Segment: Basics of Managerial Economics

Topic: Demand Forecasting

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Introduction

While our understanding of demand is clear from the previous topics, we need to go further and see how we can use this understanding. In the previous topic, we learnt about how demand for a good or service is influenced by various determinants of demand. We also learnt about measuring the responsiveness of demand to changes in the determinants of demand. Business firms are also expected to forecast demand in the short term, medium term and long term to develop suitable business strategies.

An important aspect of demand analysis from the management point of view is concerned with forecasting demand for products, either existing or new. In this topic, we will discuss demand forecasting. Demand forecasting refers to an estimate of most likely future demand for a product, under the given conditions. Such forecasts are of immense use in making decisions concerning production, sales, investment, expansion, employment of manpower etc., both in the short run as well as in the long run. Forecasts are made at micro level and macro level. There are different methods of forecasts like survey methods and statistical methods which are generally applied for the existing products. For new products, depending on their nature, several methods like evolutionary approach, substitute approach, growth curve approach, etc. can be applied.

Case Let (continued from topic 3)

After about 2 months, Ramesh used his knowledge of demand theory and submitted a report on the demand for traverse rods in India. He found that the demand for traverse rods was influenced by factors such as consumer income, number of new houses / offices constructed, price of traverse rods, etc. Impressed with his efforts, his superior asked him to forecast the demand for traverse rods during the next year, the next three years and for the next ten years. Ramesh's superior also informed him that the forecasts would be tabled in the next meeting of the board of management during which capital investments during the next few years were to be decided.

Learning Objectives

At the end of this topic, you will be able to:

- discuss the important features of demand forecasting
- explain the various levels of demand forecasting
- identify the criteria for good demand forecasting.

1. Meaning and Features of Demand Forecasting

In this section, we will discuss the meaning and the features of demand forecasting. Demand forecasting seeks to investigate and measure the forces that determine sales for existing and new products. Generally, companies plan their business - production or sales in anticipation of future demand. Hence, forecasting future demand becomes important. The art of successful business lies in avoiding or minimizing the risks involved as far as possible and facing the uncertainties in a most befitting manner. Thus, demand forecasting refers to an estimation of most likely future demand for a product, under given conditions.

Important features of demand forecasting: The important features of demand forecasting are as follows:

- It is an informed and well thought out guesswork.
- It is in terms of specific quantities.
- A forecast is made for a specific period of time which would be sufficient to take a decision and put it into action.
- It is based on historical information and the past data.

Demand forecasting is needed to know whether the demand is subject to cyclical fluctuations or not, so that the production and inventory policies, etc, can be suitably formulated.

Demand forecasting is generally associated with forecasting sales. A firm can make use of the sales forecasts made by the industry as a powerful tool for formulating sales policy and sales strategy. They can become action guides to select the course of action which will maximise the firm's earnings. To use demand forecasting in an active rather than a passive way, management must recognise the degree to which sales are a result not only of external economic environment but also of the action of the company itself.

Managerial uses of demand forecasting: Demand forecasting refers to an estimate of most likely future demand for a product, under the given conditions. Such forecasts are of immense managerial use, both in the short run as well as in the long run.

Now, we will discuss the managerial uses of demand forecasting in the short run and the long run.

In the short run: Demand forecasts for short periods are made on the assumption that the company has a given production capacity, and the period is too short to change the existing production capacity. Generally, it would be one-year period. The impact of demand forecasting in the short run can be summarised as:

- **Production planning** – It helps in determining the level of output at various periods, avoiding under or over production.
- **Helps to formulate right purchase policy** – It helps in better material management of buying inputs and controlling inventory level, which cuts down costs of operations.
- **Helps to frame realistic pricing policy** – A rational pricing policy can be formulated to suit short run and seasonal variations in demand.
- **Sales forecasting** – It helps the company to set realistic sales targets for each individual salesman and for the company as a whole.
- **Helps in estimating short run financial requirements** – It helps the company to plan the finances required for achieving the production and sales targets. The company will be able to raise the required finance well in advance at reasonable rates of interest.
- **Reduce the dependence on chances** – The firm would be able to plan its production properly and face the challenges of competition efficiently.
- **Helps to evolve a suitable labour policy** – Proper sales and production policies help to determine the exact number of labourers to be employed in the short run.

In the long run: Long run forecasting of probable demand for a product of a company is generally for a period of 3 to 5 or 10 years.

- **Business planning** – It helps to plan expansion of the existing unit or a new production unit. Capital budgeting of a firm is based on long run demand forecasting.
- **Financial planning** – It helps to plan long run financial requirements and investment programmes by floating shares and debentures in the open market.
- **Manpower planning** – It helps in preparing long term planning for imparting training to the existing staff and recruit skilled and efficient labour force for its long run growth.
- **Business control** – Effective control over total costs and revenues of a company helps to determine the value and volume of business. This, in turn, helps to estimate the total profits of

the firm. Thus, it is possible to regulate business effectively to meet the challenges of the market.

