is low because of the large volume. An example is a personal computer order in which the customer may specify processor speed, memory size, hard disk size and speed, removable storage device characteristics, and many other options when PCs are assembled on one line and at a low cost.

Master Air Waybill (MAWB): The bill of lading issued by air carriers to their customers.

Material Acquisition Costs: One of the elements comprising a company's total supply chain management costs. These costs consist of the following:
1. Materials (Commodity) Management and Planning: All costs associated with the supplier sourcing, contract negotiation and qualification, and the preparation, placement, and tracking of a purchase order - including all costs related to buyer/planners.
2. Supplier Quality Engineering: The costs associated with the determination, development/certification, and monitoring of suppliers' capabilities to fully satisfy the applicable quality and regulatory requirements. ***3. Inbound Freight and Duties:*** Freight costs associated with the movement of material from a vendor to the buyer, including all associated administrative tasks. Duties are those fees and taxes levied by government for moving purchased material across international borders. Customs broker fees should also be included in this category.
4. Receiving and Put Away: all costs associated with taking possession of material and storing it. Note - inventory-carrying costs are normally covered in a separate worksheet. ***5. Incoming Inspection:*** All costs associated with the inspection and testing of received materials to verify compliance with specifications.

Materials Handling: The physical handling of products and materials between procurement and shipping.

Materials Management: Inbound logistics from suppliers through the production process. The movement and management of materials and products from procurement through production.

Materials Planning: The materials management function that attempts to coordinate materials supply with materials demand.

Material Requirements Planning (MRP): A decision-making methodology used to determine the timing and quantities of materials to purchase.

Matrix Organizational Structure: An organization 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; in other words, the product and functional managers have equal authority and employees report to both managers.

m-Commerce: Mobile commerce applications involve using a mobile phone to carry out financial transactions. This usually means making a payment for goods or transferring funds electronically. Transferring money between accounts and paying for purchases are electronic commerce applications. An emerging application, electronic commerce has been facilitated by developments in other areas in the mobile world, such as dual slot phones and other smarter terminals, and more standardized protocols which allow greater interactivity and therefore, more sophisticated service.

Mean: The arithmetic average of a group of values. *Synonym: Arithmetic Mean.*

Measurement Ton: Forty cubic feet; used in water transportation ratemaking.

Median: The middle value in a set of measured values when the items are arranged in order of magnitude. If there is no single middle value, the median is the mean of the two middle values.

Merge-In-Transit: The process of "merging" shipments from suppliers and going directly to the buyer or to the store, bypassing the seller. A "drop shipment" from several vendors to one buyer.

Merger: The combination of two or more carriers into one company that will own, manage, and operate the properties that previously operated separately.

MES: *See Manufacturing Execution Systems (MES).*

Metrics: *See Performance Measures.*

Mileage Allowance: An allowance, based upon distance, that railroads give to shippers using private railcars.

Mileage Rate: A rate based upon the number of miles the commodity is shipped.

Mixed Loads: The movement of both regulated and exempt commodities in the same vehicle at the same time.

Mode: *See Transportation Mode.*

Modal Split: The relative use that companies make of transportation modes; the statistics include ton-miles, passenger-miles, and revenue.

Motor Carrier: An enterprise that offers service via motor carriage.

Movement of Goods: The transfer of goods from one location to another.

MRO: *See Maintenance, Repair, and Operating Supplies (MRO).*

MRO items: Maintenance, repair, and operating items--office supplies, for example.

MSDS: *See Material Safety Data Sheet.*

Multi-Currency: The ability to process orders using a variety of currencies for pricing and billing.

Multi-Language: Pertaining to the ability to process orders in many different country-specific languages using voice and text.

Multinational Company: A company that both produces and markets products in different countries.

Multi-Skilled: Pertaining to individuals who are certified to perform a variety of tasks.

N

NAFTA: **See North American Free Trade Agreement (NAFTA). This was replaced by the USMCTA – Unites States, Mexico and Canada Trade Agreement 2018.*

Nationalization: Public ownership, financing, and operation of a business entity.

Negotiable BOL: Provides for the delivery of goods to a named enterprise or to their order (anyone they may designate), but only upon surrender of proper endorsement and the bill of lading to the carrier or the carrier's agents. Also known as an order bill of lading.

Negotiations: A set of discussions between two or more enterprises to determine the business relationship.

Net Assets: Total net assets are calculated as Total Assets **-** Total Liabilities; where the total assets are made up of fixed assets (plant, machinery, and equipment) and current assets which is the total of stock, debtors, and cash (also includes A/R, inventory, prepaid assets, deferred assets, intangibles, and goodwill). The total liabilities are made up in much the same way as long-term liabilities and current liabilities (includes A/P, accrued expenses, deferred liabilities).

Net Weight: The weight of the merchandise, unpacked, exclusive of any containers.

New Product Introduction (NPI): The process used to develop products that are new to the sales portfolio of a company.

Non-Negotiable BOL: Provides for the delivery of goods to a named enterprise and to no one else. Also known as a straight bill of lading.

North American Free Trade Agreement (NAFTA): A free trade agreement, implemented January 1, 1994, between Canada, the United States and Mexico. *This was replaced by the USMCTA – Unites States, Mexico and Canada Trade Agreement 2018.*

O

Obsolete Inventory: Inventory for which there is no forecast demand expected. A condition of being out of date. A loss of value occasioned by new developments that place the oldeer property at a competitive disadvantage.

Ocean Bill of Lading: The bill of lading issued by the ocean carrier to its customer.

Ocean Carrier: An enterprise that offers service via ocean (water) transport.

OEM: *See Original Equipment Manufacturer (OEM).*

Offer: *See Tender.*

Offline: A computer term which describes work done outside of the computer system or outside of a main process within the corporate system.

Offshore: Utilizing an outsourcing service provider located in a country other than where the client is located.

On-Demand: Pertaining to work performed when demand is present. Typically used to describe products which are manufactured or assembled only when a customer order is placed.

One-Piece Flow also called Single Piece Flow: Moving parts through a process in batches of one.

One-Way Networks: The advantages generally lie with either the seller of buyer, but not with both. B2C web sites are one-way networks.

Online: A computer term which describes activities performed using computer systems.

On-Line receiving: A system in which computer terminals are available at each receiving bay and operators enter items into the system as they are unloaded.

Operational Performance Measurements: (1) In traditional management, performance measurements related to machine worker, or department efficiency or utilization. These performance measurements are usually poorly correlated with organizational performance. (2) In theory of contraints, performance measurements that link causally to organizational performance measurements. Throughput, inventory, and operating expense are examples. *Also see: Performance Measures.*

Optimization: The process of making something as good or as effective as possible with given resources and constraints.

Order: A type of request for goods or services.

Order Cycle: The time and process involved from the placement of an order to the receipt of the order.

Order Cycle Time: The time that elapses from placement of order until receipt of order. This includes time for order transmittal, processing, preparation, and shipping.

Order Entry and Scheduling: The process of receiving orders from the customer and entering them into a company's order processing system. Orders can be received through phone, fax, or electronic media. Activities may include "technically" examining orders to ensure an orderable configuration and provide accurate price, checking the customer's credit and accepting payment (optionally), identifying and reserving inventory (both on hand and scheduled), and committing and scheduling a delivery date.

Order Fill: A measure of the number of orders processed without stockouts, or the need to back order, expressed as a percentage of all orders processed in the distribution center or warehouse.

Order Management: The planning, directing, monitoring, and controlling of the processes related to customer orders, manufacturing orders, and purchase orders. Regarding customer orders, order management includes order promising, order entry, order pick, pack and ship, billing, and reconciliation of the customer account. Regarding manufacturing orders, order management includes order release, routing, manufacture, monitoring, and receipt into stores or finished goods inventories. Regarding purchase orders, order management includes order placement, monitoring, receiving, acceptance, and payment of supplier.

