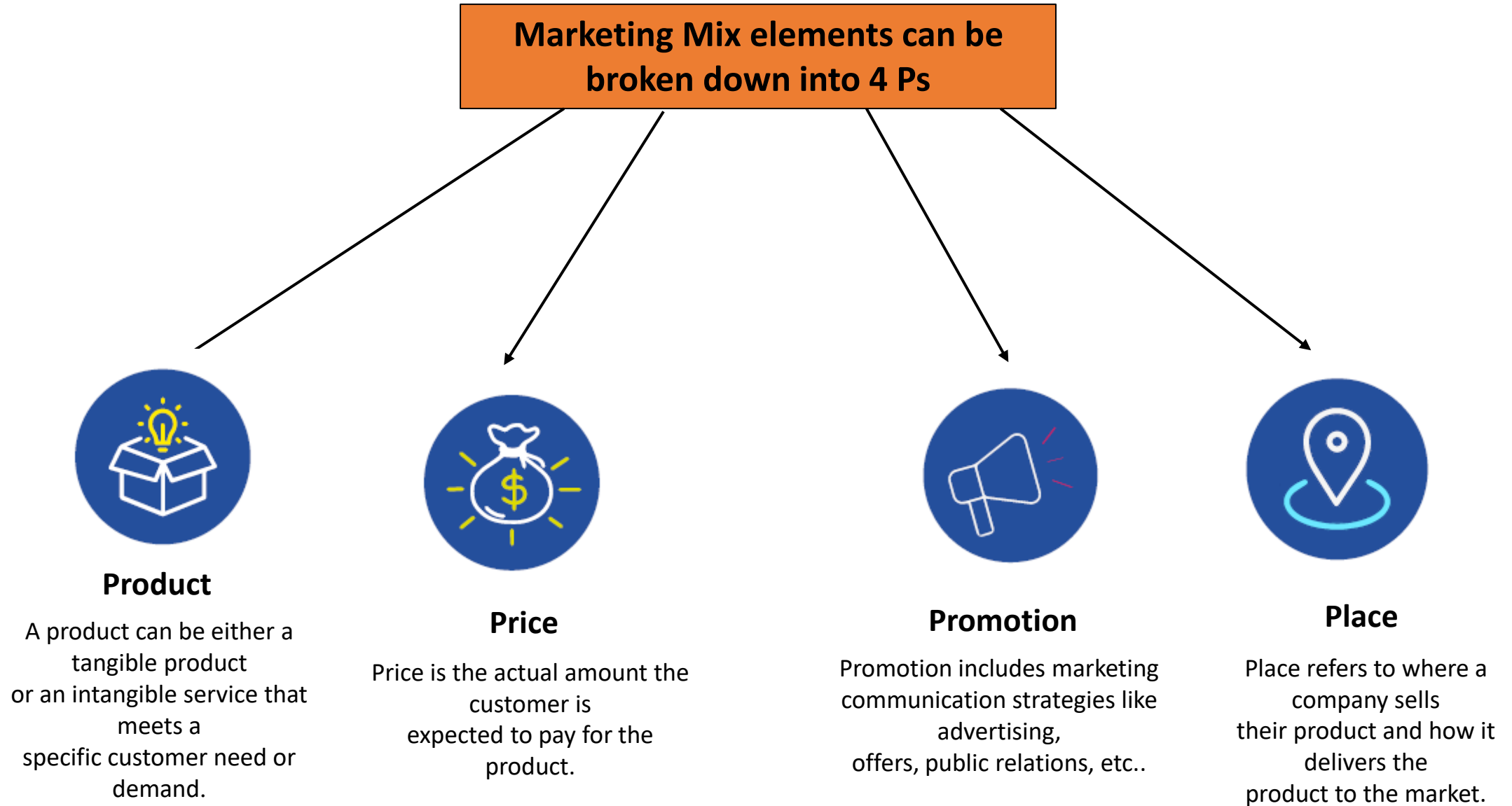
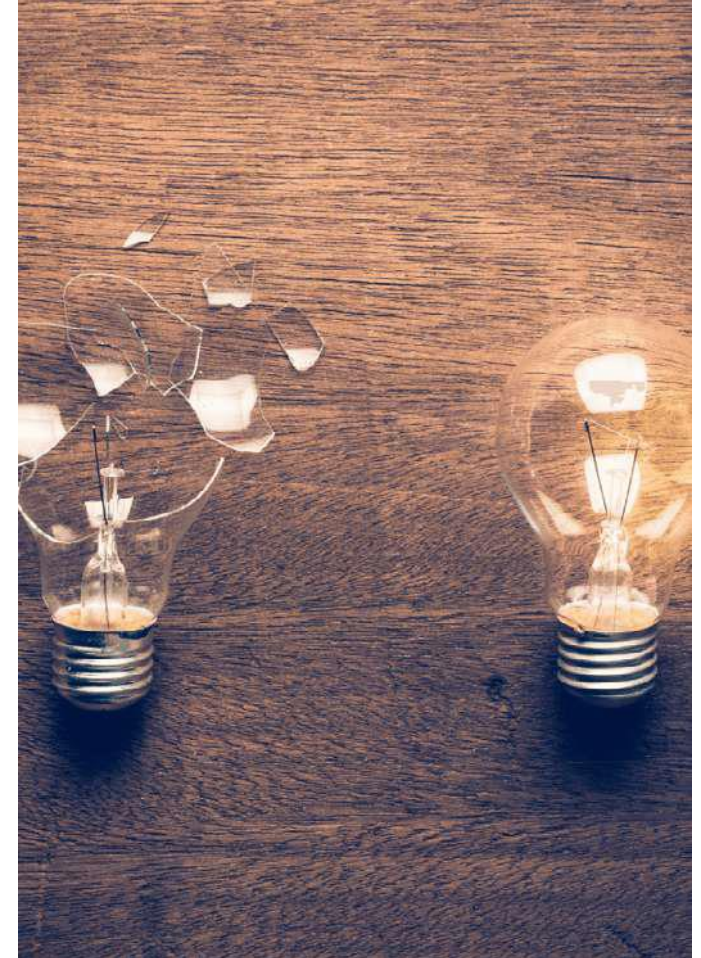
