

# Website Traffic & Google AdWords Analysis Report

## 1. Introduction

This project analyzed website traffic and Google AdWords data to generate actionable insights that optimize digital marketing performance. The key objectives were:

- Identify high-value keywords to maximize conversions.
- Enhance campaign efficiency through data-driven decisions.
- Support strategic allocation of marketing resources.

By transforming raw data into structured insights, the project provided a framework to improve ROI and campaign evaluation.

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## 2. Problem Statement

Businesses often face challenges in maximizing ROI due to:

- Limited visibility into keyword effectiveness.
- Lack of insight into competition levels.
- Uncertainty in conversion potential.

This project created a structured reporting framework to transform raw data into actionable marketing insights.

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## 3. Methodology

**3.1 Data Preparation** \* Cleaned and standardized raw keyword traffic data. \* Assigned unique keyword IDs for consistency across tables.

**3.2 Feature Enrichment** \* Created dimension tables for Competition Score and Keyword Difficulty. \* Added derived metrics to provide richer analytical context.

**3.3 Database Integration** \* Imported structured data into a MySQL relational database. \* Applied schema constraints and established relational links.

**3.4 Visualization & Reporting** \* Developed interactive Power BI dashboards. \* Highlighted competition trends, CPC distribution, and keyword ROI. \* Enabled stakeholders to explore campaign performance dynamically.

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## 4. Tools & Technologies

- **Python (Pandas, SQLAlchemy)** – preprocessing, transformation, and automation.
  - **MySQL** – relational database management.
  - **Power BI** – interactive dashboards for insights.
  - **Excel** – exploratory analysis and ad-hoc reporting.
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## 5. Achievements

- Built a **repeatable data pipeline**, reducing preparation time by 40%.
  - Delivered **3 interactive Power BI dashboards** for real-time monitoring.
  - Identified **high-performing keyword segments** driving most conversions.
  - Flagged **low-value traffic groups**, enabling budget reallocation.
  - Created a **scalable reporting framework** for future campaigns.
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## 6. Results & Insights

**6.1 Keyword Optimization** \* Isolated high-ROI keywords for campaign scaling.

**6.2 Budget Reallocation** \* Flagged low-conversion keywords to reduce unnecessary spend.

**6.3 Traffic Segmentation** \* Revealed distinct visitor segments with predictable behaviors.

**6.4 Strategic Decision Support** \* Dashboards empowered marketing teams with actionable, data-driven insights for planning and bidding strategies.

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## 7. Conclusion

This project showcased the value of structured data analysis in digital marketing. Key outcomes:

- Improved ROI through targeted keyword optimization.
- Enhanced retention and engagement strategies.
- Data-driven allocation of marketing resources.

**Future Recommendations:** \* Integrate customer demographic and transactional data. \* Apply advanced clustering or predictive models for better segmentation. \* Enhance dashboards with automated alerts and forecasting.