

# Forecasting

# Definitions

- ▶ Forecasting is a systematic attempt to visualize the future by known facts.
- ▶ The purpose is to provide management with information on which planning decisions are based.
- ▶ Forecasting means drawing a conclusion about production, sales, profit on the basis of research, study & survey.

# Techniques of Forecasting

- ▶ The various techniques of forecasting is classified into
  - ▶ Quantitative
  - ▶ Qualitative
- ▶ Quantitative
  - ▶ Involves use of various statistical data for future.
  - ▶ It include time analysis, regression, extrapolation, economic model.

# Techniques of Forecasting

- ▶ Qualitative
  - ▶ Involved prediction about future.
  - ▶ Used when new product is introduced.
  - ▶ Takes experts opinion, and customer surveys.
  - ▶ Includes jury of executive opinion, opinion of the sales person, consumer expectations, the delphi methods.

# Techniques of Forecasting (Quantitative)

- ▶ Time series Analysis
  - ▶ This method can be used when historical data is available in organization, but it may give misleading result.
  - ▶ From this data demand factor is judge.
  - ▶ Historical series of data divided into various seasonal various, random variation, trend analysis etc.

# Techniques of Forecasting(Quantitative)

## ▶ Regression

- ▶ This analysis helps to find out relative moments of two or more series.
- ▶ It is used to estimate the change in variation & effect of that change on other variation.
- ▶ E.g Price & Demand

# Techniques of Forecasting (Quantitative)

## ▶ Extrapolation

- ▶ This method is based on time series.
- ▶ It is assumed that there is a constant moment in data.
- ▶ E.g. if sales of 3 years (2015, 16, 17) is 2,00,000, 2,40,000 and 2,80,000 then sale of 2018 will be 3,20,000.

# Techniques of Forecasting (Quantitative)

- ▶ Economical Model
  - ▶ Under this model mathematical model are used.
  - ▶ The large number of equations are formed to arrive at decision with the help of this model.



# Techniques of Forecasting (Qualitative)

- ▶ Jury of executive program
  - ▶ This is a method by which the relevant opinions of experts are taken, combined and averaged.
  - ▶ These opinions could be taken on an individual basis or there could be a brain storming group session in which all members participate in generating new ideas that can later be evaluated for their feasibility and profitability.

# Techniques of Forecasting(Qualitative)

- ▶ Opinion of the sales person
  - ▶ The sales people being closer to consumers can estimate future sales in their own territories, more accurately.
  - ▶ Based on these and the opinions of sales managers, reasonable trends of the future sales can be calculated.
  - ▶ These forecasts are good for short range planning.

# Techniques of Forecasting(Qualitative)

- ▶ Consumers' Expectations
  - ▶ This method involves a survey of the customers as to their future needs.
  - ▶ Based on the future needs of the customers a general overall forecast for the demand can be made.

# Techniques of Forecasting(Qualitative)

- ▶ The delphi methods
  - ▶ The Delphi method originally developed by Rank Corporation in 1969 for forecasting military events, has become a useful tool in other areas also.
  - ▶ It is basically a more formal version of the jury of opinion method.
  - ▶ A panel of experts is given a situation and asked to make initial predictions, on the basis of a prescribed questionnaire, these experts develop written opinions.

# Techniques of Forecasting(Qualitative)

- ▶ The delphi methods
  - ▶ These responses are analyzed and summarized and submitted back to the panel for further considerations.
  - ▶ All these responses are anonymous so that no member is influenced by others opinions. This process is repeated until a consensus is obtained.

# Advantage of Forecasting

- ▶ Regularity in production
- ▶ Management decision
- ▶ Means of Adoptability
- ▶ Indicates profit & loss statement & expected profit.
- ▶ Makes possible to regularize the output.

# Limitation of Forecasting

- ▶ Long term forecasting may be inaccurate and dangerous.
- ▶ Forecasting can't be act as a proof.
- ▶ Forecasting requires proper co-ordination between all the departments but it is very difficult for co-ordination.
- ▶ Every forecasting involves some guess work about future.