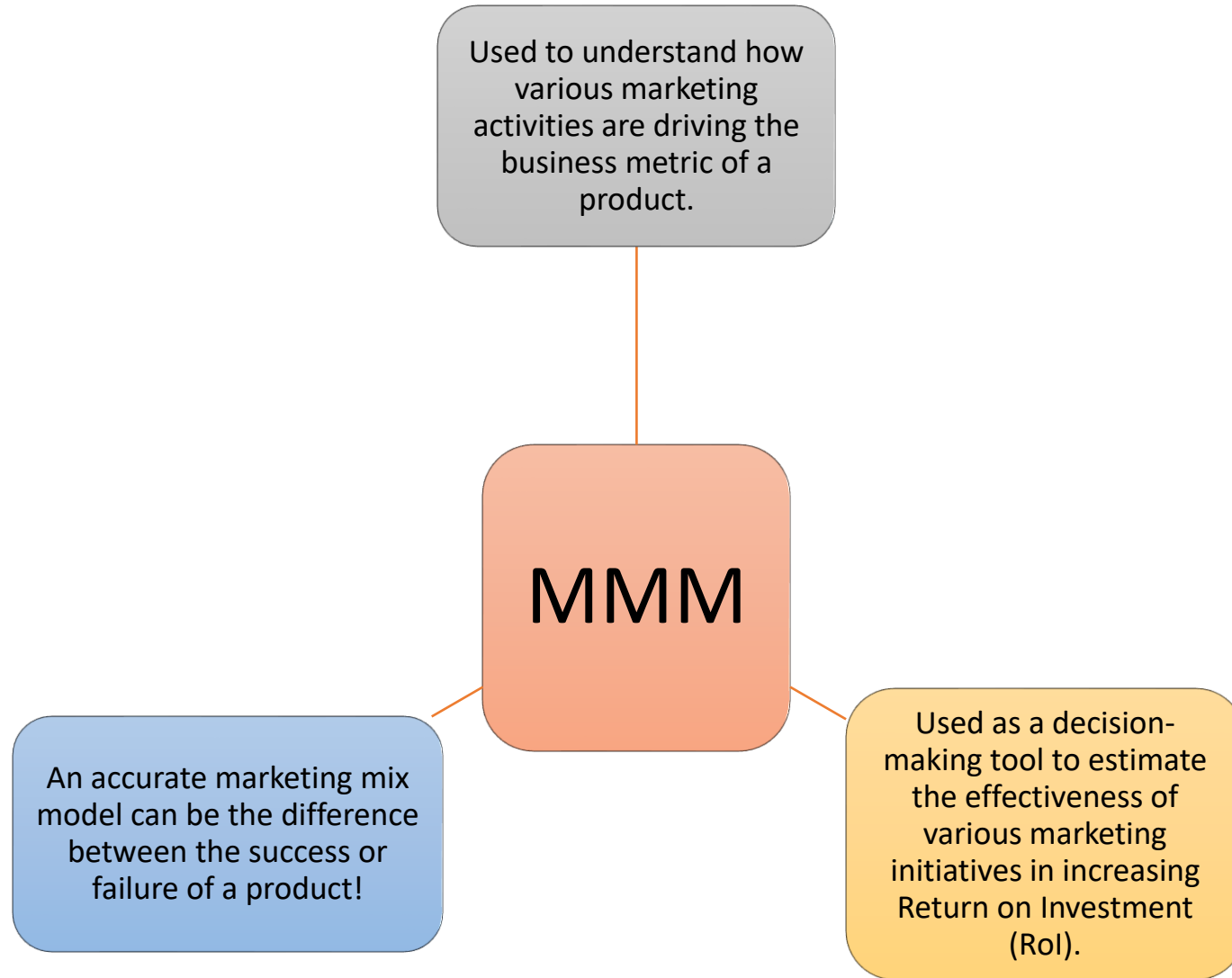

