

## ABSTRACT

A forecast is used to predict or describe what will happen, and the use of a forecast in planning would help in making a good decision about the most attractive alternative for the company. This situation is faced in highly competitive consumer products by Unilever as it has just improved forecast accuracy. This leads the company to consider having 'good' forecasting. Therefore, this project is conducted as an attempt to seek what forecasting techniques are appropriate to support decision-making in the operational level of a supply chain when dealing with highly competitive consumer products so as to avoid stock shortage.

The literature study provides knowledge about the forecasting method ranges, the role of forecasting in a supply chain, forecast approaches, characteristics of forecasts, measures of forecast error and their applications.

The forecast approaches (moving average, simple exponential smoothing, Holt's model and Winter's model) are used to identify the possible forecasting problems. The moving average method is suitable for eliminating randomness by taking a set of observed values, finding their average, and using that average as a forecast for the coming period. The simple exponential smoothing method is appropriate when demand has no observable trend or seasonality. The Holt's model is appropriate when demand is assumed to have a level and a trend in the systematic component but no seasonality. The Winter's model is appropriate when the systematic component of demand is assumed to have a level, trend, and seasonal factor.

In this study, the four forecast methods are used to test the accuracy of Unilever's product (total hair care, product B, D and E) by using 'tracking signal' (TS) to measure forecast error. The appropriate method to forecast the hair care product is moving average. Also it is proposed to apply a heuristic method in this case by using 'rule base' under the assumption that *"The finished goods stock must be higher than demand"* to study consumer behaviour in the market. The heuristic method may be related to some unaccountable factors (e.g., past demand, planned advertising or

market efforts, promotion, display position in a catalog, state of the economy, or planned price discounts). The result of forecast accuracy was improved by 44 percent. Inaccurate forecast accuracy of even one percent has effects in lost opportunity of sales of 650,000 baht and increased inventory value 156,700 baht. Financial and Operations management must deal with the impact of an optimistic forecast. Cash is often tied up in slow moving inventory as well as the opportunity costs associated with the production time for items that do not sell.

