4.1: Introduction to Forecasting

Forecasting is the process of making predictions of the future based on past and present data. This is most commonly by analysis of trends. A commonplace example might be estimation of some variable of interest at some specified future date. Prediction is a similar, but more general term. Both might refer to formal statistical methods employing time series, cross-sectional or longitudinal data, or alternatively to less formal judgmental methods. Usage can differ between areas of application: for example, in hydrology, the terms “forecast” and “forecasting” are sometimes reserved for estimates of values at certain specific future times, while the term “prediction” is used for more general estimates, such as the number of times floods will occur over a long period.

Risk and uncertainty are central to forecasting and prediction; it is generally considered good practice to indicate the degree of uncertainty attached to specific forecasts. In any case, the data must be up to date in order for the forecast to be as accurate as possible. In some cases, the data used to predict the variable of interest is itself forecasted.[1]

As discussed in the previous chapter, functional strategies need to be aligned and supportive to the higher level corporate strategy of the organization. One of these functional areas is marketing. Creating marketing strategy is not a single event, nor is the implementation of marketing strategy something only the marketing department has to worry about.

When the strategy is implemented, the rest of the company must be poised to deal with the consequences. An important component in this implementation is the **sales forecast**, which is the estimate of how much the company will actually sell. The rest of the company must then be geared up (or down) to meet that demand. In this module, we explore forecasting in more detail, as there are many choices that can be made in developing a forecast.

Accuracy is important when it comes to forecasts. If executives overestimate the demand for a product, the company could end up spending money on manufacturing, distribution, and servicing activities it won’t need. Data Impact, a software developer, recently overestimated the demand for one of its new products. Because the sales of the product didn’t meet projections, Data Impact lacked the cash available to pay its vendors, utility providers, and others. Employees had to be terminated in many areas of the firm to trim costs.

Underestimating demand can be just as devastating. When a company introduces a new product, it launches marketing and sales campaigns to create demand for it. But if the company isn’t ready to deliver the amount of the product the market demands, then other competitors can steal sales the firm might otherwise have captured. Sony’s inability to deliver the e-Reader in sufficient numbers made Amazon’s Kindle more readily accepted in the market; other features then gave the Kindle an advantage that Sony is finding difficult to overcome.

The firm has to do more than just forecast the company’s sales. The process can be complex, because how much the company can sell will depend on many factors such as how much the product will cost, how competitors will react, and so forth. Each of these factors has to be taken into account in order to determine how much the company is likely to sell. As factors change, the forecast has to change as well. Thus, a sales forecast is actually a composite of a number of estimates and has to be dynamic as those other estimates change.

A common first step is to determine market potential, or total industry-wide sales expected in a particular product category for the time period of interest. (The time period of interest might be the coming year, quarter, month, or some other time period.) Some marketing research companies, such as Nielsen, Gartner, and others, estimate the market potential for various products and then sell that research to companies that produce those products.

Once the firm has an idea of the market potential, the company’s sales potential can be estimated. A firm’s sales potential is the maximum total revenue it hopes to generate from a product or the number of units of it the company can hope to sell. The sales potential for the product is typically represented as a percentage of its market potential and equivalent to the company’s estimated maximum market share for the time period. In your budget, you’ll want to forecast the revenues earned from the product against the market potential, as well as against the product’s costs.[2]

Forecasting Horizons

Long term forecasting tends to be completed at high levels in the organization. The time frame is generally considered longer than 2 years into the future. Detailed knowledge about the products and markets are required due to the high degree of uncertainty. This is commonly the case with new products entering the market, emerging new technologies and opening new facilities. Often no historical data is available.

Medium term forecasting tends to be several months up to 2 years into the future and is referred to as intermediate term. Both quantitative and qualitative forecasting may be used in this time frame.

Short term forecasting is daily up to months in the future. These forecasts are used for operational decision making such as inventory planning, ordering and scheduling of the workforce. Usually quantitative methods such as time series analysis are used in this time frame.

References

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