

## Quadrant II – Notes

**Course Code: COD127**

**Module Name: Forecasting techniques - Qualitative and Quantitative.**

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Demand forecasting is a business process that estimates the consumer's demand for goods.

Forecast is becoming the sign of survival and the language of business. All requirements of the business sector need the technique of accurate and practical reading into the future. Forecasts therefore form an essential requirement for the survival of every business.

The process of forecasting uses sales data over time, market conditions, competitor analysis and input by experienced professionals to create a forecast that attempts to predict future behaviour.

By predicting what goods and in what quantities consumers will purchase in the future, businesses can create plans to meet the demand efficiently and profitably

Demand forecasting helps reduce risk in business activities. It is critical in making sound business decisions that impact the company's health over time.

Features of forecasts

1. Forecasts are rarely perfect
2. Forecasts are more accurate for aggregated data than for individual items.
3. Forecast are more accurate for shorter than longer time periods

## **TECHNIQUES OF DEMAND FORECASTING:**

Demand forecasting is a difficult exercise. Consumers' behaviour is the most unpredictable as it is influenced by a multiplicity of forces.

Economists and statisticians have developed several methods of demand forecasting. Each of the methods has its own relative advantages and disadvantages. Selection of the right method is essential to make demand forecasting accurate. In demand forecasting, a judicious combination of statistical skill and rational judgement is needed.

### **i. Qualitative Methods**

- **Experts Opinion Method:**

This method is also known as “Delphi Technique” of investigation. The Delphi method requires a panel of experts, who are interrogated through a sequence of questionnaires in which the responses to one questionnaire are used to produce the next questionnaire. Thus, any information available to some experts and not to others is passed on, enabling all the experts to have access to all the information for forecasting. The method is used for long term forecasting to estimate potential sales for new products.

- **Sales Force Opinion:** The sales teams are tasked with submitting a forecast for their respective area. This is also known as collective opinion method. In this method, instead of consumers, the opinion of the salesmen is sought. It is a bottom-up method that requires each sales person in the company to make an individual forecast for his or her particular sales territory.

- **Market Research** : In this technique, the company uses customer surveys to identify potential demand. The survey may include personal, demographic, and economic information. It must be administered as a random sampling test.
- **Test Marketing:**  
Product testing essentially involves placing the product with a number of users for a set period. Their reactions to the product are noted after a period of time and an estimate of likely demand is made from the result. These are suitable for new products or for radically modified old products for which no prior data exists.

## ii) Quantitative Methods :

- **Trend Projection** – This technique uses pattern detection for analysing historical data. It is best when deployed for sales histories of over 24 months to allow for a large enough dataset. A firm existing for a long time will have its own data regarding sales for past years. Such data when arranged chronologically yield what is referred to as ‘time series’. Time series shows the past sales with effective demand for a particular product under normal conditions. Such data can be given in a tabular or graphic form for further analysis.

- **Regression Analysis:**

It attempts to assess the relationship between at least two variables (one or more independent and one dependent), the purpose being to predict the value of the dependent variable from the specific value of the independent variable. The basis of this prediction generally is historical data. This method starts from the assumption that a basic relationship exists between two variables. An interactive statistical

analysis computer package is used to formulate the mathematical relationship which exists.