Fold each printed sheet in half lengthwise. The left side of the document will list the term and the right side will list the definition. Tape or staple the open edges of your flashcards. Cut out your flashcards on the solid lines indicated and fold them on the dotted lines.

Module 3
Section B: Sources of Demand/Forecasting

Term
Actual demand

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[Composed] of customer orders (and often allocations of items, ingredients, or raw materials to production or distribution). [This] nets against or "consumes" the forecast, depending upon the rules chosen over a time horizon. For example, [this] 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.

Module 3
Section B: Sources of Demand/Forecasting

Term
Adaptive smoothing

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A form of exponential smoothing in which the smoothing constant is automatically adjusted as a function of forecast error measurement.

Module 3
Section B: Sources of Demand/Forecasting

Term
Backorder

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An unfilled customer order or commitment. [This is] an immediate (or past due) demand against an item whose inventory is insufficient to satisfy the demand. See: stockout.

Module 3
Section B: Sources of Demand/Forecasting

Term
Base series

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A standard succession of values of demand-over-time data used in forecasting seasonal items. This series of factors is usually based on the relative level of demand during the corresponding period of previous years. The average value of [this] over a seasonal cycle is 1.0. A figure higher than 1.0 indicates that demand for that period is higher than average; a figure less than 1.0 indicates less-than-average demand. For forecasting purposes, [it] is superimposed upon the average demand and trend in demand for the item in question. Syn.: base index. See: seasonal index, seasonality.

Module 3
Section B: Sources of Demand/Forecasting

Term
Business-to-business e-commerce (B2B)

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Business conducted over the internet between businesses. The implication is that this connectivity will cause businesses to transform themselves via supply chain management to become virtual organizations—reducing costs, improving quality, reducing delivery lead time, and improving due-date performance.

Module 3
Section B: Sources of Demand/Forecasting

Term
Business-to-consumer e-sales (B2C)

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Business being conducted between businesses and final consumers, largely over the internet. It includes traditional brick and mortar businesses that also offer products online and businesses that trade exclusively on the internet.

Module 3
Section B: Sources of Demand/Forecasting

Term
Correlation

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The relationship between two sets of data such that when one changes, the other is likely to make a corresponding change. If the changes are in the same direction, [this is positive]. When changes tend to occur in opposite directions, [this is negative]. When there is little correspondence or changes are random, [this is nonexistant].

Module 3
Section B: Sources of Demand/Forecasting

Term
Curve fitting

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An approach to forecasting based on a straight line, polynomial, or other curve that describes some historical time series data.

Module 3
Section B: Sources of Demand/Forecasting

Term
Decomposition

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A method of forecasting where time series data is separated into up to three components—trend, seasonal, and cyclical—where trend includes the general horizontal upward or downward movement over time; seasonal includes a recurring demand pattern such as day of the week, weekly, monthly, or quarterly; and cyclical includes any repeating, nonseasonal pattern. A fourth component is random—that is, data with no pattern. The new forecast is made by projecting the patterns individually determined and then combining them. See: cyclical component, random component, seasonal component, trend component.

Module 3
Section B: Sources of Demand/Forecasting

Term
Delphi method

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A qualitative forecasting technique where the opinions of experts are combined in a series of iterations. The results of each iteration are used to develop the next, so that convergence of the experts' opinions is obtained. See: management estimation, panel consensus.

Module 3
Section B: Sources of Demand/Forecasting

Term
Demand forecasting

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Forecasting the demand for a particular good, component, or service.

Module 3
Section B: Sources of Demand/Forecasting

Term
Dependent demand

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Demand that is directly related to or derived from the bill-of-material structure for other items or end products. Such demands are therefore calculated and need not and should not be forecast. A given inventory item may [also have] independent demand at any given time. For example, a part may simultaneously be the component of an assembly and sold as a service part. See: independent demand.

Module 3
Section B: Sources of Demand/Forecasting

Term
Distribution channel

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The distribution route, from raw materials through consumption, along which products travel. See: channels of distribution, marketing channel.

Module 3
Section B: Sources of Demand/Forecasting

Term
Distributor

APICS CPIM Learning System © 2025

A business that does not manufacture its own products but instead purchases and resells these products. Such a business usually maintains a finished goods inventory. Syn.: wholesaler.

Module 3
Section B: Sources of Demand/Forecasting

Term
Double smoothing

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A method of exponential smoothing for trend situations that employs two previously computed averages, the singly and doubly smoothed values, to extrapolate into the future. Syn.: second-order smoothing.

Module 3
Section B: Sources of Demand/Forecasting

Term
Econometric model

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A set of equations intended to be used simultaneously to capture the way in which dependent and independent variables are interrelated.