Case Study : Marketing Mix Model

Elements of Marketing Mix Model



Marketing Mix Modeling



Problem Statement:

A product-based company spends on different media channels such as Facebook, Google search Impressions, Email Impressions, YouTube (Paid & Organic), Affiliate channel Views & Overall views. It spends for these channels in different divisions. It monitors the Sales every week against the spending for different media channels.

The company has to perform a study on the following points:

- 1) How the different media channels contribute to sales.
 - 2) Explore which division contributes to more sales in a given time period.
 - 3) Decide Optimum spending for different media channels.
 - 4) Establish a correlation between media spend and sales.
-

Data Visualization and insight generation

- Promotion Strategies Analysis (Sales Vs Spend charts)
- Time, Price and Place analysis

Data Preparation

- Data transformation to convert into Gaussian distribution
- Outliers treatment
- Perform feature scaling

Feature Importance

- To check which feature contributes more for the change in sales

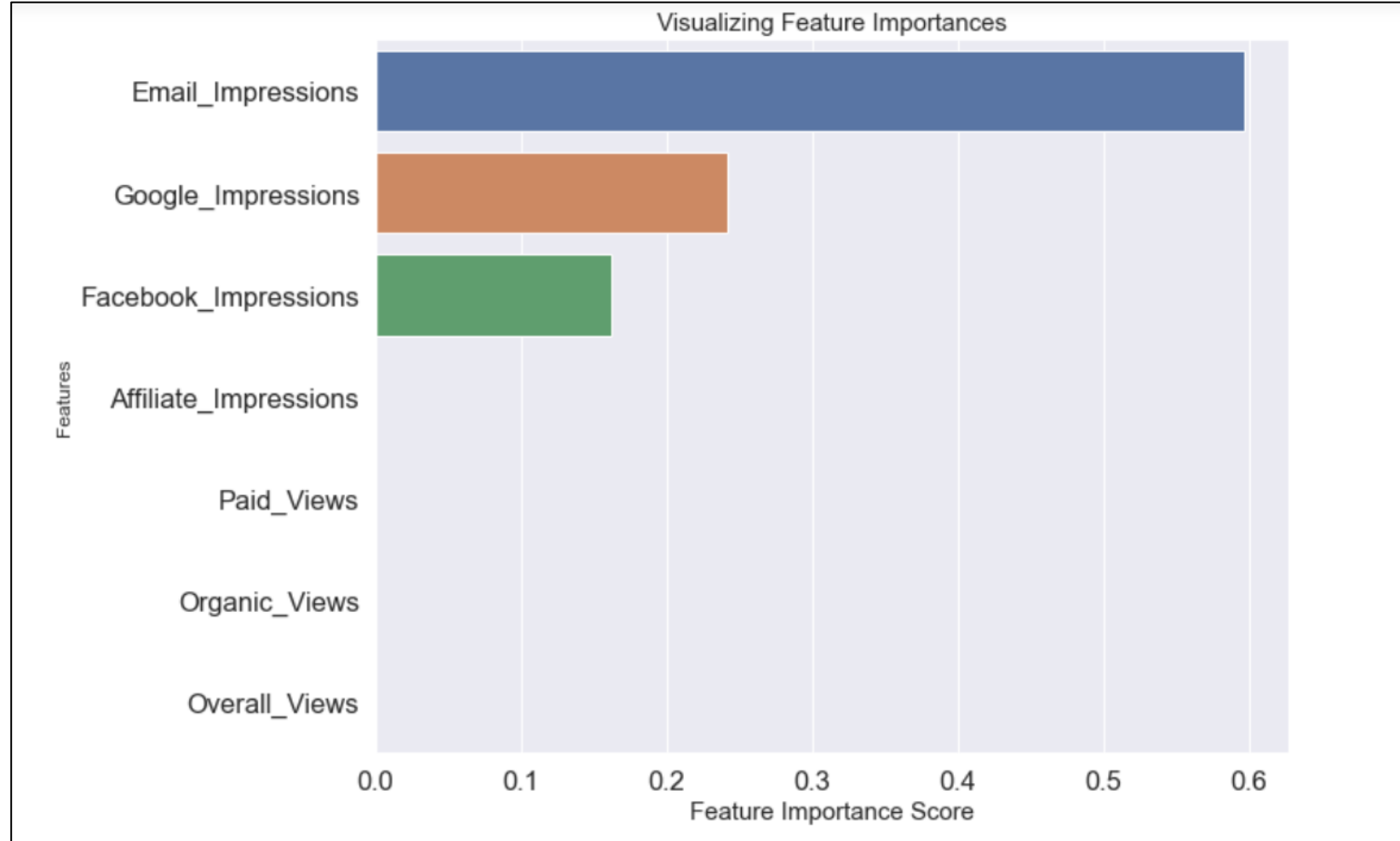
Model Training

- Train the model and obtain the intercepts and coefficients.

