

Managerial Economics

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Demand Forecasting

- ① Demand forecasting is a tool to scientifically predict the likely demand for a product in the future
- ② It is the process of estimation of the level of demand; extent and magnitude of demand; responsiveness of demand to a proposed change in price, income of consumer, price of other goods, and other determinants

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- ① Accurate demand forecasting is essential for firm to enable it to produce the required quantities at the right time and arrange well in advance for various factors of production

Purposes for Forecasting

- ◎ Purpose of short term forecasting
 - > Appropriate production schedule
 - > Reducing cost of purchasing raw material
 - > Determining appropriate pricing policy
 - > Setting sales targets and establishing incentives
 - > Forecasting short term financial requirements

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- ◎ Purposes of Long term Forecasting
 - > Planning for expansion or growth
 - > Planning for long term financial requirements and man power

Categorizing Demand Forecasting

- ◎ Demand forecasting can be categorized on the basis of
 - > Level of forecasting (firm, industry and economy)
 - > Time period (short run and long run)
 - > Nature of goods (Capital and Consumer goods)

Techniques of demand forecasting

- ① Subjective Techniques : Deal with What do people say and what do they do?
- ① Very useful technique in forecasting for new products and/or new markets for which no past data is available
 - > Consumers' opinion survey
 - > Expert's opinion method
 - > Market Simulation
 - > Test marketing

Subjective Techniques..

◎ Consumers' Opinion Survey

Buyers are asked about their future buying intentions of products, brand preferences and quantities of purchase, response to change in price or any other feature

◎ Survey can be conducted either by

- > Census Method – involves contacting each and every buyer
- > Sample method- involves survey of only representative sample of buyers

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- ① Sales force composite
 - > Sales persons who are in direct contact with the consumers are asked about their estimated sales targets in their respective sales territories in a given period of time
 - > May be through survey of sellers, sales representatives, sales managers, dealers, distributors etc.

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- ◎ Experts' Opinion Method
 - > Based on opinions of experts, either internal or external to the firm
 - > This can be done through Group Discussion where structured brainstorming is undertaken or Delphi Technique where opinion of the experts is taken without their face to face interaction

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① Market Simulation

- > It is kind of a laboratory experiment where firms create 'artificial market' in which consumers are instructed to shop with some money and then consumer behavior is observed

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◎ Test Marketing

- Here the product is actually sold in certain segments of the market, regarded as 'test market'
- Choice and number of test markets and duration are extremely critical
- Demand is forecasted on the basis of actual sales of the product in the test markets

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◎ Quantitative techniques

- > Trend projection : Secular trend, Cyclical trend, Random events
- > Smoothing techniques: Moving average, Weighted moving average, exponential smoothing
- > Barometric techniques
- > Econometric techniques

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◎ Trend Projection

- > Trend is a general pattern of change in the long run
- > Data is arranged in chronological order of days, months, quarters, years etc. (time series)
- > Time series data consists of
 - **Secular Trend: change occurring consistently over a long period of time**
 - **Seasonal Trend: seasonal variations within a year**
 - **Cyclical Trend: cyclical movement in demand for a product that may have tendency to recur in a few years**
 - **Random Events: the events that have no trends of occurrence (natural calamity, social unrest etc)**

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◎ Smoothing Techniques

- > Most of the series do not show continuous trend, some variations do occur and they are smoothened out using certain techniques
- > Moving Average
- > Weighted Moving Average

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◎ Barometric Techniques

- > Index is constructed using macro economic indicators demand is forecasted
- > Leading series, Lagging series and coincident series

◎ Econometric Methods

- > Statistical tools are applied on economic theories to estimate economic variables
- > Regression Analysis

Limitations of Demand forecasting

- ① Change in fashion
- ① Consumers' psychology
- ① Uneconomical
- ① Lack of experts
- ① Lack of past data