Order Management Costs: One of the elements comprising a company's total supply chain management costs. These costs consist of the following:
1. New Product Release Phase In and Maintenance: This includes costs associated with releasing new products to the field, maintaining released products, assigning product ID, defining configurations and packaging, publishing availability schedules, release letters and updates, and maintaining product databases.
2. Create Customer Order: This includes costs associated with creating and pricing configurations to order and preparing customer order documents.
3. Order Entry and Maintenance: This includes costs associated with maintaining the customer database, credit check, accepting new orders, and adding them to the order system, as well as later order modifications.
4.Contract/Program and Channel Management: This includes costs related to contract negotiation, monitoring progress, and reporting against the customer's contract, including administration of performance or warranty-related issues.
5. Installation Planning: This includes costs associated with installation engineering, scheduling and modification, handling cancellations, and planning the installation.
6. Order Fulfillment: This includes costs associated with order processing, inventory allocation, ordering from internal or external suppliers, shipment scheduling, order status reporting, and shipment initiation.

7. Distribution: This includes costs associated with warehouse space and management, finished goods receiving and stocking, processing shipments, picking and consolidating, selecting carriers, and staging products/systems.
8. Transportation, Outbound Freight, and Duties: This includes costs associated with all company-paid freight duties from point of manufacturer to end customer or channel.
9. Installation: This includes costs associated with verification of site preparation, installation, certification, and authorization of billing.
10. Customer Invoicing/Accounting: This includes costs associated with invoicing, processing customer payments, and verification of customer receipt.

Order Picking: Assembling a customer's order from items in storage.

Order Processing: Activities associated with filling customer orders.

Ordering Cost: The cost of placing an inventory order with a supplier.

Origin: The place where a shipment begins its movement.

Original Equipment Manufacturer (OEM): A manufacturer that buys and incorporates another supplier's products into its own products. Also, products supplied to the original equipment manufacturer or sold as part of an assembly. For example, an engine may be sold to an OEM for use as that company's power source for its generator units.

Outbound Logistics: The process related to the movement and storage of products from the end of the production line to the end user.

Out-of-Pocket Cost: The cost directly assignable to a particular unit of traffic and which a company would not have incurred if it had not performed the movement.

Outlier: A data point that differs significantly from other data for a similar phenomenon. For example, if the average sales for a product were ten units per month, and one month the product had sales of 500 units, this sales point might be considered an outlier.

Outsource: To utilize a third party provider to perform services previously performed in house. Examples include manufacturing of products and call center/customer support.

Outsourced Cost-of-Goods Sold: Operations performed on raw material outside of the responding entity's organization that would typically be considered internal to the entity's manufacturing cycle. Outsourced cost-of-goods sold captures the value of all outsourced activities that roll up as cost-of-goods sold. Some examples of commonly outsourced areas are assembly, test, metal finishing or painting, and specialized assembly process.

Owner/Operator: A truck driver who owns and operates his/her tractor/trailer.

P

Packing List: A document containing information about the location of each Product ID in each package. It allows the recipient to quickly find the item he or she is looking for without a broad search of all packages. It also confirms the actual shipment of goods on a line item basis.

Pallet: The platform which cartons are stacked on and then used for shipment or movement as a group. Pallets may be made of wood or composite materials.

Parcel Shipment: Parcels include small packages like those typically handled by providers such as UPS and FedEx.

Pareto: A means of sorting data. For example, the number of quality faults by frequency of occurrence. An analysis that compares cumulative percentages of the rank ordering of costs, cost drivers, profits, or other attributes to determine whether a minority of elements have a disproportionate impact. Another example: identifying that 20% of a set of independent variables is responsible for 80% of the effect. *Also see: 80/20 Rule.*

Part Standardization: A program for planned elimination of superficial, accidental, and deliberate differences between similar parts in the interest of reducing part and supplier proliferation. A typical goal of part standardization is to reduce costs by reducing the number of parts that the company needs to manage.

Pay on Use: Pay on use is a process where payment is initiated by product consumption, i.e., consignment stock based on withdrawal of product from inventory, This process is popular with many European companies.

Payment: The transfer of money, or other agreed upon medium, for provision of goods or services.

Payment Collection: Obtaining money, or other agreed upon medium, for provision of goods or services.

Payroll: Total of all fully-burdened labor costs, including wages, fringe, benefits, overtime, bonus, and profit sharing.

PBIT: See Profit Before Interest and Tax.

PDCA: *See Plan-Do-Check-Action (PDCA).*

Peak Demand: The time period during which customers demand the greatest quantity.

Peer to Peer (P2P): A computer-networking environment which allows individual computers to share resources and data without passing through an intermediate network server.

Pegging: A technique in which a DRP system traces demand for a product by date, quantity, and warehouse location.

Performance Measures: Indicators of the work performed and the results achieved in an activity, process, or organizational unit. Performance measures should be both non-financial and financial. Performance measures enable periodic comparison and benchmarking. *Also see: Performance Measurement Program.*

Performance Measurement Program: A performance measurement program goes beyond just having performance metrics in place. Typical characteristics of a good performance measurement program include the following:
* Metrics that are aligned to strategy, and linked to the shop floor or line-level workers.
* A process and culture that drives performance and accountability to deliver performance against key performance indicators.
* An incentive plan that is tied to performance goals, objectives, and metrics.
* Tools/technology in place to support easy data collection and use.

Permit: A grant of authority to operate as a contract carrier.

Perpetual Inventory: An inventory record keeping system where each transaction in and out is recorded and a new balance is computed.

Physical Distribution: The movement and storage of finished goods from manufacturing plants to warehouses to customers; used synonymously with business logistics. *See Distribution.*

Physical Supply: The movement and storage of raw materials from supply sources to the manufacturing facility.

Pick/Pack: Picking and packing immediately into shipment containers.

Picking: The operations involved in pulling products from storage areas to complete a customer order.

Picking by Aisle: A method by which pickers pick all needed items in an aisle regardless of the items' ultimate destination; the items must be sorted later.

Picking by Source: A method in which pickers successively pick all items going to a particular destination regardless of the aisle in which each item is located.

Pick List: A list of items to be picked from stock in order to fill an order; the pick list generation and the picking method can be quite sophisticated.

Pick to Light: A laser identifies the bin for the next item in the rack; when the picker completes the pick, the bar code is scanned and the system then points the laser at the next bin.

Pick-Up Order: A document indicating the authority to pick up cargo or equipment from a specific location.

Piggyback: Terminology used to describe a truck trailer being transported on a railroad flatcar.

Place Utility: A value that logistics creates in a product by changing the product's location. Transportation creates place utility.

Plan-Do-Check-Action (PDCA): In quality management, a four-step process for quality improvement. In the first step (plan), a plan to affect 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 observed. In the last step (action), the results are studied to determine what was learned and what can be predicted. The plan-do-check-act cycle is sometimes referred to as the Shewhart cycle (Walter A. Shewhart discussed the concept in his book Statistical Method from the Viewpoint of Quality Control) and as the Deming circle (W. Edwards Deming introduced the concept in Japan; the Japanese subsequently called it the Deming circle). *Synonym: Shewhart Cycle.*
Also see: Deming Circle.

Planned Date: The date an operation such as a receipt, shipment, or delivery of an order is planned to occur.

Planned Order: In DRP and MRP systems, a future order the system plans in response to forecasted demand.

Plant Finished Goods: Finished goods inventory held at the end manufacturing location.

Point of Sale Information (POS): Price and quantity data from the retail location as sales transactions occur.

Poka Yoke (mistake proof): The application of simple techniques that prevent process quality failure. A mechanism that either prevents a mistake from being made or makes the mistake obvious at a glance.

Port: A harbor where ships will anchor.

Port Authority: A state or local government that owns, operates, or otherwise provides wharf, dock, and other terminal investments at ports.

Port of Discharge: Port where vessel is off loaded.

Port of Entry: A port at which foreign goods are admitted into the receiving country.

Port of Loading : Port where cargo is loaded aboard the vessel.

