

## 16.3: Forecasting

### Learning Objectives

1. List steps in the forecasting process.
2. Identify types of forecasting methods and their advantages and disadvantages.
3. Discuss the methods used to improve the accuracy of forecasts.

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. As we have explained, an important component 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 section, we explore forecasting in more detail, as there are many choices a marketing executive can make 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. The software developer Data Impact 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 marketing leader of a 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—in fact, much of what you have already read about in preparing a marketing strategy. 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 marketing executive 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. As you can see in Figure 16.8, companies sell less than potential because not everyone will make a decision to buy their product: some will put off a decision; others will buy a competitor's product; still others might make do with a substitute product. 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.

### Forecasting Methods

Forecasts, at their basic level, are simply someone's guess as to what will happen. Each estimate, though, is the product of a process. Several such processes are available to marketing executives, and the final forecast is likely to be a blend of results from more than one process. These processes are judgment techniques and surveys, time series techniques, spending correlates and other models, and market tests.

### Judgment and Survey Techniques

At some level, every forecast is ultimately someone's judgment. Some techniques, though, rely more on people's opinions or estimates and are called judgment techniques. Judgment techniques can include customer (or channel member or supplier) surveys, executive or expert opinions, surveys of customers' (or channel members') intentions or estimates, and estimates by salespeople.

## Customer and Channel Surveys

In some markets, particularly in business-to-business markets, research companies ask customers how much they plan to spend in the coming year on certain products. Have you ever filled out a survey asking if you intend to buy a car or refrigerator in the coming year? Chances are your answers were part of someone's forecast. Similarly, surveys are done for products sold through distributors. Companies then buy the surveys from the research companies or do their own surveys to use as a starting point for their forecasting. Surveys are better at estimating market potential than sales potential, however, because potential buyers are far more likely to know they will buy something—they just don't know which brand or model. Surveys can also be relatively costly, particularly when they are commissioned for only one company.

## Sales Force Composite

A sales force composite is a forecast based on estimates of sales in a given time period gathered from all of a firm's salespeople. Salespeople have a pretty good idea about how much can be sold in the coming period of time (especially if they have bonuses riding on those sales). They've been calling on their customers and know when buying decisions will be made.

Estimating the sales for new products or new promotions and pricing strategies will be harder for salespeople to estimate until they have had some experience selling those products after they have been introduced, promoted, or repriced. Further, management may not want salespeople to know about new products or promotions until these are announced to the general public, so this method is not useful in situations involving new products or promotions. Another limitation reflects salespeople's natural optimism. Salespeople tend to be optimistic about what they think they can sell and may overestimate future sales. Conversely, if the company uses these estimates to set quotas, salespeople are likely to reduce their estimates to make it easier to achieve quota.

Salespeople are more accurate in their near-term sales estimates, as their customers are not likely to share plans too far into the future. Consequently, most companies use sales force composites for shorter-range forecasts in order to more accurately predict their production and inventory requirements. Konica-Minolta, an office equipment manufacturer, has recently placed a heavy emphasis on improving the accuracy of its sales force composites because the cost of being wrong is too great. Underestimated forecasts result in some customers having to wait too long for deliveries for products, and they may turn to competitors who can deliver faster. By contrast, overestimated forecasts result in higher inventory costs.

## Executive Opinion

Executive opinion is exactly what the name implies: the best-guess estimates of a company's executives. Each executive submits an estimate of the company's sales, which are then averaged to form the overall sales forecast. The advantages of executive opinions are that they are low cost and fast and have the effect of making executives committed to achieving them. An executive-opinion-based forecast can be a good starting point. However, there are disadvantages to the method, so it should not be used alone. These disadvantages are similar to those of the sales force composites. If the executives' forecast becomes a quota upon which their bonuses are estimated, they will have an incentive to underestimate the forecast so they can meet their targets. Organizational factors also come into play. A junior executive, for example, is not likely to forecast low sales for a product that his or her CEO is pushing, even if low sales are likely to occur.

## Expert Opinion

Expert opinion is similar to executive opinion except that the expert is usually someone outside the company. Like executive opinion, expert opinion is a tool best used in conjunction with more quantitative methods. As a sole method of forecasting, however, expert opinions are often very inaccurate. Just consider how preseason college football rankings compare with the final standings. The football experts' predictions are usually not very accurate.

