

## Designing a sales forecasting system and its components

Hassan Soltani

Department of Management, Neyriz Branch, Islamic Azad University, Neyriz, Iran  
[soltanihassan@ymail.com](mailto:soltanihassan@ymail.com)

**Abstract:** Management scholars present a variety of forecasting techniques to provide to managers. Each of these techniques has its own application and more successful forecasting can be made by knowing them. Managers should try to select a forecasting model that can meet the organization needs and be appropriate to its activities. In many cases, a simple model for forecasting can provide better results than a complex model. In order to select a forecasting model, primarily a forecasting system should be design and its component should be identified. Here, we describe different components of a forecasting system, and then its relation with other components will be studied. [Hassan Soltani. **Designing a sales forecasting system and its components.** *Researcher* 2013; 5(8):15-17]. (ISSN: 1553-9865). <http://www.sciencepub.net/researcher>. 4

**Key words:** dynamic simulation; model; composting; domestic solid waste

### 1. Introduction

Today the term of planning can be used for different human activities and it can be claimed that without planning no community can meet the various needs of its inhabitant. In modern life, planning has received its status and concept in all organizations and entities, and all decisions are made based on the aforethought projects and programs. Maybe in the past, without planning and forethought, it was possible to achieve desires, but today, the modern life does not allow us to be alike, because modern societies are much more complex in terms of techniques, economy, social life, and so. Centuries ago, when learning was not something other than simple repetition of set of known rules to all people, establishing and creating public welfare services were not so complex, the production procedures were much easier so that it was possible without forethought.

But now, without conscious planning, all complex structures of human material and spiritual civilization will be destroyed, so that it was not possible even to provide physical and emotional needs, and ultimately life will be lost. The situation can be visible after natural and human disasters such as earthquakes and wars. Limited natural and land resources can highlight the importance and necessity of planning which in turn confirms security and prosperity.

#### 1.1. The forecasting concept

The following definitions are used to for the concept of forecasting:

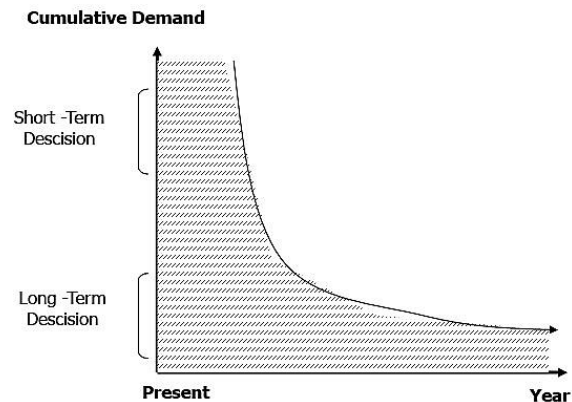
- 1 - Forecasting the future time based on available information
- 2 - The process of estimating future demand in terms of quality and quantity, time and place for the required goods and services
- 3 - The link loop between the organization and its environment.

Even if the predictions are not always as explicit

and formal activity, it plays a very important role in decision-making and planning. Accordingly, forecasting is very useful for top management and all functions within the organization, especially and marketing, production and financial. The process forecasting is a part of the overall production management and planning. Accurately forecasting helps us to answer the future changes and needs quickly and correctly. To avoid misunderstanding, it should be noted that the concept of 'prediction' is distinct from the concept of "prediction".

There are different definitions of forecasting in management, prediction and forecasting are different from each other which can be found according to the presented definitions (Armstrong JS. Comment on William B. 1996).

The figure shows the different types of decision plans which depends on the information type according to the time factor



**Figure1:** Forecasting time-horizon chart

According to the chart, we can say:

- Forecasting is estimating the future events which are obtained according to systematic combined information. This estimation requires data, probability and statistics, and using management science techniques.

- The prediction is estimating future events had been obtained via subjective consideration which may be not happened in the past.

Based on the abovementioned points, the forecasting is only possible when there is a history of past data to be analyzed and concluded, while it is not necessary for the prediction (Mahajan V, Muller E, Bass FM. 1990).

Generally when the forecasting is subjected by traders, their means is a combination of forecasting and prediction which is often integration between calculations and personal judgment.

**1.2. Forecasting Sales system components**

Forecasting sales system consists of the following components:

**1.2.1. Forecasting system input**

Data needed to prepare a sales forecast is obtained from internal and external sources. Historical data in the form of a time series of prior sales and orders, experts' comments and special examination results are used often as an information input which can be created in the organization. External sources are able to provide valuable information in the form of the economic, social, political and technological forecasting. Additional resources include industry experts, private companies and government agencies. For short-term and medium-term forecasts in a relatively stable environment, often we must rely on internal resources that are consolidated by economic forecasting. However, data are obtained from external sources such as competitors, new technologies, social development and political relations.

**1.2.2. Forecasting system output**

From production managers' point of view, forecasting the expected demands in future in proportion to sale are what is needed for planning various periods. Before a forecasting can be used for production planning, the required information on demand for output products should be converted to different inputs for production. So, the quality of demand for future will be estimated, also the work time and profitability of different machines, equipment's, energy and other ones are estimated.