Portal: A web site that serves as a starting point to other destinations or activities on the Internet. Initially thought of as a home base-type of web page, portals attempt to provide all Internet needs in one location. Portals commonly provide services such as e-mail, online chat forums, shopping, searching, content, and news feeds.

POS: Point of Shipment, or Point of Sale

Postponement: The delay of final activities (i.e., assembly, production, packaging, etc.) until the latest possible time. A strategy used to eliminate excess inventory in the form of finished goods which may be packaged in a variety of configurations.

Pre-Expediting: The function of following up on open orders before the scheduled delivery date to ensure the timely delivery of materials in the specified quantity. 'Wheels-up' customs clearance (completion of documentation while the freight is still enroute) is an example.

Prepaid: A freight term which indicates that charges are to be paid by the shipper. Prepaid shipping charges may be added to the customer invoice, or the cost may be bundled into the pricing for the product.

Prepaid Freight: Freight paid by the shipper to the carrier when merchandise is tendered for shipment that is not refundable if the merchandise does not arrive at the intended destination.

Present Value: Today's value of future cash flows, discounted at an appropriate rate.

Price Erosion: What causes old-line executives to break out in a cold sweat? No question about it; traditional business models are threatened by the market efficiencies of B2B. When prices begin to plummet, the margin structures of older industries are also threatened.

Private Carrier: A carrier that provides transportation service to the firm that owns or leases the vehicles and does not charge a fee. Private motor carriers may haul at a fee for wholly owned subsidiaries.

Private Label: Products that are designed, produced, controlled by, and which carry the name of the store or a name owned by the store; also known as a store brand or dealer brand. An example would be Wal-Mart's "Sam's Choice" products.

Private Trucking Fleets: Private fleets serve the needs of their owners, and do not ordinarily offer commercial trucking services to other customers. Private fleets typically perform distribution or service functions.

Private Warehouse: A company-owned warehouse.

Private Warehousing: The storage of goods in a warehouse owned by the company that has title to the goods.

Proactive: The strategy of understanding issues before they become apparent and presenting the solution as a benefit to the customer, etc.

Process: A series of time-based activities linked to complete a specific output.

Process Benchmarking: Benchmarking a process (such as the pick, pack, and ship process) against organizations know to be the best in class in this process. Process benchmarking is usually conducted on firms outside of the organization's industry. *Also see: Benchmarking, Best in Class, Competitive Benchmarking.*

Process Improvement: A design or activity which improves quality or reduces costs, often through the elimination of waste on non-value-added tasks.

Process Manufacturing: Production that adds value by mixing, separating, forming, and/or performing chemical reactions. It may be done in a batch, continuous, or mixed batch/continuous mode.

Process Yield: The resulting output from a process. An example would be a quantity of finished product output from manufacturing processes.

Procurement: The business functions of procurement planning, purchasing, inventory control, traffic, receiving, incoming inspection, and salvage operations. *Synonym: Purchasing*

Product: Something that has been or is being produced.

Product Characteristics: All of the elements that define a product's character, such as size, shape, weight, etc.

Product Description: The user's description of the product.

Product Family: A group of products with similar characteristics often used in production planning (or sales and operations planning).

Product ID: A method of identifying a product without using a full description. These can be different for each document type and must, therefore, be captured and related to the document in which they were used. They must then be related to each other in context (also known as SKU, Item Code or Number, or other such name).

Production Capacity: Measure of how much production volume may be experienced over a set period of time.

Production Line: A series of pieces of equipment dedicated to the manufacture of a specific number of products or families.

Production Planning and Scheduling: The systems that enable creation of detailed, optimized plans and schedules, taking into account the resource, material, and dependency constraints to meet the deadlines.

Production-Related Material: Production-related material is an item classified as a material purchase and included in cost-of-goods sold as a raw material purchase.

Productivity: A measure of resource utilization efficiency defined as the sum of the outputs divided by the sum of the inputs.

Profit Ratio: The percentage of profit to sales--that is, profit divided by sales.

Profit Before Interest and Tax (PBIT): The financial profit generated prior to the deduction of taxes and interest due on loans. Also called operating profit.

Pro Forma Invoice: An invoice, forwarded by the seller of goods prior to shipment, that advises the buyer of the particulars and value of the goods. Usually required by the buyer in order to obtain an import permit or letter of credit.

Promotion: The act of selling a product at a reduced price, or a buy one/get one free offer, for the purpose of increasing sales.

Proof of Delivery (POD): Information supplied by the carrier containing the name of the person who signed for the shipment, the time and date of delivery and other shipment delivery-related information. POD is also sometimes used to refer to the process of printing materials just prior to shipment (*Print on Demand*).

Protocol: Communication standards that determine message content and format, enabling uniformity of transmissions.

Public Warehouse: The warehouse space that is rented or leased by an independent business providing a variety of services for a fee or on a contract basis.

Pull Signal: A signal from a using operation that triggers the issue of raw material.

Pull or Pull-Through Distribution: Supply chain action initiated by the customer. Traditionally, the supply chain was pushed; manufacturers produced goods and pushed them through the supply chain and the customer had no control. In a pull environment, a customer's purchase sends replenishment information back through the supply chain from retailer to distributor to manufacturer so goods are pulled through the supply chain.

Pull Ordering System: A system in which each warehouse controls its own shipping requirements by placing individual orders for inventory with the central distribution center. A replenishment system where inventory is "pulled" into the supply chain (or "demand chain" by POS systems, or ECR programs). Associated with "build to order" systems.

Purchase Order (PO): The purchaser's authorization used to formalize a purchase transaction with a supplier. The physical form or electronic transaction a buyer uses when placing an order for merchandise.

Purchase Price Discount: A pricing structure in which the seller offers a lower price if the buyer purchases a larger quantity.

Purchasing: The functions associated with buying the goods and services the firm requires.

Pure Raw Material: A raw material that does not lose weight in processing.

Push Distribution: The process of building product and pushing it into the distribution channel without receiving any information regarding requirements. *Also see: Pull or Pull-Through Distribution.*

Push Ordering System: A situation in which a firm makes inventory deployment decisions at the central distribution center and ships to its individual warehouses accordingly.

Push Technology: Web casting (push technology) is the prearranged updating of news, weather, or other selected information on a computer user's desktop interface through periodic and generally unobtrusive transmission over the World Wide Web (including the use of the web protocol on intranet). Web casting uses so-called push technology in which the web server ostensibly pushes information to the user rather than waiting until the user specifically requests it.

Put Away: Removing the material from the dock (or other location of receipt), transporting the material to a storage area, placing that material in a staging area, and then moving it to a specific location and recording the movement and identification of the location where the material has been place.

Q

Quality: Conformance to requirements or fitness for use. Quality can be defined through five principal approaches:
1) Transcendent quality is an ideal, a condition of excellence.
2) Product-based quality is based on a product attribute.
3) User-based quality is fitness for use.
4) Manufacturing-based quality is conformance to requirements.
5) Value-based quality is the degree of excellence to an acceptable price.
Also, quality has two major components:
a) quality of conformance - quality is defined by the absence of defects.
b) quality of design - quality is measured by the degree of customer satisfaction with a product's characteristics and features.

Quality Circle: In quality management, a small group of people who normally work as a unit and meet frequently to uncover and solve problems concerning the quality of items produced, process capability, or process control. *Also see: Small Group Improvement Activity.*

Quality Control: The management function that attempts to ensure that the goods or services in a firm manufacturers or purchases meet the product or service specifications.

Quarantine: The setting aside of items from availability for use or sale until all required quality tests have been performed and conformance certified.

R

Radio Frequency (RF): A form of wireless communications that lets users relay information via electromagnetic energy waves from a terminal to a base station which is linked, in turn, to a host computer. The terminal can be placed at a fixed station, mounted on a forklift truck, or carried in a worker's hand. The base station contains a transmitter and receiver for communication with the terminal. RF systems use either narrow-band or spread-spectrum transmissions. Narrow-band data transmissions move along a single limited radio frequency, while spread-spectrum transmissions move across several different frequencies. When combines with a bar code system of identifying inventory items, a radio frequency system can relay data instantly, thus updating inventory records in so-called real time.