## Time Series Techniques

Time series techniques examine sales patterns in the past in order to predict sales in the future. For example, with a trend analysis, the marketing executive identifies the rate at which a company's sales have grown in the past and uses that rate to estimate future sales. For example, if sales have grown 3 percent per year over the past five years, trend analysis would assume a similar 3 percent growth rate next year.

A simple form of analysis such as this can be useful if a market is stable. The problem is that many markets are not stable. A rapid change in any one of a market's dynamics is likely to result in wide swings in growth rates. Just think about auto sales before, during, and after the government's Cash for Clunkers program. What sold the previous month could not account for the effects of

the program. Consequently, if an executive were to have estimated auto sales based on the rate of change for the previous period, the estimate would have been way off.

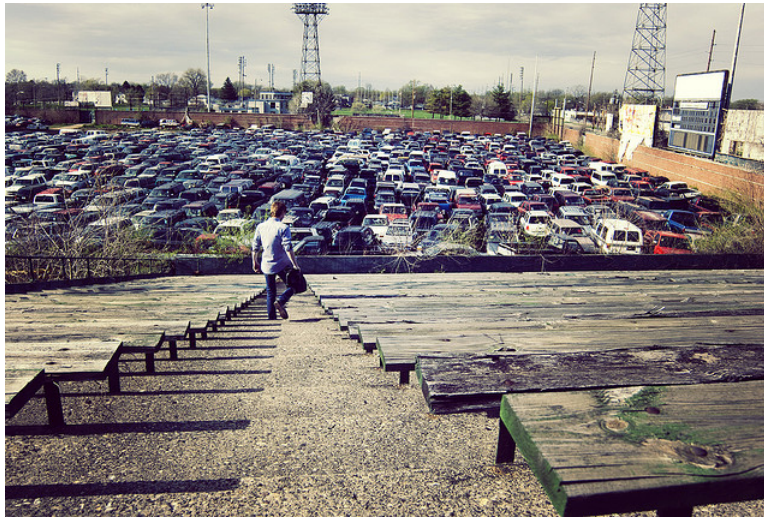


Figure 16.10: The federal government's Cash for Clunkers program resulted in a significant short-term increase in new car sales and filled junkyards with thousands of clunkers!

ashley.adcox – [Field Of Clunkers Pt. II](#) – CC BY-NC-ND 2.0.

The Cash for Clunkers program was an unusual situation; many products may have wide variations in demand for other reasons. Trend analysis can still be useful in these situations but adjustments have to be made to account for the swings in rates of change. Two common adjustments are the moving average, whereby the rate of change for the past few periods is averaged, and exponential smoothing, a type of moving average that puts more emphasis on the most recent period.

## Correlates and Other Models

A number of more sophisticated models can be useful in forecasting sales. One fairly common method is a correlational analysis, which is a form of trend analysis that estimates sales based on the trends of other variables. For example, furniture-company executives know that new housing starts (the number of new houses that are begun to be built in a period) predict furniture sales in the near future because new houses tend to get filled up with new furniture. Such a correlate is considered a leading indicator, because it leads, or precedes, sales. The Conference Board publishes an Index of Leading Indicators, which is a single number that represents a composite of commonly used leading indicators. Some of these leading indicators are housing starts, wholesale orders, orders for durable goods (items like refrigerators, air conditioning systems, and other long-lasting consumer products), and even consumer sentiment, or how consumers think the economy is doing.

## Response Models

Some companies create sophisticated statistical models called response models, which are based on how customers have responded in the past to marketing strategies. JCPenney, for example, takes previous sales data and combines it with customer data gathered from the retailer's Web site. The models help JCPenney see how many customers are price sensitive and only buy products when they are on sale and how many customers are likely to respond to certain offers. The retailer can then estimate the sales for products by market segment based on the offers and promotions directed at those segments.

## Market Tests

A market test is an experiment in which the company launches a new offering in a limited market in order to gain real-world knowledge of how the market will react to the product. Since there isn't any historical data on how the product has done, response models and time-series techniques are not effective. A market test provides some measure of sales in response to the marketing plan, so in that regard, it is like a response model, just based on limited data. The demand for the product can then be extrapolated to the full market. However, remember that market tests are visible to your competitors, and they can undertake actions, such as drastic price cuts, to skew your results.