Results Interpretation

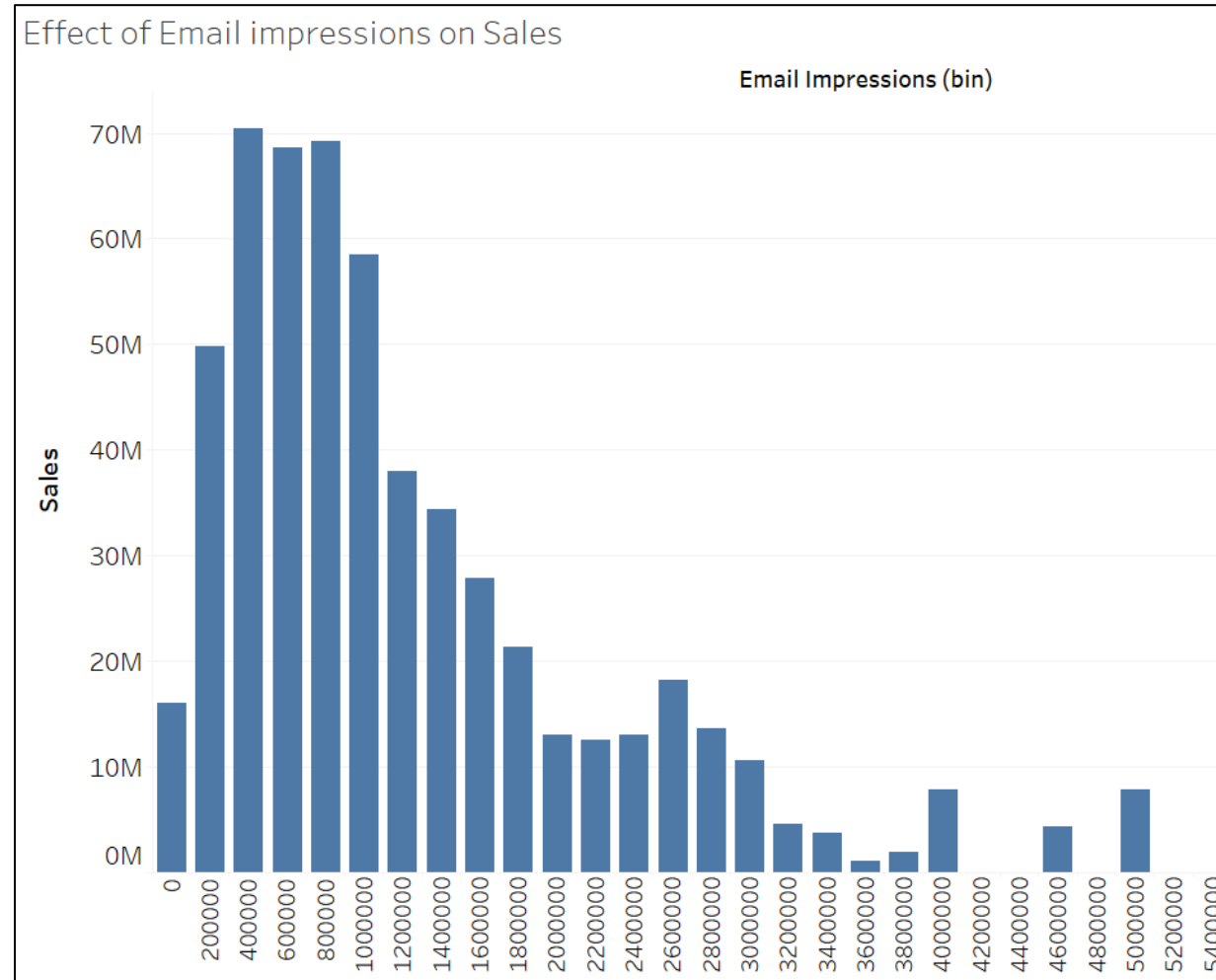
- Draw conclusions from the results obtained in model building.
- Show Response curves and Correlation equation.

