

**Project Scope of Work**

**Project Title:** Ad Creative A/B Testing — Facebook vs. AdWords

**Data Analyst:** Shijin Ramesh

**Dataset Source:** <https://www.kaggle.com/datasets/shubhamdamai/ab-testing-analysis-facebook-vs-adword>

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**Purpose:**

To evaluate the performance of two online advertising platforms (Facebook and Google AdWords) using A/B testing data and determine which ad creative or platform yields higher engagement and conversions. This analysis will support marketing stakeholders in optimizing ad spend and campaign strategies.

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**Scope / Major Project Activities:**

Activity	Description
Data Collection	Load the A/B testing dataset and inspect structure
Data Cleaning	Handle missing values, standardize metrics (CTR, CVR, Conversions)
Exploratory Analysis	Summarize ad performance by platform using visuals and summary statistics
Statistical Testing	Perform hypothesis testing (e.g., t-test for proportions) to validate findings
ROI Estimation	Compare estimated returns per platform based on cost-per-click and conversions
Dashboarding	Build Power BI visuals to present campaign outcomes and decision suggestions
Reporting	Prepare a concise project report and GitHub documentation

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**Tools & Technologies Used:**

- **Python:** pandas, matplotlib/seaborn for data analysis and visualization
- **Power BI:** Interactive visualization for key metrics (CTR, CVR, CPC, ROI)

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**Key Metrics to Track:**

- Click-Through Rate (CTR)
- Conversion Rate (CVR)

- Cost Per Click (CPC)
- Conversions

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### **Deliverables:**

Deliverable	Description
Python Notebook	EDA, metric comparisons, visual insights
Power BI Dashboard	Visual comparison of Facebook vs AdWords ad performance
Project Report (.pdf)	Key findings, business impact, and recommendations
README.md File	GitHub-friendly summary with tools used and insight highlights

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### **Estimated Completion Timeline:**

**4–5 working days depending on complexity and dashboard refinement.**