Radio Frequency Identification (RFID): The use of radio frequency technology such as RFID tags and tag readers to identify objects. Objects may include virtually anything physical, such as equipment, pallets of stock, or even individual units of product.

Ramp Rate: A statement which quantifies how quickly you grow or expand an operation growth trajectory. Can refer to sales, profits, or margins.

Rationing: The allocation of product among customers, or components among manufactured goods during periods of short supply. When price is used to allocate product, it's allocated to those willing to pay the most.

Raw Materials (RM): Crude or processed material that can be converted by manufacturing, processing, or a combination thereof into a new and useful product.

Real Time: The processing of data in a business application as it happens, as contrasted with storing data for input at a later time (batch processing).

Receiving: The function encompassing the physical receipt of material, the inspection of the shipment for conformance with the purchase order (quantity and damage), the identification and delivery to destination, and the preparation of receiving reports.

Receiving Dock: Distribution center location where the actual physical receipt of the purchased material from the carrier occurs.

Reengineering: (1) A fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in performance. (2) A term used to describe the process of making (usually) significant and major revisions or modifications to business processes. (3) Also called Business Process Reengineering.

Refrigerated Carriers: Truckload carriers designed to keep perishables good refrigerated. The food industry typically uses this type of carrier.

Release-to-Start Manufacturing: Average time from order release to manufacturing to the start of the production process. This cycle time may typically be required to support activities like material movement and line changeovers.

Replenishment: The process of moving or resupplying inventory from a reserve (or upstream) storage location or facility to a primary (or downstream) storage or picking location, or to another mode of storage in which picking is performed.

Request for Information (RFI): A document used to solicit information about vendors, products, and services prior to a formal RFQ/RFP process.

Request for Proposal (RFP): A document which provides information concerning needs and requirements for a manufacturer. This document is created in order to solicit proposals from potential suppliers. For example, a computer manufacturer may use an RFP to solicit proposals from suppliers of third party logistics services.

Request for Quote (RFQ): A document used to solicit vendor responses when a product has been selected and price quotations are needed from several vendors.

Resellers: Organizations intermediate in manufacturing and distribution process such as wholesalers and retailers.

Resource Driver: In cost accounting, the best single quantitative measure of the frequency and intensity of demands placed on a resource by other resources, activities, or cost objects. It's used to assign resource costs to activities and cost objects, or to other resources.

Resources: Economic elements applied or used in the performance of activities or to directly support cost objects. They include people, materials, supplies, equipment, technologies, and facilities. *Also see: Resource Driver, Capacity*.

Retailer: A business that takes title to products and resells them to final consumers. Examples include Wal-Mart, Best Buy, and Safeway, but also include the many smaller independent stores.

Return Disposal Costs: The costs associated with disposing or recycling products that have been returned due to customer rejects, end of life, or obsolescence.

Return Goods Handling: Processes involved with returning goods from the customer to the manufacturer. Products may be returned because of performance problems or simply because the customer doesn't like the product.

Return on Assets (ROA): Financial measure calculated by dividing profit by assets.

Return on Sales: Financial measure calculated by dividing profit by sales.

Return Order Management Costs: The costs associated with managing Return Material Authorization (RMA). Includes all applicable elements of the Level 2 component order management cost of total supply chain management cost.

Return to Vendor (RTV): Material that has been rejected by the customer or the buyer's inspection department and is awaiting shipment back to the supplier for repair or replacement.

Returns Inventory Costs: The costs associated with managing inventory returned for any of the following reasons: repair, refurbish, excess, obsolescence, end of life, ecological conformance, and demonstration. Includes all applicable elements of the Level 2 component Inventory Carrying Cost of Total Supply Chain Management Cost.

Returns Material Acquisition, Finance, Planning, and IT Costs: The costs associated with acquiring the defective products and materials for repair or refurbishing items, plus any finance, planning, and information technology costs to support return activity. Includes all applicable elements of the Level 2 components material acquisition cost (acquiring materials for repairs), supply chain-related finance and planning costs, and supply chain management cost.

Returns Processing Cost: The total cost to process repairs, refurbished, excess, obsolete, and end-of-life products, including diagnosing problems and replacing products. Includes the costs of logistics support, materials, centralized functions, troubleshooting service requests, on-site diagnosis and repair, external repair, and miscellaneous. These costs are broken into Returns Order Management, Returns Inventory Carrying, Returns Material Acquisition, Finance, Planning, IT, Disposal, and Warranty Costs.

Returns to Scale: A defining characteristic of B2B. Bigger is better. It's what creates the "winner takes all" quality of most B2B hubs. It also places a premium on being first to market and first to achieve critical mass.

Reverse Engineering: A process whereby competitors' products are disassembled and analyzed for evidence of the use of better processes, components, and techniques.

Reverse Logistics: A specialized segment of logistics focusing on the movement and management of products and resources after the sale and after delivery to the customer. Includes product returns for repair and/or credit.

Root Cause Analysis: Analytical methods to determine the core problem(s) of an organization, process, products, market, etc.

Route Trucks Delivery: Trucks that travel fixed routes.

Routing or Routing Guide: (1) Process of determining how shipment will move between origin and destination. Routing information includes designation of carrier(s) involved, actual route of carrier, and estimate time en route. (2) Right of shipper to determine carriers, routes, and points for transfer shipments. (3) In manufacturing, this is the document which defines a process of steps used to manufacture and/or assemble a product.

Routing Accuracy: When specified activities conform to administrative specifications, and specified resource consumptions (both man and machine) are detailed according to administrative specifications and are within 10% of actual requirements.

S

S&OP: *See Sales and Operations Planning.*

Safety Stock: The inventory a company holds above normal needs as a buffer against delays in receipt of supply or changes in customer demand.

Salable Goods: A part of assembly authorized for sale to final customers through the marketing function.

Sales and Operations Planning (S&OP): A strategic planning process that reconciles conflicting business objectives and plans future supply chain actions. S&OP usually involves various business functions, such as sales, operations, and finance to agree on a single plan/forecast that can be used to drive the entire business.

Sales Mix: The proportion of individual product-type sales volumes that make up the total sales volume.

Sales Plan: A time-phased statement of expected customer orders anticipated to be received (incoming sales, not outgoing shipment) for each major product family or item. It represents sales and marketing management's commitment to take all reasonable steps necessary to achieve this level of actual customer orders. The sales plan is a necessary input to the production planning process (or sales and operations planning process). It is expressed in units identical to those used for the production plan (as well as in sales dollars). *Also see: Sales and Operations Planning.*

Sales Planning: The process of determining the overall sales plan to best support customer needs and operations capabilities, while meeting general business objectives of profitability, productivity, competitive customer lead times, and so on, as expressed in the overall business plan. *Also see: Sales and Operations Planning.*

Sawtooth Diagram: A quantity-versus-time graphic representation of the order point/order quantity inventory system showing inventory being received, used up, and reordered.

Scalability:
1) How quickly and efficiently a company can ramp up to meet demand.
2) How well a solution to a problem will work when the size of the problem increases. The economies of scale don't really kick in until your reach the critical mass, then revenues start to increase exponentially.

Scan: A computer term referring to the action of scanning bar codes or RF tags.

Scenario Planning: A form of planning in which likely sets of relevant circumstances are identified in advance, and used to assess the impact of alternative actions.

SCM: *See Supply Chain Management*

SCOR: Supply Chain Operations Reference Model. This is the model developed by the Supply-Chain Council (SCC), and is build around six major processes: plan, source, make, deliver, return, and enable. The aim of the SCOR is to provide a standardized method of measuring supply chain performance, and to use a common set of metrics to benchmark against other organizations.

