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SIX BASIC FORECASTING FORMULAS :

Nos. 1 to 3 – FOR NORMAL ITEMS

One of the greatest forecasting experts in the world is Bernard Smith, who created « Focus Forecasting »™ thirty years ago. Today, this approach is incorporated in practically all the forecasting packages on the market. B.T. SMITH, INC. also sells its own software.

In general, the approach consists in **re-simulating the forecasts on past quarters**; then—since the computer knows what actual sales were— **choose the formula which would have worked the best in the recent past** to predict the close-in future: « Pick Best » as it is sometimes called. It's an easy approach to understand and to modify, by testing and introducing new forecasting formulas.

The six basic formulas shown below and the accompanying comments come from the book Focus Forecasting and DRP, by Bernie Smith. The forecasts are always calculated by quarter, and are then spread by percentage over the months or the weeks or the days, according to the company's wish.

BILL BELT EXCELLENCE does not sell any software and has no economic relationship with B.T.SMITH, INC. (www.focusforecasting.com) **However we do recommend the Focus Forecasting approach and the six basic formulas** to any company confronted with the necessity of making short-term sales forecasts by item ("the logistical forecast" in our Technical Newsletter No. 17.)

1. For NON-SEASONAL ITEMS and SPARE PARTS WITH WEAK AND IRREGULAR DEMAND

The sales for the item in the next quarter will be the same as the actual sales for the last quarter.

F = Forecast for the item over the next quarter

Q1 = Actual Sales over the most recent 3 months° (example : 100)

°the first quarter in the past counting backwards from now

F = Q1 ; F = 100 for the next quarter

This formula looks modest but is nonetheless surprisingly robust for all types of non-seasonal items, whether their demand be strong or weak.

2. For ITEMS WITH AN IRREGULAR DEMAND HISTORY

(promotions, one large but erratic customer, errors, mix of different demand flows) ...
while cleaning up the history and separating demand flows...see Technical Newsletter No. 25 !

Sales for the item in the next quarter will be half of actual sales over the last 6 months.

F = Forecast for the item over the next quarter

Q1 = Actual Sales over the most recent 3 months° (example : 100)

° the first quarter in the past counting backwards from now

Q2 = Actual Sales over the 3 mois before that ° (example : 150)

° the second quarter in the past counting backwards from now

$$F = \frac{(Q1 + Q2)}{2} \quad ; \quad F = \frac{(100 + 150)}{2} = 125 \text{ for the next quarter}$$

This formula generates a reasonable forecast despite a demand history needing to be corrected !

3. For ITEMS WITH MODEST SEASONALITY

Sales for the item in the next quarter will follow the percentage increase or decrease with respect to last year.

F = Forecast for the item for the next quarter.

Q4 = Actual Sales of the next 3 months for last year° (example : 100)

° the fourth quarter in the past counting backwards from today

Q1 = Actual Sales over the most recent 3 months° (example : 100)

° the first quarter in the past counting backwards from now

Q5 = Actual Sales of the corresponding quarter last year° (example : 150)

° the fifth quarter in the pas counting backwards from now

$$F = Q4 \times \frac{Q1}{Q5} \quad ; \quad F = 100 \times \frac{100}{150} = 100 \times 0,67 = 67 \text{ for the next quarter}$$

This formula is useful for following the market for many items, as long as their seasonality is moderate and the corresponding quarter of last year was not zero.

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While on vacation should you lack something juicy to work on, test your favorite forecasting formula against these three. In the next Newsletter—for those on vacation in August—we'll look at formulas for items with strong seasonality and end-of-life items.