- **Determination of the growth rate of the firm –** A steady and well-conceived demand forecasting determines the speed at which the company can grow.
- **Establishment of stability in the working of the firm –** Fluctuations in production cause ups and downs in business, which retards smooth functioning of the firm. Demand forecasting reduces production uncertainties and helps in stabilising the activities of the firm.
- **Indicates interdependence of different industries –** Demand forecasts of particular products become the basis for demand forecasts of other related industries, e.g., demand forecast for cotton textile industry, supply information to the most likely demand for textile machinery, colour, dye-stuff industry, etc.
- **More useful in case of developed nations –** It is of great use in industrially advanced countries where demand conditions fluctuate much more than supply conditions.

The above analysis indicates the significance of demand forecasting in the modern business setup.

2. Levels of Demand Forecasting

In this section, we will discuss the levels of demand forecasting. Demand forecasting may be undertaken at three levels, viz., micro level or firm level, industry level and macro level.

Micro level or firm level: This refers to the demand forecasting by a firm for its product. The management of a firm is interested in such forecasting. Generally speaking, demand forecasting refers to the forecasting of demand of a firm.

Industry level: Demand forecasting for the product of an industry as a whole is generally undertaken by the trade associations and the results are made available to the members. By using such data and information, a member firm may determine its market share.

Macro-level: Estimating industry demand for the economy as a whole will be based on macro-economic variables like national income, national expenditure, consumption function, index of industrial production, aggregate demand, aggregate supply etc. Generally, it is undertaken by national institutes, govt. agencies, etc. Such forecasts are helpful to the government in determining the volume of exports and imports, control of prices, etc.

The managerial economist has to take into consideration the estimates of aggregate demand and also industry demand, while making the demand forecast for the product of a particular firm.

3. Criteria for Good Demand Forecasting

In this section, we will discuss the criteria for good demand forecasting. Apart from being technically efficient and economically ideal, a good method of demand forecasting should satisfy a few broad economic criteria. They are as follows:

• **Accuracy** – Accuracy is the most important criterion of a demand forecast, even though cent percent accuracy about the future demand cannot be assured. Generally, it is measured in terms of the past forecasts on the present sales and by the number of times, it is correct.

• **Plausibility** – The techniques used, and the assumptions made should be intelligible to the management. It is essential for the correct interpretation of the results.

• **Simplicity** – It should be simple, reasonable, and consistent with the existing knowledge. A simple method is always more comprehensive than the complicated one.

• **Durability** – Durability of demand forecast depends on the relationships of the variables considered and the stability underlying such relationships, as for instance, the relation between price and demand, between advertisement and sales, between the level of income and the volume of sales, etc.

• **Flexibility** – There should be scope for adjustments to meet the changing conditions. This imparts durability to the technique.

• **Availability of data** – Immediate availability of required data is of vital importance to the business. It should be made available on an up-to-date basis. There should be scope for making changes in the demand relationships, as they occur.

- **Economy** – It should involve lesser costs as far as possible. Its costs must be compared to the benefits of forecasts.
- **Quickness** – It should be capable of yielding quick and useful results. This helps the management to take quick and effective decisions.

Thus, an ideal forecasting method should be accurate, plausible, durable, flexible, make the data available readily, economical, and quick in yielding results.

4. Summary

Here is a quick recap of what we have learnt so far:

- An important aspect of demand analysis from the management point of view is forecasting demand, either for existing products or for new products.
- Demand forecasting is generally associated with forecasting sales. A firm can make use of the sales forecasts made by the industry as a powerful tool for formulating sales policy and sales strategy.
- Demand forecasts for short periods are made on the assumption that the company has a given production capacity, and the period is too short to change the existing production capacity.
- Long run forecasting of probable demand for a product of a company is generally for a period of 3 to 5 or 10 years.
- Demand forecasting may be undertaken at three levels, viz., micro level or firm level, industry level and macro level.
- Micro level or firm level refers to the demand forecasting by a firm for its product.
- Demand forecasting for the product of an industry as a whole is generally undertaken by the trade associations and the results are made available to the members.
- Estimating industry demand for the economy as a whole will be based on macro-economic variables like national income, national expenditure, consumption function, index of industrial production, aggregate demand, aggregate supply etc.
- Apart from being technically efficient and economically ideal, a good method of demand forecasting should satisfy a few broad economic criteria: Accuracy, Plausibility, Simplicity, Durability, Flexibility, Availability of data, Economy and Quickness.