3.4 The Marketing Plan

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Here we will answer questions mentioned before

1. Is there a relationship between advertising sales and budget?

   This question can be answered by fitting a multiple regression model, and testing the hypothesis.

2. How strong is the relationship?

   We will use RSE and R-squared here

3. Which media contribute to sales?

   We will compare the p-value for different variables in the multiple linear regression.

4. How large is the effect of each medium on sales?

   We will compute the confidence interval in this case

5. How accurately can we predict future sales?

   We will use the prediction interval for in this case

6. Is the relationship linear?

   We will use the residual plots to detect the linearity

7. Is there synergy among the advertising media?

   The standard linear regression model assumes an additive relation- ship between the predictors and the response. In this case, we will have a look at the interaction term of the regression model.