Impact Analysis of Media Spendings on Sales

AN EXAMINATION OF TV, RADIO, AND SOCIAL MEDIA INVESTMENTS

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INTRODUCTION

This report aims to elucidate the connection between media investments and overall sales performance. By leveraging data on company expenditures on TV, Radio, and Social Media, we seek to uncover insights into their respective impacts on sales, guiding future marketing strategies to optimize returns.

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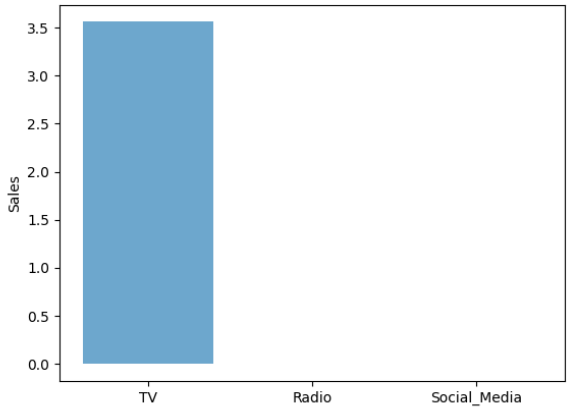
OVERVIEW OF ATTRIBUTES AND THEIR IMPACT ON SALES

Impact of Different Media on Sales

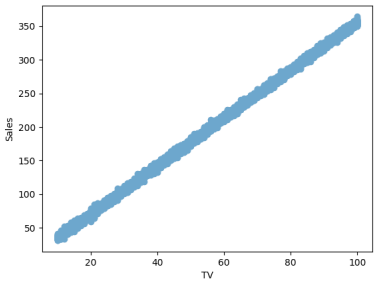


TV: 3.560 (Shows the highest positive impact on sales, indicating that a unit increase in TV spending leads to an approximate increase in sales by 3.560 units.)

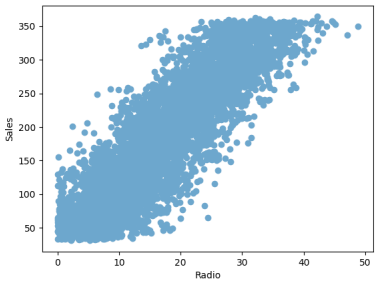
Radio: 0.001 (Indicates a negligible negative impact on sales per unit spending.)

Social Media: 0.003 (Suggests a slight positive influence on sales per unit increase in social media spending.)

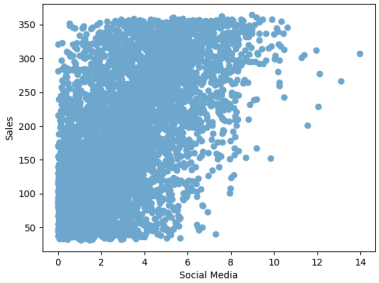
Visual Insights



The first image showcases a steady linear increase in sales with increasing TV spend, highlighting its positive and significant impact.



The second image displays a large variance in sales with different levels of radio investment, indicating less predictability and effectiveness.



The third image reveals a diffuse spread of sales data points with varying social media spending, suggesting a weaker influence on sales than TV advertising.

Model Performance Indicators

- **R2:** 0.999 (Explains the proportion of variance in sales that is predictable from the media spendings, indicating a high level of model accuracy.)
- **MAE:** 2.381 (Represents the average magnitude of errors in sales predictions, measured in the same units as the sales.)
- **MSE:** 8.648 (Reflects the average of the squares of the errorsâ€”indicating the discrepancy between actual and predicted sales.)
- **RMSE:** 2.941 (Shows the standard deviation of the residuals, providing insights into how concentrated the data is around the line of best fit.)

AI WARNING

This document contains content that has been generated by an artificial intelligence model. While the information presented is based on data-driven analysis, it is important to exercise caution and critical thinking when interpreting the results. Human oversight and expert judgment are essential to ensure the accuracy and relevance of the insights provided.