An Experimental Forecasting Model

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Abstract

Forecasting is fundamental to any planning effort. In the short run, a forecast is needed to predict the requirements for materials, products, services, or other resources to respond to changes in demand. The goal of this research is to present several forecasting techniques and models that are commonly used in business and to apply these techniques and models to create a new forecasting model with minor error. From the results in this research among the four main equations generated, the third equation $(c+bx+ax^2)(1-V)+(VA)$ has the most satisfactory results, in terms of MAPD, MAD and RMSE. In contrast to exponential smoothing, the generated equation is more objective in nature because of the multiplier used. The multiplier should be solved using the formulas $|A_t - A_{t-1}|/A_t$ or $|A_t - A_{t-1}|/A_{t-1}$ (among the two the first formula shows higher accuracy/precision than the second formula, most of the time), unlike in exponential smoothing, where the smoothing constant is based on the forecaster's decision/perception.