Contribution of Media Channels to Sales



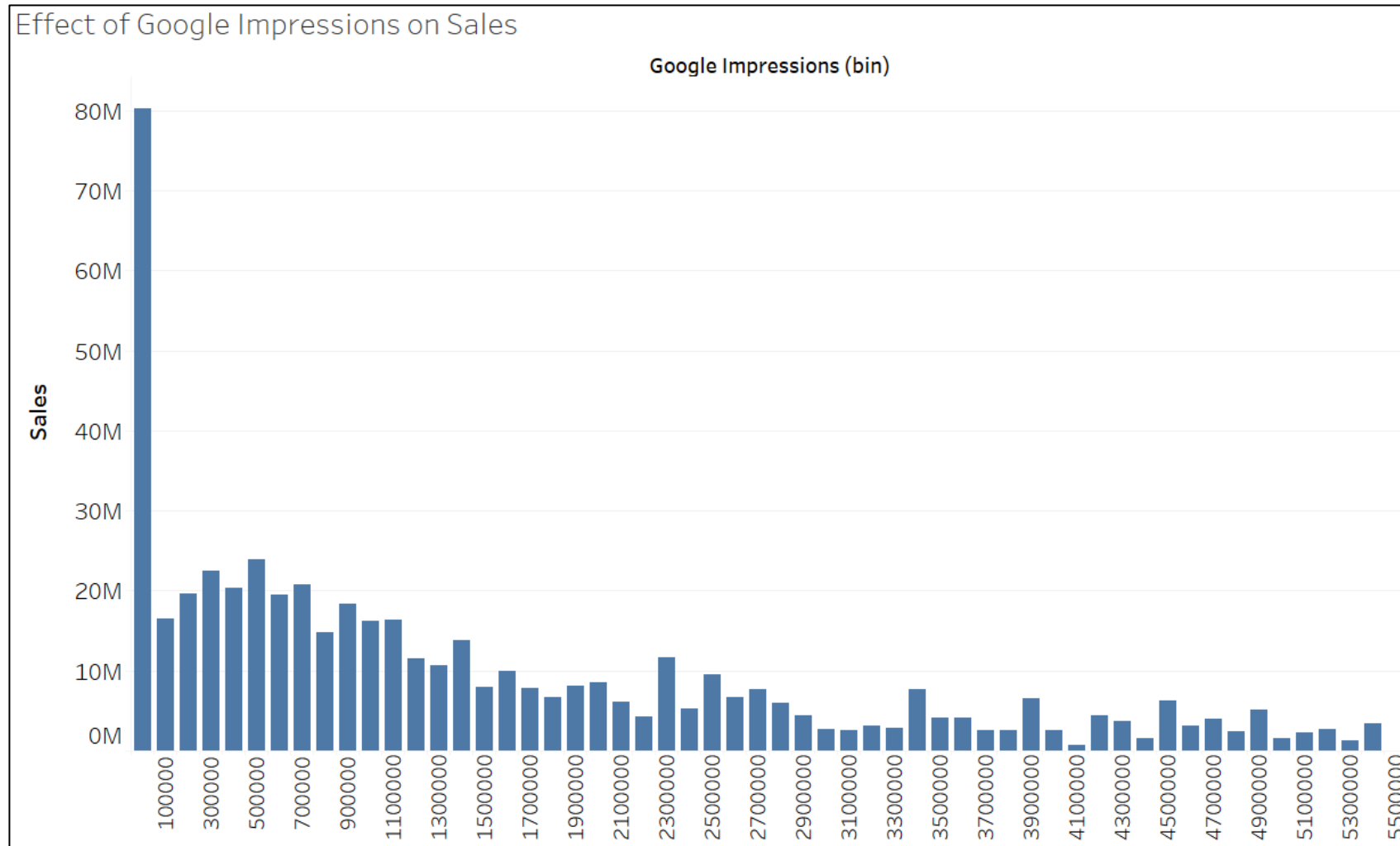
- Email impressions, Google impressions, and Facebook impressions contribute more to change in sales.
- Therefore, we will see the individual effect of spend of these 3 media channels on sales

