

Module 2

Section B: Aggregate Demand and Supply Plans

Term
Aggregate forecast

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An estimate of sales, often time-phased, for a grouping of products or product families produced by a facility or firm. Stated in terms of units, dollars, or both, [this] is used for sales and production planning (or for sales and operations planning) purposes. See: product group forecast.

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Average inventory

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One-half the average lot size plus the safety stock, when demand and lot sizes are expected to be relatively uniform over time. The average can be calculated as an average of several inventory observations taken over several historical time periods; for example, 12-month ending inventories may be averaged. When demand and lot sizes are not uniform, the stock level versus time can be graphed to determine the average.

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Bill of resources

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A listing of the required capacity and key resources needed to manufacture one unit of a selected item or family. Rough-cut capacity planning uses [these] to calculate the approximate capacity requirements of the master production schedule. Resource planning may use a form of [this]. Syn.: bill of capacity. See: bill of labor, capacity planning using overall factors, product load profile, resource profile, rough-cut capacity planning, routing.

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Capacity-related costs

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Costs generally related to increasing (or decreasing) capacity in the medium- to long-range time horizon. Personnel costs include hiring and training of direct laborers, supervisors, and support personnel in the areas related to the capacity increase. Equipment purchases to increase capacity are also considered. In contrast, costs related to decreasing capacity include layoffs, the fixed overhead spread over fewer units, the impact of low morale, and the inefficiencies of lower production levels.

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Chase production method

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A production planning method that maintains a stable inventory level while varying production to meet demand. Companies may combine [this] and level production schedule methods. Syn.: chase strategy, chase-demand strategy.

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Hybrid production method

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A production planning method that combines the aspects of both the chase and level production planning methods. Syn.: hybrid manufacturing process, hybrid strategy. See: chase production method, level production method, production planning method.

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Interplant demand

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One plant's need for a part or product that is produced by another plant or division within the same organization. Although it is not a customer order, it is usually handled by the master production scheduling system in a similar manner. See: interplant transfer.

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Level production method

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A production planning method that maintains a stable production rate while varying inventory levels to meet demand. Syn.: level strategy, production leveling. See: level schedule.

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Level schedule

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1) In traditional management, a production schedule or master production schedule that generates material and labor requirements that are as evenly spread over time as possible. Finished goods inventories buffer the production system against seasonal demand. See: level production method. 2) In JIT, [this is usually constructed monthly, and] each day's customer demand is scheduled to be built on the day it will be shipped. [It] is the output of the load-leveling process. Syn.: JIT master schedule, level production schedule. See: load leveling.

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Product group forecast

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A forecast for a number of similar products. See: aggregate forecast, product group.

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Production plan

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The agreed-upon plan that comes from the [...sales and operations planning process]—specifically, the overall level of manufacturing output planned to be produced, usually stated as a monthly rate for each product family (group of products, items, options, features, and so on). Various units of measurement (e.g., units, tonnage, standard hours, number of workers) can be used to express the plan. Represents management's authorization for the master scheduler to convert it into a more detailed plan—that is, the master production schedule. See: sales and operations planning, sales plan.

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Production planning

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A process to develop tactical plans based on setting the overall level of manufacturing [output...] and other activities to best satisfy the current planned levels of sales (sales plan or forecasts), while meeting general business objectives of profitability, productivity, competitive customer lead times, etc., as expressed in the overall business plan. The sales and production capabilities are compared, and a business strategy that includes a sales plan, a production plan, budgets, pro forma financial statements, and supporting plans for materials and workforce requirements, and so on, is developed. A primary purpose is to establish production rates that will achieve management's objective of satisfying customer demand by maintaining, raising, or lowering inventories or backlogs, while usually attempting to keep the workforce relatively stable. Because this plan affects many company functions, it is normally prepared with information from marketing and coordinated with the functions of manufacturing, sales, engineering, finance, human resources, etc. See: aggregate planning, production plan, sales and operations planning, sales plan.

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Resource planning

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Capacity planning conducted at the business plan level. The process of establishing, measuring, and adjusting limits or levels of long-range capacity. [This] is normally based on the production plan but may be driven by higher-level plans beyond the time horizon of the production plan (e.g., the business plan). It addresses those resources that take long periods of time to acquire. [Decisions based on this] always require top management approval. Syn.: resource requirements planning. See: capacity planning, long-term planning.

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Substitution

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The use of a nonprimary product or component, normally when the primary item is not available.