Scorecard: A performance measurement tool used to capture a summary of the key performance indicators (KPIs)/metrics of a company. Metrics dashboards/scorecards should be easy to read and usually have red, yellow, green indicators to flag when the company is not meeting its metrics targets. Ideally, a dashboard/scorecard should be cross functional in nature and include both financial and non-financial measures. In addition, scorecards should be reviewed regularly - at least on a monthly basis and weekly in key functions, such as manufacturing and distribution where activities are critical to the success of a company. The dashboard/scorecards philosophy can also be applied to external supply chain partners like suppliers to ensure that their objectives and practices align. *Synonym: Dashboard*

Seasonality: A repetitive pattern of demand from year to year (or other repeating time interval), with some periods considerably higher than others. Seasonality explains the fluctuation in demand for various recreational products which are used during different seasons.

Selling, General, and Administrative (SG&A) Expenses: Includes marketing, communication, customer service, sales, salaries and commissions, occupancy expenses, unallocated overhead, etc. Excludes interest on debt, domestic or foreign income taxes, depreciation and amortization, extraordinary items, equity gains or losses, gain or loss from discontinued operations and extraordinary items.

Service Level: A measure (usually expressed as a percentage) of satisfying demand through inventory or by the current production schedule in time to satisfy the customer's requested delivery dates and quantities.

Shared Services: Consolidation of a company's back-office processes to form a spinout (0r a separate "shared services" unit to be run like a separate business), providing services to the parent company and sometimes, to external customers. Shared services typically lower overall cost due to the consolidation, and may improve support as a result of focus.

Shareholder Value: Combination of profitability (revenue and costs) and invested capital (working capital and fixed capital).

Shelf Life: The amount of time an item may be held in inventory before it becomes unusable. Shelf life is a consideration for food and drugs which deteriorate over time, and for high-tech products which become obsolete quickly.

Shewhart Cycle: *See Plan-Do-Check-Action.*

Shingo's Seven Wastes: Shigeo Shingo, a pioneer in the Japanese just-in-time philosophy, identified seven barriers to improving manufacturing. They are the waste of overproduction, waste of waiting, waste of transportation, waste of stocks, waste of motion, waste of making defects, and waste of the processing itself.

Shipper: The party that tenders goods for transportation.

Shipper-Carriers: Shipper-carriers (also called private carriers) are companies with goods to be shipped that own or manage their own vehicle fleets. Many large retailers, particularly groceries and "big box" stores, are shipper-carriers.

Shipping: The function that performs the tasks for the outgoing shipment of parts, components, and products. It includes packaging, marking, weighing, and loading for shipment.

Shipping Lane: A predetermined, mapped route on the ocean that commercial vessels tend to follow between ports. This helps ships avoid hazardous areas. In general transportation, the logical route between the point of shipment and the point of delivery used to analyze the volume of shipment between two points.

Shipping Manifest: A document that lists the pieces in a shipment. A manifest usually covers an entire load regardless of whether the load is to be delivered to a single destination or many destinations. Manifests usually list the items, piece count, total weight, and the destination name and address for each destination in the load.

Shop Calendar: *See Manufacturing Calendar*

Shop Floor Production Control Systems: The systems that assign priority to each shop order, maintaining work-in-process quantity information, providing actual output data for capacity control purposes, and providing quantity by location by shop order for work-in-process inventory and accounting purposes.

Shrinkage: Reductions of actual quantities of items in stock, in process, or in transit. The loss may be caused by scrap, theft, deterioration, evaporation, etc.

Sigma: A Greek letter commonly used to designate the standard deviation of a population.

Six-Sigma Quality: A term generally used to indicate that a process is well controlled, I.e., tolerance limits are +-6 sigma (3.4 defects per million events) from the centerline in a control chart. The term is usually associated with Motorola which named one of its key operations initiatives Six-Sigma Quality.

SKU: **See Stock-Keeping Unit (SKU)*

SMART: See Specific, Measurable, Achievable, Realistic, Time Based.
Specific, Measurable, Achievable, Realistic, Time Based (SMART): A shorthand description of a way of setting goals and targets for individuals and teams.

Spam: A computer industry term referring to the act of sending identical and irrelevant postings to many different newsgroups or mailing lists. Usually this posting is something that has nothing to do with the particular topic of a newsgroup or of no real interest to the person on the mailing list.

Split Delivery: A method by which a larger quantity is ordered on a purchase order to secure a lower price, but delivery is divided into smaller quantities and is spread out over several dates to control inventory investment, save storage space, etc.

Spot Demand: Demand with a short lead time that's difficult to estimate. Usually supply for this demand is provided at a premium price. An example of spot demand would be when there's a spiked demand for building materials as a result of a hurricane.

Staging: Pulling material for an order from inventory before the material is required. This action is often taken to identify shortages, but it can lead to increased problems in availability and inventory accuracy. *Also see: Accumulation Bin*

Stakeholders: People with a vested interest in a company, including manager, employees, stockholders, customers, suppliers, and others.

Standard Components: Components (parts) of a product for which there is an abundance of suppliers. Not difficult to produce. An example would be a power cord for a computer.

Standard Cost Accounting System: A cost accounting system that uses cost units determined before production for estimating the cost of an order or product. For management control purposes, the standards are compared to actual costs, and variances are computed.

Statistical Process Control (SPC): A visual means of measuring and plotting process and product variation. Results are used to adjust variables and maintain product quality.

Stock-Keeping Unit (SKU): A category of unit with a unique combination of form, fit, and function (i.e., unique components held in stock). *To illustrate:* If two items are indistinguishable to the customer, or if any distinguishing characteristics visible to the customer are not important to the customer so that the customer believes the two items to be the same, these two items are part of the same SKU.
As a further illustration: consider a computer company that allows customers to configure a complete computer from a selection of standard components. For example, they can choose from three keyboards, three monitors, and three CPUs. Customers may also individually buy keyboards, monitors, and CPUs. If the stock were held at the configuration component level, the company would have nine SKUs. If the company stocks at the component level, the company would have 36 SKUs. (9 component SKUs + 3*3*3 configured product SKUs.) If, as part of a promotional campaign, the company also specially packaged the products, the company would have a total of 72 SKUs.

Strategic Alliance: Business relationship in which two or more independent organizations cooperate and willingly modify their business objectives and practices to help achieve long-term goals and objectives.

Strategic Differentiators: This is what makes an idea, product, service, or business model unique.

Sub-Optimization: Decisions or activities in part made at the expense of the whole. An example of sub-optimization is where a manufacturing unit schedules production to benefit its cost structure without regard to customer requirements or the effect on other business units.

Subcontracting: Sending production work outside to another manufacturer. This can involve specialized operations such as plating metals or complete functional operations. *Also see: Outsource.*

Sunk Cost: 1) The unrecovered balance of an investment. It's a cost already paid that is not relevant to the decision concerning the future that is being made. Capital already invested that for some reason cannot be retrieved.2) A past cost that has no relevance with respect to future receipts and disbursements of a facility undergoing an economic study. This concept implies that since a past outlay is the same regardless of the alternative selected, it should not influence the choice between alternatives.

Supplier:
1) A provider of goods or services. *Also see: Vendor*.
2) A seller with whom the buyer does business, as opposed to vendor, which is a generic term referring to all sellers in the marketplace.

Supplier Certification: Certification procedures verifying that a supplier operates, maintains, improves, and documents effective procedures that relate to the customer's requirements. Such requirements can include cost, quality, delivery, flexibility, maintenance, safety, and ISO quality and environmental standards.

Supplier-Owned Inventory (also called Vendor Owned Inventory or VOI): A variant of Vendor-Managed Inventory and Consignment Inventory. In this case the supplier not only manages the inventory, but also owns the stock close to or at the customer location until the point of consumption or usage by the customer.

Supply Chain: (1) Starting with unprocessed raw materials and ending with the final customer using the finished goods, the supply chain links many companies together. (2) The material and informational interchanges in the logistical process, stretching from acquisition of raw materials to delivery of finished products to the end user. All vendors, service providers, and customers are links in the supply chain.

Supply Chain Design: The determination of how to structure a supply chain. Design decisions include the selection of partners, the location and capacity of warehouse and production facilities, the products, the modes of transportation, and supporting information systems.