Contribution of Media Channels to Sales : Email Impressions



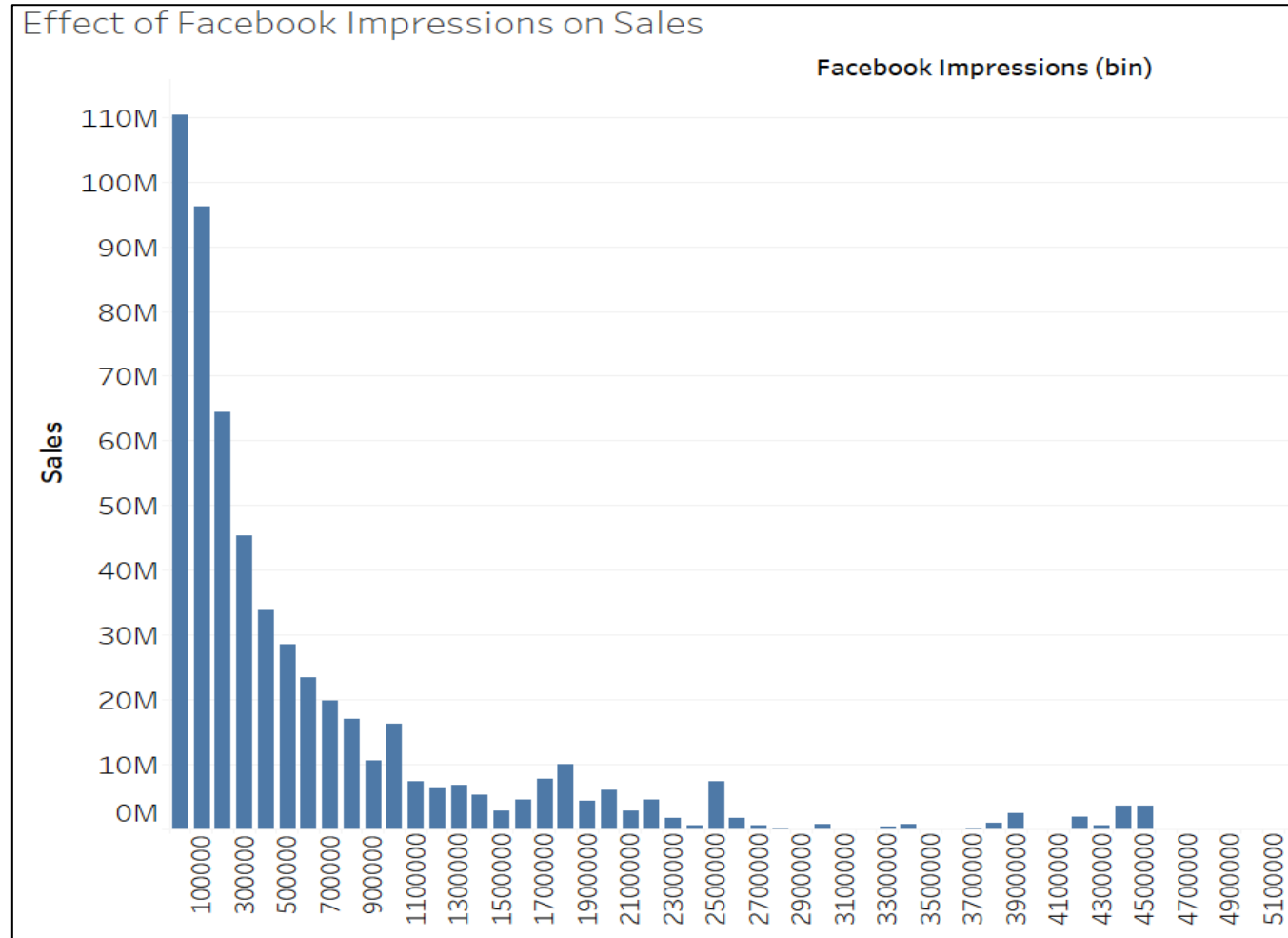
- Sum of sales is maximum when the spend on Email impressions ranges between 2 Lakhs to 10 lakhs.
- So the company should spend on email impressions in this range to get the desired sales.

