

The background is a dark blue gradient with a subtle pattern of small white dots. On the left side, there are several overlapping circular elements. A large, semi-circular scale with tick marks and numbers (40, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260) is visible. Other circles contain curved arrows or partial rings, suggesting a sense of motion or data flow.

GOOGLE ADS CAMPAIGN ANALYSIS

BY AAYUSH TIWARI

BSC DATA SCIENCE & DIGITAL BUSINESS

JULY 2025

PROJECT OBJECTIVE

- 🎯 Objective:
- Analyze 30 Google Ad Campaigns to identify:
- High-performing regions and devices
- Ad spend efficiency
- Business recommendations for improvement
- 🛠️ Tools Used:
- Excel for raw data cleaning
- Python (Pandas, Matplotlib, Seaborn)
- Streamlit for interactive dashboard

DATA SOURCES

- 📁 Excel Sheets:
 - Campaign Data (30 rows)
 - Device Master Table
 - Region Master Table
 - Campaign Targets
 - Notes & Metadata
- 🧱 Data Volume:
 - 5 sheets
 - 30 campaigns
 - 10+ metrics per campaign

KEY METRICS

- 📌 CTR (Click-Through Rate) = Clicks / Impressions
- 📌 CPC (Cost Per Click) = Cost / Clicks
- 📌 Conversion Rate = Conversions / Clicks
- 🎯 Target Metrics (from Campaign Targets sheet):
 - $\text{CTR} \geq 0.15$
 - $\text{CPC} \leq \$3.00$
 - $\text{Conversion Rate} \geq 0.12$

TOP CAMPAIGNS

- 🏆 Top 5 Campaigns by Conversion Rate:
- SmartSearch India – 18.2%
- Android Launch DE – 17.5%
- YouTube Shorts Push – 16.9%
- Gmail Promotions EU – 16.2%
- Pixel 8 Pro Launch – 15.8%
- 🧠 Insight: Indian & DE mobile campaigns performed best.

DEVICE & REGION INSIGHTS

- 🌐 Region Breakdown:
- India: Highest CTR (0.21), Lowest CPC (\$2.10)
- USA: High Spend, Low Conversion Rate
- Germany: Balanced CTR and Conversion
- 📱 Device Breakdown:
- Mobile: Best engagement and conversions
- Desktop: Higher CPC, moderate results





ML MODEL

- 🚂 Linear Regression Model:
- Input: Clicks, Impressions, Cost
- Output: Predicted Conversions
- 📈 R^2 Score: 0.78
- 💡 Feature Importance:
- Clicks
- Cost
- Impressions




AI-GENERATED INSIGHTS (GPT-STYLE)

- 🧠 Insights (Generated using ChatGPT logic):
- High CTR + Low Conversion = Weak landing page
- Low CTR = Improve ad headlines and creative
- High CPC in USA = Optimize bidding strategy

RECOMMENDATIONS

-  Reallocate Budget: Focus more on Indian and German campaigns
-  Improve Mobile UX: Most traffic and conversions are mobile-driven
-  Optimize Creatives: Test better CTAs, localized content
-  Reduce CPC: Monitor bidding, especially in USA

CONCLUSION

-  Completed full-stack ad analysis using: Excel → Python → Streamlit → PowerPoint
-  Business Value: Ready-to-use dashboard for decision-makers, Actionable campaign recommendations
-  Next Steps: Deploy online via Power BI / Streamlit Cloud, Publish case study and results on LinkedIn