Supply Chain Integration (SCI): Likely to become a key competitive advantage of selected e-marketplaces. Similar concept to the back-end integration, but with greater emphasis on the moving of goods and services.

Supply Chain Inventory Visibility: Software applications that permit monitoring events across a supply chain. These systems track and trace inventory globally on a line-item level, and notify the user of significant deviations from the plans. Companies are provided with realistic estimates of when the material will arrive.

Supply Chain Management (SCM): Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activites. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies. Supply chain management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive, high-performing business model. It includes all of the logistics managment activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, finance, and information technology. — *as defined by the Council of Supply Chain Management Professionals (CSCMP)*

Supply Chain Network Design Systems: The systems employed in optimizing the relationships among the various elements of the supply chain manufacturing plants, distribution centers, points of sale, as well as raw materials, relationships among product families, and other factors to synchronize supply chains at a strategic level.

Supply Chain-Related Finance and Planning Cost Element: One of the elements comprising a company's total supply chain management costs. These costs consist of the following:
1. Supply-Chain Finance Costs: Costs associated with paying invoices, auditing physical counts, performing inventory accounting, and collecting accounts receivable. Does NOT include customer invoicing/accounting costs (See Order Management Costs).
2. Demand/Supply Planning Costs: Costs associated with forecasting developing finished goods, intermediate, subassembly or end-item inventory plans, and coordinating demand/supply.

Supply Chain-Related IT Costs: Information technology (IT) costs (in US dollars) associated with major supply chain management processes as described below. These costs should include:
* *Development costs* (costs incurred in process reengineering, planning, software development, installation, implementation, and training associated with new and/or upgraded architecture, infrastructure, and systems to support the described supply chain management processes),
* *Execution costs* (operating costs to support supply chain process users, including computer and network operations, EDI and telecommunications services, and amortization/depreciation of hardware)
* *Maintenance costs* (costs incurred in problem resolution, troubleshooting, repair, and routine maintenance associated with installed hardware and software for described supply chain management processes. Includes costs associated with database administration systems configuration control, release planning, and management).
These costs are associated with the following processes:
PLAN
1. Product Data Management - Product phase-in/phase-out and release; post-introduction support and expansion; testing and evaluation; end-of-life inventory management. Item master definition and control.
2. Forecasting and Demand/Supply Manage and Finished Goods - Forecasting; end-item inventory planning, DRP, production master scheduling for all products, all channels.
<u>SOURCE</u>
1. Sourcing/Material Acquisition - Material requisitions, purchasing, supplier quality engineering, inbound freight management, receiving, incoming inspection, component engineering, tooling acquisition, accounts payable.
2. Component and Supplier Management - Part number cross references, supplier catalogs, approved vendor lists.
3. Inventory Management - Perpetual and physical inventory controls and tools.
<u>MAKE</u>
1. Manufacturing Planning - MRP, production scheduling, tracking, manufacturing engineering, manufacturing documentation management, inventory/obsolescence tracking.
2. Inventory Management - Perpetual and physical inventory controls and tools.
3. Manufacturing Execution - MES detailed and finite interval scheduling, process controls, and machine scheduling. ***<u>DELIVER</u>***
1. Order Management - Order entry/maintenance, quotes, customer database, product/price database,

accounts receivable, credits and collections, invoicing.
2***. Distribution and Transportation Management*** **-** DRP, shipping, freight management, traffic management.
3. Inventory Management **-** Perpetual and physical inventory controls and tools.
4. Warehouse Management **-** Finished goods, receiving and stocking, pick/pack.
5. Channel Management **-** Promotions, pricing and discounting, customer satisfaction surveys.
6. Field Service/Support **-** Field service, customer and field support, technical service, service/call management, returns, warranty tracking.

EXTERNAL ELECTRONIC INTERFACES

Plan/Source/Make/Deliver **-** Interfaces, gateways, and data repositories created and maintained to exchange supply chain-related information with the outside world. E-commerce initiatives. Includes development and implementation costs.
Note: Accurate assignment of IT-related cost is challenging. It can be done using activity-based costing methods or using other approaches, such as allocation based on user counts, transactions counts, or departmental headcounts. The emphasis should be on capturing all costs. Costs for any outsourced IT activities should be included.

Supply Chain Strategic Planning: The process of analyzing, evaluating, and defining supply chain strategies, including network design, manufacturing and transportation strategy, and inventory policy.

Supply Planning: The process of identifying, prioritizing, and aggregating, as a whole with constituent parts, all sources of supply that are required and add value in the supply chain of a product or service at the appropriate level, horizon, and interval.

Supply Warehouse: A warehouse that stores raw materials. Goods from different suppliers are picked, sorted, staged, or sequenced at the warehouse to assemble plant orders.

Support Costs: Costs of activities not directly associated with producing or delivering products or services. Examples are the costs of information systems, process engineering, and purchasing. *Also see: Indirect Cost.*

Surrogate [item] Driver: In ABC costing, a substitute for the ideal cost driver, but closely correlated to the ideal driver, where [item] is Resource, Activity, or Cost Object. A surrogate driver is used to significantly reduce the cost of measurement while not significantly reducing accuracy. For example, the number of production runs is not descriptive of the material-disbursing activity, but the number of production runs may be used as an activity driver if material disbursements correlate well with the number of production runs.

Sustaining Activity: An activity that benefits an organizational unit as a whole, but not any specific cost object.

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

Synchronization: The concept that all supply chain functions are integrated and interact in real time; when changes are made to one area, the effect is automatically reflected throughout the supply chain.

3PL: **See Third Party Logistics (3PL)*

T

Tactical Planning: The process of developing a set of tactical plants (e.g., production plan, sales plan, marketing plan, and so on). Two approaches to tactical planning exist for linking tactical plans to strategic plans - production planning and sales and operations planning. *Also see: Sales and Operations Planning.*

Taguchi Method: A concept of offline quality control methods conducted at the product and process design states in the product development cycle. This concept, expressed by Genichi Taguchi, encompasses three phases of product design, parameter design, and tolerance design. The goal is to reduce quality loss by reducing the variability of a product's characteristics during the parameter phase of product development.

Takt Time: Sets the pace of production to match the rate of customer demand and becomes the heartbeat of any lean production system. It's computed as the available production time divided by the rate of customer demand. For example, assume demand is 10,000 units per month, or 500 units per day, and planned available capacity is 420 minutes per day. The takt time = 420 minutes per day/500 units per day = 0.84 minutes per unit. This takt time means that a unit should be planned to exit the production system on average every 0.84 minutes.

Tare Weight: The weight of a substance obtained by deducting the weight of the empty container from the gross weight of the full container.

Target Costing: A target cost is calculated by subtracting the desired profit margin from an estimated or market-based price to arrive at a desired production, engineering, or marketing cost. This may not be the initial production cost, but one expected to be achieved during the mature production stage. Target costing is a method used in the analysis of product design that involves estimated a target cost, then designing the product/service to meet that cost.

Tariff: A tax assessed by a government on goods entering or leaving a country. The term is also used in transportation in reference to the fees and rules applied by a carrier for its services.

Tasks: The breakdown of the work in an activity into smaller elements.

T's & C's: *See Terms and Conditions.*

Tender: The document which describes a business transaction to be performed.

Terms and Conditions (T's & C's): All the provisions and agreements of a contract.

Theory of Constraints (TOC): A production management theory which dictates that volume is controlled by a series of constraints related to work center capacity, component availability, finance, etc. Total throughput cannot exceed the capacity of the smallest constraint, and any inventory buffers or excess capacity at non-related work center is waste.

Third Party Logistics: Outsourcing all or much of a company's logistics operations to a specialized company.

Third Party Logistics Provider (3PL): A firm which provides multiple logistics services for use by customers. Preferably, these services are integrated or bundled together, by the provider. These firms facilitate the movement of parts and materials from suppliers to manufacturers, and finished products from manufacturers, and finished products from manufacturers to distributors and retailers. Among the services they provide are transportation, warehousing, cross docking, inventory management, packaging, and freight forwarding.