Contribution of Media Channels to Sales : Google Impressions



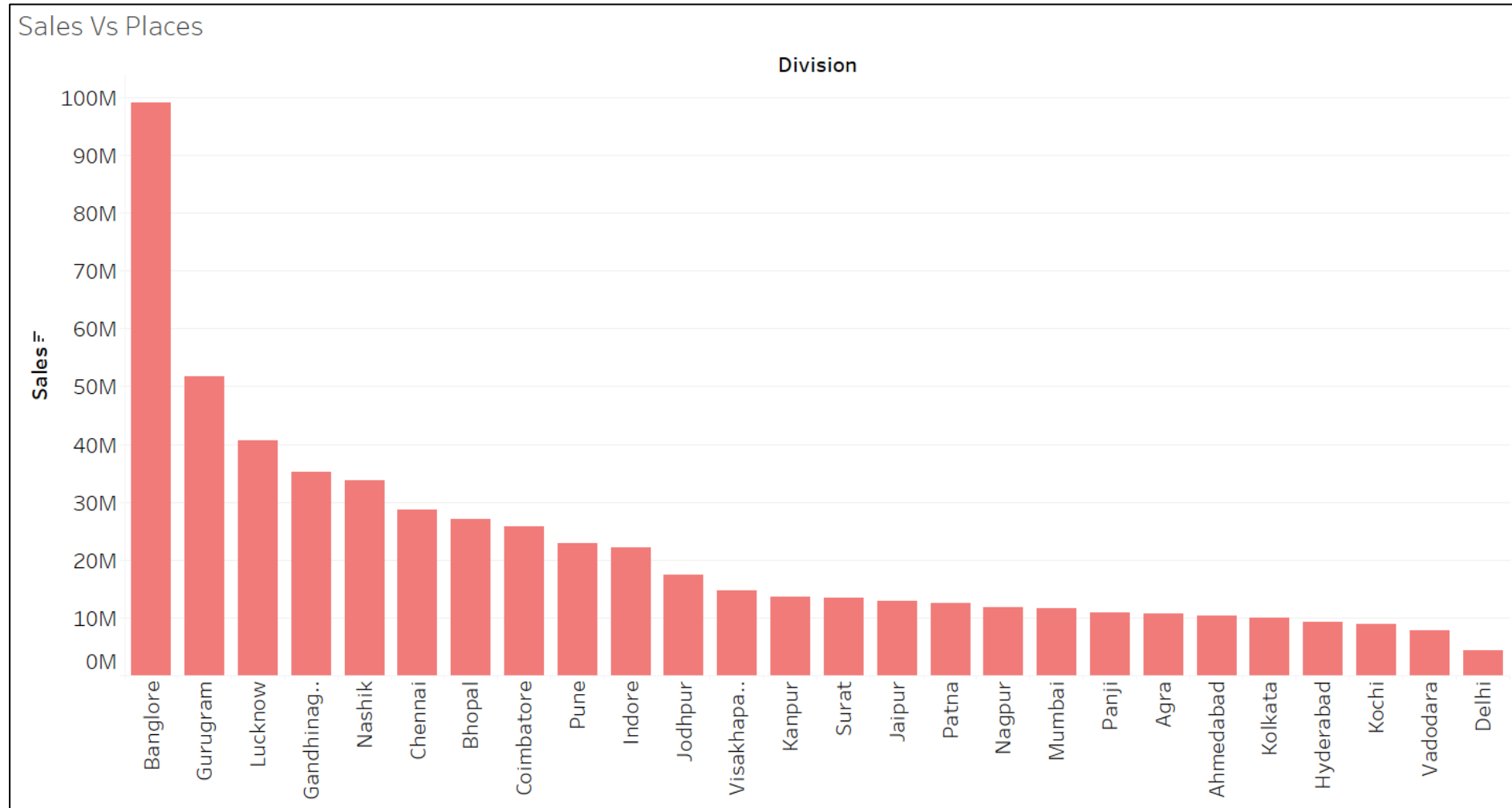
- Sum of sales is maximum when the spend on Google impressions ranges between 0 Lakhs to 1 lakh.
- So the company should spend on Google impressions in this range to get the desired sales.

Contribution of Media Channels to Sales : Facebook Impressions



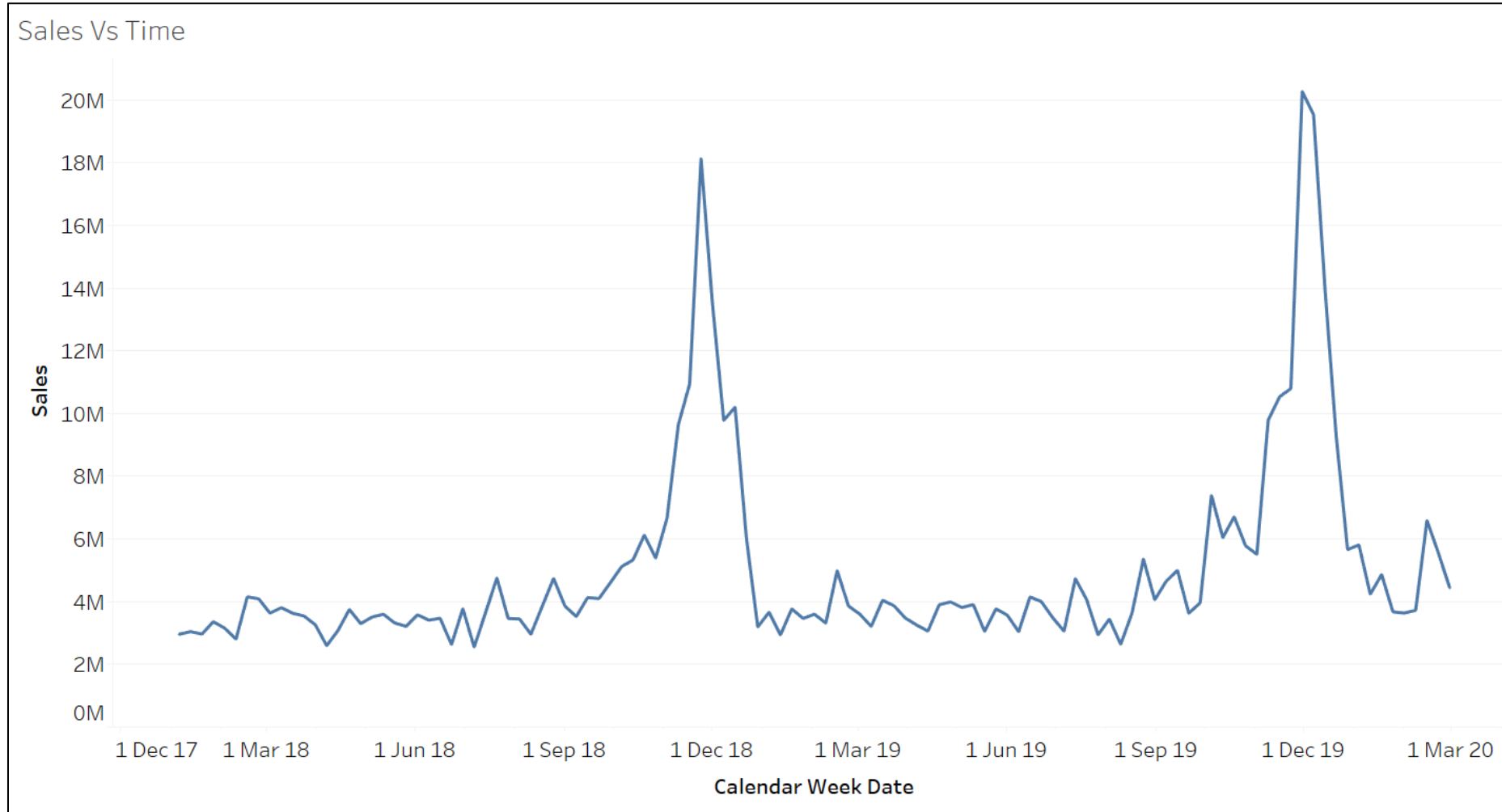
- Sum of sales is maximum when the spend on Facebook impressions ranges between 0 Lakhs to 2 lakhs.
- So the company should spend on Facebook impressions in this range to get the desired sales.

