New Product Type Profitability Predictions Report

**Task**: Analyze historical sales data and make predictions on the profitability of new products.

**Model**: Random Forest. After testing both Support Vector Machine (SVM) and Random Forest (RF) Models, the following RSquared values were resulted.

|  |  |  |
| --- | --- | --- |
|  | SVM | RF |
| R2 | 0.993 | 0.915 |

Although SVM had a higher R2 value and seemed like the better model, it looked as if it was overfitting. Also, after taking a deeper look into the SVM model, some negative sales values were returned, which indicated a poor fit for the model. Therefore, the RF model was deemed the better fitting model and chosen to make the predictions for the new products.

**Final Predictions**: The predicted sales volume of each product type are shown below, as well as a chart showing the correlation between customer/service reviews and sales volume.