Third Party Warehousing: The outsourcing of the warehousing function by the seller of the goods.

Throughput: A measure of warehousing output volume (weight, number of units). Also, the total amount of units received, plus the total amount of units shipped divided by two.

Total Annual Sales: Total Annual Sales are Total Product Revenue plus post-delivery revenues (e.g., maintenance and repair or equipment, system integration) royalties, sales of other services, spare parts revenue, and rental/lease revenues.

Total Average Inventory: Average normal use stock, plus average lead stock, plus safety stock.

Total Cost of Ownership (TCO): Total cost of a computer asset throughout its life cycle, from acquisition to disposal. TCO is the combined hard and soft costs of owning networked information assets. "Hard" costs include items such as the purchase price of the asset, implementation fees, upgrades, maintenance, contracts, support contracts, disposal costs, and license fees that may or may not be up-front or charged annually. These costs are considered "hard costs" because they are tangible and easily accounted for.

Total Cumulative Manufacture Cycle Time: Average time between commencement of upstream processing and completion of final packaging for shipment operations as well as release of approval for shipment. Does not include WIP storage time.
Calculation: [Average # of units in WIP]/[Average daily output in units] - WIP days of supply

Total Make Cycle Time: The average processing time between commencement of upstream processing and completion of all manufacturing process steps up to, but not including, packaging and labeling operations (i.e., from start of manufacturing to final formulated product ready for primary packaging.) Does not include hold or test and release times. *Calculation: [Average # of units in active manufacturing]/[Average daily output in units.]*

Total Productive Maintenance (TPM): Team-based maintenance process designed to maximize machine availability and performance and product quality.

Total Supply Chain Response Time: The time it takes to rebalance the entire supply chain after determining a change in market demand. Also, a measure of a supply chain's ability to change rapidly in response to marketplace changes.
Calculation: [Forecast Cycle Time] + [Re-Plan Cycle Time] + [Intra-Manufacturing Re-Plan Cycle Time] + [Cumulative Source/Make Cycle Time] + [Order Fulfillment Lead Time]

Tractor: The tractor is the driver compartment and engine of the truck. It has two or three axles.

Traceability: 1) The attribute allowing the ongoing location of a shipment to be determined. 2) The registering and tracking of parts, processes, and materials used in production, by lot or serial number.

Tracking and Tracing: Monitoring and recording shipment movements from origin to destination.

Trading Partner: Companies that do business with each other via EDI (e.g., send and receive business documents such as purchase orders).

Trading Partner Agreement: The written contract that spells out agreed upon terms between EDI trading partners.

Traffic: A department or function charged with the responsibility of arranging the most economic classification and method of shipment for both incoming and outgoing materials and products.

Traffic Management: The management and controlling of transportation modes, carriers, and services.

Trailer: The part of the truck that carries the goods.

Trailer Drops: When a driver drops off a full truck at a warehouse and picks up an empty one.

Trailer on a Flat Car (TOFC): A specialized form of containerization in which motor and rail transport coordinate. *Synonym: Piggyback.*

Transaction: A single completed transmission, e.g., transmission of an invoice over an EDI network. Analogous to usage of the term in data processing in which a transaction can be an inquiry or a range of updates and trading transactions. The definition is important for EDI service operators who must interpret invoices and other documents.

Transaction Set: Commonly used business transactions (e.g., purchase order, invoice, etc.) organized in a formal, structured manner consisting of a transaction set header control segment, one or more data segments, and a transaction set trailer control data segment.

Transactional Acknowledgement: Specific transaction sets, such as the Purchase Order Acknowledgement (855), that both acknowledges receipt of an order and provides special status information, such as reschedules, price changes, back order situation, etc.

Transit Time: The total time that elapses between a shipment's pickup and delivery.

Transparency: The ability to gain access to information without regard to the system's landscape or architecture. An example would be where an online customer could access a vendor's web site to place an order and receive availability information supplied by a third party outsource manufacturer or shipment information from a third party logistics provider. *Also see: Visibility.*

Transportation Management System: A computer system designed to provide optimized transportation management in various modes along with associated activities, including managing shipping units, labor planning and building, shipment scheduling through inbound, outbound, intra-company shipments, documentation management (especially when international shipping is involved), and third party logistics management.

Transportation Mode: The method of transportation: land, sea, or air shipment.

Transportation Planning: The process of defining an integrated supply chain transportation plan and maintaining the information which characterizes total supply chain transportation requirements, and the management of transporters, both inter- and intra- company.

Transportation Planning Systems: The systems used in optimizing assignments from plants to distribution centers, and from distribution centers to stores. The systems combine moves to ensure the most economical means are employed.

Trend: General upward or downward movement of a variable over time such as demand for a product. Trends are used in forecasting to help anticipate changes in consumption over time.

Trend Forecasting Models: Methods for forecasting sales data when a definite upward or downward pattern exists. Models include double exponential smoothing, regression, and triple smoothing.

Truckload Carriers (TL): Trucking companies which move full truckloads of freight directly from the point of origin to destination.

Truckload Lot: A truck shipment that qualifies for a lower freight rate because it meets a minimum weight and/or volume.

Turnover:
1) Typically refers to inventory turnover
2) In the United Kingdom and certain other countries, turnover refers to annual sales volume. *Also see: Inventory Turns.*

U

Uniform Product Code (UPC): A standard product numbering and bar coding system used by the retail industry. UPC codes are administered by the Uniform Code Council. They identify the manufacturer as well as the item, and are included on virtually all retail packaging. *Also see: Uniform Code Council.*

Uniform Resource Locator (URL): A string that supplies the Internet address of a web site or resource on the World Wide Web, along with the protocol by which the site or resource is accessed. The most common URL type is http://, which gives the Internet address of a web page. Some other URL types are gopher:/, which gives the Internet address of a Gopher directory, and ftp://, which gives the network location of an FTP resource.

Unit Cost: The cost associated with a single unit of product. The total cost of producing a product or service divided by the total number of units. The cost associated with a single unit of measure underlying a resource, activity, product, or service. It's calculated by dividing the total cost by the measured volume. Unit cost measurement must be used with caution as it may not always be practical or relevant in all aspects of cost management.

Unit of Measure (UOM): The unit in which the quantity of an item is managed, e.g., pounds, each, box of 12, package of 20, or case of 144. Various UOMs may exist for a single item. For example, a product may be purchased in cases, stocked in boxes, and issued in single units.

Unitization: In warehousing, the consolidation of several units into larger units into larger units for fewer handlings.

Unitize: To consolidate several packages into one unit; carriers strap, band, or otherwise attach the several packages together.

Unplanned Order: Orders which are received that do not fit into the volumes prescribed by the plans developed from forecasts.

Upsell: The practice of attempting to sell a higher-value product to the customer.

Upstream: Principal direction of movement for customer orders which originate at point of demand or use, as well as other flows, such as return product movements, payments for

URL: *See Uniform Resource Locator (URL).*

V

Valuation Charges: Transportation charges to shippers who declare a value of goods higher than the value of the carriers' limits of liability.

Value Added: Increased or improved value, worth, functionality, or usefulness.

Value-Added Network (VAN): A company that acts as a clearinghouse for electronic transactions between trading partners. A third party supplier that receives EDI transmissions from sending trading partners and holds them in a mailbox until retrieved by the receiving partners.

Value-Added Productivity Per Employee: Contribution made by employees to total product revenue minus the material purchases divided by total employment. Total employment is total employment for the entity being surveyed. This is the average full-time equivalent employee in all functions, including sales and marketing, distribution, manufacturing, engineering, customer service, finance, general and administrative, and other. Total employment should include contract and temporary employees on a full-time equivalent (FTE) basis.
Calculation: Total Product Revenue-External Direct Material/[FTEs]

Value Adding/Non-Value Adding: Assessing the relative value of activities according to how they contribute to customer value or to meeting an organization's needs. The degree of contribution reflects the influence of an activity's cost driver(s).