Location wise distribution of Sales



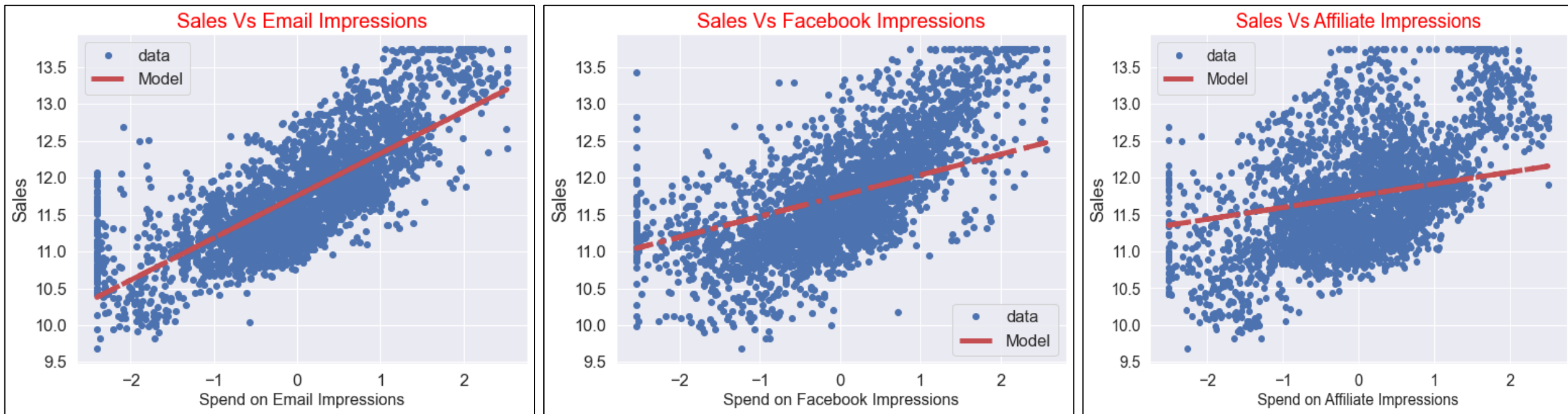
- Bangalore, Gurugram, and Lucknow are the top 3 cities with the maximum total sales.
- So we need to optimize marketing strategies to improve sales in other cities.

Time wise distribution of Sales



- Sales increase in the month of Oct, Nov, and Dec. This may be due to the festive seasons of Diwali and Christmas.
- Company has to effectively use this time of year for active marketing and make maximum profit.

Response Curves



- Effect of spending on email impressions, Facebook impressions, and affiliate impressions on Sales can be seen from the response curves.
- These curves give an idea about how the spending on individual media channel affect sales.

Combined Equation for Sales Prediction

Sales

$$= (0.5723 * X1) + (0.2811 * X2) + (0.1597 * X3) - (0.0737 * X4) + (0.0675 * X5) \\ + (0.0374 * X6) + 11.7566$$

Where,

X1= Spend on Email impressions

X2 = Spend on Facebook impressions

X3 = Spend on Affiliate impressions

X4 = Spend on Paid Views

X5 = Spend on Organic Views

X6 = Spend on Overall Views

Thank You