Module 3
Section B: Sources of Demand/Forecasting

Term
Exponential smoothing forecast

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A type of weighted moving average forecasting technique in which past observations are geometrically discounted according to their age. The heaviest weight is assigned to the most recent data. [Data] points are weighted in accordance with an exponential function of their age. The technique makes use of a smoothing constant to apply to the difference between the most recent forecast and the critical sales data, thus avoiding the necessity of carrying historical sales data. The approach can be used for data that exhibits no trend or seasonal patterns. Higher order [...] models can be used for data with either (or both) trend and seasonality.

Module 3
Section B: Sources of Demand/Forecasting

Term
Extrinsic forecasting method

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A forecast method using a correlated leading indicator; for example, estimating furniture sales based on housing starts. [These] forecasts tend to be more useful for large aggregations, such as total company sales, than for individual product sales. Ant: intrinsic forecast method. See: quantitative forecasting technique.

Module 3
Section B: Sources of Demand/Forecasting

Term
First-order smoothing

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A single exponential smoothing; a weighted moving average approach that is applied to forecasting problems where the data does not exhibit significant trend or seasonal patterns. Syn.: single exponential smoothing, single smoothing.

Module 3
Section B: Sources of Demand/Forecasting

Term
Forecast

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An estimate of future demand [that] can be constructed using quantitative methods, qualitative methods, or a combination of methods, and it can be based on extrinsic (external) or intrinsic (internal) factors. [Various techniques] attempt to predict one or more of the four components of demand: cyclical, random, seasonal, and trend. Syn.: sales forecast. See: Box-Jenkins model, exponential smoothing forecast, extrinsic forecasting method, intrinsic forecasting method, moving average forecast, qualitative forecasting method, quantitative forecasting method.

Module 3
Section B: Sources of Demand/Forecasting

Term
Forecast horizon

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The period of time into the future for which a forecast is prepared.

Module 3
Section B: Sources of Demand/Forecasting

Term
Forecast interval

APICS CPIM Learning System © 2025

The time unit for which forecasts are prepared, such as week, month, or quarter. Syn.: forecast period.

Module 3
Section B: Sources of Demand/Forecasting

Term
Forecasting

APICS CPIM Learning System © 2025

The business function that attempts to predict sales and use of products so they can be purchased or manufactured in appropriate quantities in advance.

Module 3
Section B: Sources of Demand/Forecasting

Term
Historical analogy

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A judgmental forecasting technique based on identifying a sales history that is analogous to a present situation, such as the sales history of a similar product, and using that past pattern to predict future sales. See: management estimation.

Module 3
Section B: Sources of Demand/Forecasting

Term
Independent demand

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The demand for an item that is unrelated to the demand for other items. Demand for finished goods, parts required for destructive testing, and service parts requirements are examples of independent demand. See: dependent demand.

Module 3
Section B: Sources of Demand/Forecasting

Term
Intrinsic forecast method

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A forecast based on internal factors, such as an average of past sales. Ant: extrinsic forecast.

Module 3
Section B: Sources of Demand/Forecasting

Term
Leading indicator

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A specific business activity index that indicates future trends. [Housing starts is an example of this] for the industry that supplies builders' hardware.

Module 3
Section B: Sources of Demand/Forecasting

Term
Least-squares method

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A method of curve fitting that selects a line of best fit through a plot of data to minimize the sum of squares of the deviations of the given points from the line. See: regression analysis.

Module 3
Section B: Sources of Demand/Forecasting

Term
Life cycle analysis

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A quantitative forecasting technique based on applying past patterns of demand data covering introduction, growth, maturity, saturation, and decline of similar products to a new product family.

Module 3
Section B: Sources of Demand/Forecasting

Term
Mix forecast

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Forecast of the proportion of products that will be sold within a given product family, or the proportion of options offered within a product line. Product and option mix as well as aggregate product families must be forecasted. Even though the appropriate level of units is forecasted for a given product line, [...] material shortages and inventory problems [can be created if this is inaccurate].

Module 3
Section B: Sources of Demand/Forecasting

Term
Moving average

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An arithmetic average of a certain number (n) of the most recent observations. As each new observation is added, the oldest observation is dropped. The value of n (the number of periods to use for the average) reflects responsiveness versus stability in the same way that the choice of smoothing constant does in exponential smoothing. There are two [types...]: simple and weighted. See: simple moving average, weighted moving average.

Module 3
Section B: Sources of Demand/Forecasting

Term
Multiple regression models

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A form of regression analysis where the model involves more than one independent variable, such as developing a forecast of dishwasher sales based upon housing starts, gross national product, and disposable income.