Value Analysis: A method to determine how features of a product or service relate to cost, functionality, appeal and utility to a customer (i.e., engineering value analysis). *Also see: Target Costing.*

Value Based Return (VPB): A measure of the creation of value. It's the difference between economic profit and capital charge.

Value Chain: A series of activities, when combined, define a business process; the series of activities from manufacturers to the retail stores that define the industry supply chain.

Value Chain Analysis: A method of identifying all the elements in the linkage of activities a firm relies on the secure the necessary materials and services starting from their point of origin to manufacture, and to distribution of their products and services to an end user.

Value Proposition: What the hub offers to members. To be truly effective, the value proposition has to be two-sided - a benefit to both buyers and sellers.

VAN: *See Value-Added Network.*

Variable Cost: A cost that fluctuates with the volume or activity level of business.

Velocity: Rate of product movement through a warehouse.

Vendor: The manufacturer or distributor of an item or product line. *Also see: Supplier*.

Vendor Code: a unique identifier, usually a number and sometimes the company's DUNS number, assigned by a customer for the vendor it buys from.
Example: a grocery store chain buys Oreo cookies from Nabisco. For accounting purposes, the grocery store chain identifies Nabisco as Vendor #76091. One company can have multiple vendor codes. *Example:* Welch's Foods sells many different products - frozen grape juice concentrate, chilled grape juice, bottled grape juice, and grape jelly. Because each of these items is a different type of product (frozen food, chilled food, beverages, dry food), they may also have a different buyer at the grocery store chain, requiring a different vendor code for each product line.

Vendor-Managed Inventory (VMI): The practice of retailers making suppliers responsible for determining order size and timing, usually based on receipt of retail POS and inventory data. Its goal is to increase retail inventory turns and reduce stock outs.

Vendor-Owned Inventory (VOI): *See Consignment Inventory*.

Vertical Hub/Vertical Portal: Serving one specific industry. Vertical portal web sites are ones that cater to customers within a particular industry. Similar to the term "vertical industry," these web sites are industry specific, and, like a portal, they make use of Internet technology by using the same kind of personalization technology. In addition to industry-specific vertical portals that cater to consumers, another definition of a vertical portal is one that caters solely to other businesses.

Vertical Integration: The degree to which a firm has decided to directly produce multiple value-adding stages, from raw material to the sale of the product to the ultimate consumer. The more steps in the sequence, the greater the vertical integration. A manufacturer that decides to begin producing parts, components, and materials that it normally purchases is said to be backward integrated. Likewise, a manufacturer that decides to take over distribution and perhaps sale to the ultimate consumer is said to be forward integrated.

Vessel: A floating structure designed for transport.

Vessel Manifest: A list of all cargoes on a vessel.

Viral Marketing: The concept of embedding advertising into web portals and pop ups, and as e-mail attachments to spread the word about products or services that the target audience may not otherwise have been interested in.

Virtual Corporation: The logical extension of outpartnering. With the virtual corporation, the capabilities and systems of the firm are managed with those of the suppliers, resulting in a new type of corporation where the boundaries between the suppliers' systems and those of the firm seem to disappear. The virtual corporation is dynamic in that the relationships and structures formed change according to the changing needs of the customer.

Virtual Factory: A changed transformation process most frequently found under the virtual corporation. It's a transformation process that involves merging the capabilities and capacities of the firm with those of its suppliers. Typically, the components provided by the suppliers are hose that are not related to a core competency of the firm, while the components managed by the firm are related to core competencies. One advantage found in the virtual factory is that it can be restructured quickly in response to changing customer demands and needs.

Visibility: The ability to access or view pertinent data or information as it relates to logistics and the supply chain, regardless of the point in the chain where the data exists.

Vision: The shared perception of the organization's future - what the organization will achieve and a supporting philosophy. This shared vision must be supported by strategic objectives, strategies, and action plans to move in in the desired direction. *Synonym: Vision Statement.*

VMI: **See Vendor-Managed Inventory (VMI)*

VOI: **See Vendor-Owned Inventory (VOI)*

Voice Activated: Systems which guide users such as warehouse personnel via voice commands.

Voyage: The trip designation (trade route and origin/destination) identifier, usually numerically sequential.

W

Wall-to-Wall Inventory: An inventory management technique in which material enters a plant and is processed through the plant into finished goods without ever having entered a formal stock area.

WAN: Wide Area Network.

Warehouse: Storage place for products. Principal warehouse activities include receipt of product, storage, shipment, and order picking.

Warehousing: The storage (holding) of goods.

Warehouse Management System (WMS): The systems used in effectively managing warehouse business processes and direct warehouse activities, including receiving, putaway, picking, shipping, and inventory cycle counts. Also includes support of radio frequency communications, allowing real-time data transfer between the system and warehouse personnel. they also maximize space and minimize material handling by automating putaway processes.

Warranty Costs: Includes materials, labor, and problem diagnosis for products returned for repair or refurbishment.

Waste:
1) In just in time, any activity that does not add value to the good or service in the eyes of the consumer.
2) A by-product of a process or task with unique characteristics requiring special management control. Waste production can usually be planned and controlled. Scrap is typically not planned and may result from the same production run as waste.

Wave Picking: A method of selecting and sequencing picking lists to minimize the waiting time of the delivered material. Shipping orders may be picked in waves combined by a common product, common carrier, or destination, and manufacturing orders in waves related to work centers.

Waybill: Document containing description of goods that are part of common carrier freight shipment. Shows origin, destination, consignee/consignor, and amount charged. Copies travel with goods and are retained by originating/delivering agents. Used by carrier for internal record and control, especially during transit. Not a transportation contract.

Web: A computer term used to describe the global Internet. *Synonym: World Wide Web*

Web Browser: A client application that fetches and displays web pages and other World Wide Web resources to the user.

Web Services: A computer term for information processing services that are delivered by third parties using Internet Portals. Standardized technology communications protocols; network services a collections of communication formats or endpoints capable of exchanging messages.

Web Site: A location on the Internet.

Weight Break: The shipment volume at which the LTL charges equal the TL charges at the minimum weight.

Weight Confirmation: The practice of confirming or validating receipts or shipments based on the weight.

Weight-Losing Raw Material: A raw material that loses weight in processing.

Weight-Point Plan: A supplier selection and rating approach that uses the input gathered in the categorical plan approach and assigns weights to each evaluation category. A weighted sum for each supplier is obtained and a comparison made. The weights used should sum to 100% for all categories. *Also see: Categorical Plan.*

Wharfage: A charge assessed by a pier or dock owner against the cargo or a steamship company for use of the pier or dock for the handling of incoming or outgoing cargo.

Wholesaler: *See Distributor.*

Wide-Area Network (WAN): A public or private data communications system for linking computers distributed over a large geographic area.

WIP: *See Work in Process.*

Work in Process (WIP): Parts and subassemblies in the process of becoming completed finished goods. Work in process generally includes all of the material, labor, and overhead charged against a production order which has not been absorbed back into inventory through receipt of completed products.

World Trade Organization (WTO): An organization established on January 1, 1995 replacing the previous General Agreement on Tariffs and Trade GATT that forms the cornerstone of the world trading system.

World Wide Web (WWW): A "multi-media hyper-linked database that spans the globe" providing information on desktop and handheld computers and other devices such as web compliant phones and televisions. Unlike earlier Internet services, the "web" provides more than just text combining text, pictures, sounds, and even animation in a graphical user interface for ease of navigation.

WTO: *See World Trade Organization*

WWW: *See World Wide Web (WWW).*

X

XML: **See Extensible Markup Language (XML)*

Y

Yield: The ratio of usable output from a process to its input.

Z

Zone Picking: A method of subdividing a picking list by arrears within a storeroom for more efficient and rapid order picking. A zone-picked order must be grouped to a single location and the separate pieces combined before delivery, or must be delivered to different locations such as a work center.

Zone Price: The constant price of a product at all geographic locations within a zone.