Figure 16.11: HEB uses Waco, Texas, as a test market, combining data from its loyalty program with sales data to see who buys what and at what price.

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The grocery chain HEB uses Waco, Texas, as a test site. HEB has a loyalty program that enables it to collect lots of data on its customers. When HEB wants to test market a new product, the firm does it in Waco, where individual customer data can be combined with sales data. Testing in Waco tells HEB who is likely to buy the product and at what price, information that makes extrapolating to their larger market more accurate.

## Building Better Forecasts

At best, a forecast is a scientific estimate, but really, a forecast is still just a sophisticated guess. Still, there are steps that can enhance the likelihood of success. The first step is to commit to accuracy. At Konica-Minolta, regional vice presidents are rewarded for being accurate and punished for being wrong about their forecasts, no matter what the direction of them is. As we mentioned earlier, underestimating is considered by Konica-Minolta leadership to be just as bad as overestimating sales.

We've also mentioned how salespeople and managers will lower estimates if the estimates are used to set quotas. Using forecasts properly is another factor that can improve forecasting accuracy. But there are other ways to make forecasts more accurate. These begin with picking the right methods for your business.

## Pick the Right Method(s) for Your Business and Your Decision

Some products have very short selling cycles; others take a long time to produce and sell. What is appropriate for a fast-moving consumer good like toothpaste is not appropriate for a durable good like a refrigerator. A response model might work for Crest toothpaste in the short term, but longer-term forecasts might require a sophisticated time-series technique. By contrast, Whirlpool might find, for example, that channel surveys are better predictors of refrigerator sales over the long term.

## Use Multiple Methods

Since forecasts are estimates, the more estimates generated from various methods, the better. For example, combining expert opinions with a trend analysis could help you understand not only what is happening but also why. Every forecast results in decisions, such as the decision to hire more people, add manufacturing capacity, order supplies, and so forth. In addition, practice makes perfect, as they say. The more forecasts you have to make and resulting decisions you have to live with, the better you will get at forecasting.

## Use Many Variables

Forecasting for smaller business units first can result in greater accuracy. For example, JCPenney may estimate sales by region first, and then roll that information up into a national sales forecast. By forecasting locally, more variables can be considered, and with more variables comes more information, which should help the accuracy of the company's overall sales forecast. Similarly, JCPenney may estimate sales by market segment, such as women over age fifty. Again, forecasting in a smaller segment or business unit can then enable the company to compare such forecasts to forecasts by product line and gain greater accuracy overall.

## Use Scenario-Based Forecasts

One forecast is not enough. Consider what will happen if conditions change. For example, how might your forecast change if your competitors react strongly to your strategy? How might it change if they don't react at all? Or if the government changes a policy that makes your product tax free? All of these factors will influence sales, so the smart executive considers multiple scenarios. While the executive may not expect the government to make something tax free, scenarios can be created that consider favorable government regulation, stable regulation, and negative regulation, just as one can consider light competitive reaction, moderate reaction, or strong reaction.

## Track Actual Results and Adjust

As time goes on, forecasts that have been made should be adjusted to reflect reality. For example, Katie Scallan-Sarantakes may have to do an annual forecast for Scion sales, but as each month goes by, she has hard sales data with which to adjust future forecasts. Further, she knows how strongly competition has reacted and can adjust her estimates accordingly. So, even though she may have an annual forecast, the forecast changes regularly based on how well the company is doing.

## Key Takeaway

A forecast is an educated guess, or estimate, of sales in the future. Accuracy is important because so many other decisions a firm must make depend on the forecasts. When a company forecasts sales, it has to consider market potential and sales potential. Many methods of forecasting exist, including expert opinion, channel and customer surveys, sales force composites, time series data, and test markets.

Better forecasts can be obtained by using multiple methods, forecasting for various scenarios, and tracking actual data (including sales) and adjusting future forecasts accordingly.

## Review Questions

1. Which forecasting method would be most accurate for forecasting sales of hair-care products in the next year? How would your answer change if you were forecasting for the next month? For home appliances?
2. What is the role of expert opinion in all forecasts?
3. How can forecasting accuracy be improved?

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