Marketing Research: The Application of Auto Sales Forecasting Software to Optimize Product Marketing Strategies

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Abstract

The aims of this study is to apply the Auto Sales Forecasting software to predict sales transaction data. The Auto Sales Forecasting software consists of two main features namely descriptive analysis and forecasting features along with its visualization. Forecasting methods contained in the Auto Sales Forecasting application are forecasting methods of Simple Moving Average, Robust Exponential Smoothing, Auto ARIMA, Artificial Neural Network, Holt-Winters, and Hybrid Forecast. The Auto Sales Forecasting software can intelligently choose the best forecasting method based on RMSE values. The results showed that the Auto Sales Forecasting software successfully analyzed the sales transaction data. From the analysis it was found that there were 43 types of products produced and sold by the Futry Bakery & Cake Store. Three of them are the types of products that are most in demand by consumers, namely Sweet Bread, Maros Bread, and Traditional Cakes 3500. The best selling product type, Sweet Bread, is used to build forecasting models. The best forecasting method is the Robust Exponential Smoothing method with the smallest RMSE value of 0.83 on the variable number of sold out products. Forecasting results using the Robust Exponential Smoothing method show that the average number of products to sell for the next seven days ranges from 116 products with a certain confidence interval value.

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