# **Advertising Channel Impact on Product Sales**

## **Introduction**

This project analyzes how different advertising channels influence product sales using a real-world style dataset. It's built as part of my learning journey to transition into a \*\*Marketing Analyst\*\* role — with the long-term goal of working for Google.

## **Dataset**

- \*\*File Name:\*\* Advertising\_Data.csv

- \*\*Source:\*\* [Kaggle](https://www.kaggle.com/) (synthetic dataset)

- \*\*Columns:\*\*

- `TV`, `Billboards`, `Google\_Ads`, `Social\_Media`, `Influencer\_Marketing`, `Affiliate\_Marketing` – advertising spend across channels

- `Product\_Sold` – number of products sold as a result of the campaign

## **Tools & Libraries**

- Python (Jupyter Notebook)

- Pandas

- Matplotlib & Seaborn

- Scikit-learn (for regression)

## **Methods**

1. \*\*Data Cleaning\*\*: Checked for nulls and duplicates

2. \*\*Exploratory Data Analysis (EDA)\*\*:

- Visualized distributions of spend and sales

- Created a correlation matrix to identify strong relationships

3. \*\*Modeling\*\*:

- Built a Multiple Linear Regression model to estimate the impact of each channel on sales

- Interpreted coefficients and feature importance

4. **Insights & Recommendations:**

- Identified high-ROI channels for better budget allocation

## **Key Findings**

| Channel | Coefficient (Effect on Sales per $1) |

| Affiliate Marketing | 4.00 🥇 (Most effective) |

| Billboards | 3.00 |

| Social media | 2.50 |

| TV | 2.00 |

| Google Ads | 1.50 |

| Influencer Marketing | 1.20 |

- Affiliate Marketing offers the highest sales return per dollar spent.

- Influencer Marketing had the least impact in this dataset.

## Conclusion

This project helped me apply core marketing analytics techniques:

- Regression modeling

- Data visualization

- Budget optimization using data

As I continue growing in the data analytics field, this is one of my first steps in building a professional portfolio.

## About Me

I'm Skyla Maharjan, an MBA graduate from University Canada West with a background in sales and leadership. My goal is to become a Marketing Analyst and work with data-driven decision making. Let’s connect!

## Contact

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