Module 3
Section B: Sources of Demand/Forecasting

Term
Panel consensus

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A judgmental forecasting technique by which a committee, sales force, or group of experts arrives at a sales estimate. See: Delphi method, management estimation.

Module 3
Section B: Sources of Demand/Forecasting

Term
Pyramid forecasting

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A forecasting technique that enables management to review and adjust forecasts made at an aggregate level and to keep lower-level forecasts in balance. The approach combines the stability of aggregate forecasts and the application of management judgment with the need to forecast many end items within the constraints of an aggregate forecast or sales plan. The procedure begins with the roll up (aggregation) of item forecasts into forecasts by product group. The management team establishes a (new) forecast for the product group. The value is then forced down (disaggregation) to individual item forecasts so they are consistent with the aggregate plan. See: management estimation, planning bill of material, product group forecast.

Module 3
Section B: Sources of Demand/Forecasting

Term
Qualitative forecasting techniques

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An approach to forecasting that is based on intuitive or judgmental evaluation. It is used generally when data is scarce, not available, or no longer relevant. Common [types...] include personal insight, sales force estimates, panel consensus, market research, visionary forecasting, and the Delphi method. Examples include developing long-range projections and new product introductions.

Module 3
Section B: Sources of Demand/Forecasting

Term
Quantitative forecasting techniques

APICS CPIM Learning System © 2025

An approach to forecasting where historical demand data is used to project future demand. Extrinsic and intrinsic techniques are typically used. See: extrinsic forecasting method, intrinsic forecasting method.

Module 3
Section B: Sources of Demand/Forecasting

Term
Regression analysis

APICS CPIM Learning System © 2025

A statistical technique for determining the best mathematical expression describing the functional relationship between one response and one or more independent variables. See: least-squares method.

Module 3
Section B: Sources of Demand/Forecasting

Term
Seasonal index

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1) A number used to adjust data to seasonal demand. 2) Manipulations to the buffer size that affect inventory positions by adjusting buffers to follow seasonal patterns. Syn.: seasonal adjustment. See: base series.

Module 3
Section B: Sources of Demand/Forecasting

Term
Seasonality

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A predictable repetitive pattern of demand measured within a year where demand grows and declines. These are calendar-related patterns that can appear annually, quarterly, monthly, weekly, daily and/or hourly. Syn.: seasonal variation. See: base series.

Module 3
Section B: Sources of Demand/Forecasting

Term
Second-order smoothing

APICS CPIM Learning System © 2025

A method of exponential smoothing for trend situations that employs two previously computed averages, the singly and doubly smoothed values, to extrapolate into the future. Syn.: double smoothing.

Module 3
Section B: Sources of Demand/Forecasting

Term
Single exponential smoothing

APICS CPIM Learning System © 2025

A weighted moving average approach that is applied to forecasting problems where the data does not exhibit significant trend or seasonal patterns. Syn.: first-order smoothing, single smoothing.

Module 3
Section B: Sources of Demand/Forecasting

Term
Smoothing constant

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In exponential smoothing, the weighting factor that is applied to the most recent demand, observation, or error. In this case, the error is defined as the difference between actual demand and the forecast for the most recent period. The weighting factor is represented by the symbol α. Theoretically, the range of α is 0.0 to 1. Syn.: alpha factor, smoothing factor.

Module 3
Section B: Sources of Demand/Forecasting

Term
Time bucket

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A number of days of data summarized into a columnar or row-wise display. For example, a weekly [type of this] contains all the relevant data for an entire week [and is] considered to be the largest possible (at least in the near and medium term) to permit effective MRP.

Module 3
Section B: Sources of Demand/Forecasting

Term
Time series analysis

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Analysis of any variable classified by time in which the values of the variable are functions of the time periods. Time series analysis is used in forecasting. A time series consists of seasonal, cyclical, trend, and random components. See: cyclical component, random component, seasonal component, trend component.

Module 3
Section B: Sources of Demand/Forecasting

Term
Time series forecasting

APICS CPIM Learning System © 2025

A forecasting method that projects historical data patterns into the future. Involves the assumption that the near-term future will be like the recent past.

Module 3
Section B: Sources of Demand/Forecasting

Term
Transaction channel

APICS CPIM Learning System © 2025

A distribution network that deals with change of ownership of goods and services including the activities of negotiation, selling, and contracting.

Module 3
Section B: Sources of Demand/Forecasting

Term
Trend

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General upward or downward movement of a variable over time (e.g., demand, process attribute).

Module 3
Section B: Sources of Demand/Forecasting

Term
Weighted moving average

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An averaging technique in which the data to be averaged is not uniformly weighted but is given values according to its importance. See: moving average, simple moving average.