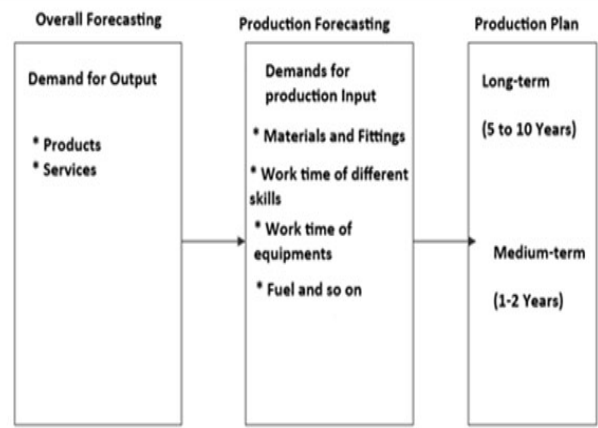
**2. Limitations of the forecasting system**

Selecting forecasting methods and the amount of conducted forecasting depends on the severity of the restrictions imposed on system which are as follows:

- The time available for preparing a forecast
- Lack of information from internal and external sources
- The quality of information available
- Experience within the organization
- Available computing facilities

**3. The decisions of the forecasting system**

In the process of forecasting system, management must make decisions with regard to the data and methods used in forecasting. Data may be in the needed form or requires adjustment and collection. If the date of demand is long, we should note to "How much should we regress". Selecting a forecasting method depends on the amount and quality of available data, required time and desired expertise.



**Figure2:** Forecasting Sales system components

**4. Forecasting system performance benchmarks**

Effectiveness of forecast system is evaluated based on four criteria:

**A) Accuracy:** It is the most important things for a term of forecasting error and means expending additional costs.

**B) Stability against impressionability:** great complexity and inherent uncertainty in organizational environment causes random changes in real demand from period to period. Such changes may be hidden within the heart of long-term growth process pattern or seasonal effects. It is expected from a well-defined forecasting system to adjust these sudden changes anything they are so that the next forecasting would not influenced by these uncommon changes.

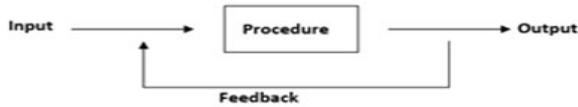
**C) Objectivity:** Sometimes the current situation reflect changes in the environment in which there is not historical data for forecasting, it is better to see the data through reality and then adjust the forecasting results according to new developments.

**D) Required time for forecasting:** For effectiveness of a forecasting system, on-time forecasting is necessary to make better decisions based on it.

**5. Converting inputs to outputs**

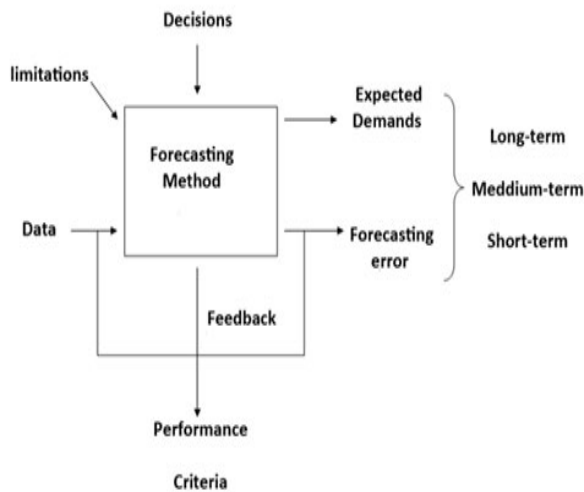
Selecting a forecasting method depends on the presence or absence of prior information on the company. To select the most appropriate method of analysis, the judgment, comparison and common sense should be applied.

A simple system consists of the following components:

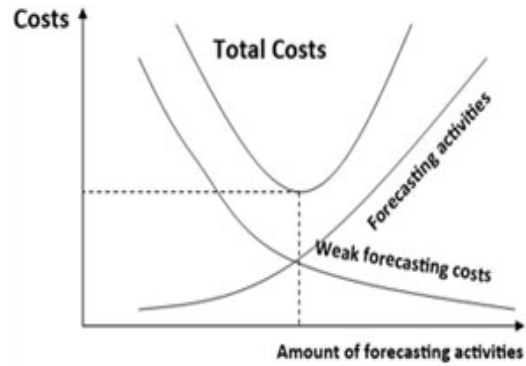


**Figure3:** The components of simple system

For a sales forecasting system, the ratio of benefit to cost is very important. By saving the costs, an improvement can be achieved in decision quality and compared it to maintenance costs for forecasting systems.



**Figure 4:** The sales forecasting system



**Figure5:** the relationship between the forecasting costs with the amount of forecasting activities

**Correspondence to:**

Hassan Soltani  
 Department of Management, Neyriz Branch, Islamic Azad University, Neyriz, Iran  
[soltanihassan@ymail.com](mailto:soltanihassan@ymail.com)

**References**

1. Armstrong JS. Comment on William B. 1996.Gartner and Robert J. Thomas 1993; Factors affecting new product forecasting accuracy in new firms. Intl J Forecasting; 12:321-2.
2. Mahajan V, Muller E, Bass FM. 1990.New product diffusion models in marketing. A review and directions for research. J Mrktg;54(1):1-26.
3. Wind JY, Mahajan V, Cardozo RN.1981. New product forecasting. Models and applications. Lexington, MA: Lexington Books.

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