Funnel Analysis of Google Merchandise store
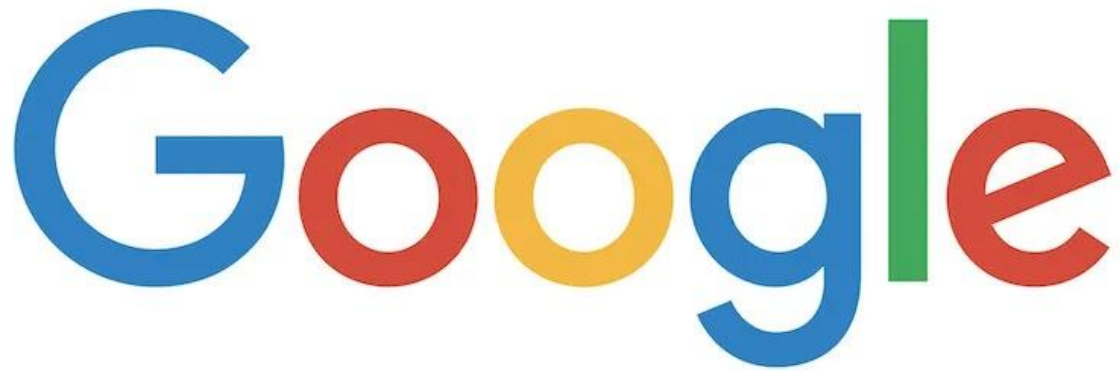

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Objective

To analyse user behaviour across different stages of the e-commerce funnel on the Google Merchandise Store using public GA4 data, and identify where drop-offs occur and which product categories convert the best.

Tools Used

- **Power BI**: For data visualization and KPI calculation

- **Python Pandas**: Data downloading and preparing the csv file.

- **DAX**: To calculate conversion metrics and drop-off percentages

- **Google Big Query**: Source of GA4 public dataset

Dashboard Overview

The Power BI dashboard visualizes the user funnel across 5 key stages:

1. **Sessions**

2. **Product Views**

3. **Add to Cart**

4. **Checkout Started**

5. **Purchases**

Dashboard link: Funnel_Analysis_Google_Store.png

Python Code: Python_code_file.ipynb

Key Metrics Displayed

- **Total Sessions**: 78K

- **Total Product Views**: 21K

- **Total Add to Cart**: 2,060

- **Total Purchases**: 6,244

- **Drop-off %**: 72.60%

- **Overall Conversion Rate**: 2.00%

Visual Components

1. **Funnel Chart** – Visualizes user drop-offs at each stage

2. **KPI Cards** – Show aggregate numbers for funnel stages

3. **Category-wise Bar Chart** – Conversion rate by product category

4. **Data Table** – Raw metrics by product category (add-to-cart rate, view-to-purchase rate, purchases, etc.)

Key Insights

- Only **2% of total sessions** result in a purchase, indicating a large drop-off.

- The **major drop-off** happens between "Product Views" and "Add to Cart", suggesting a need to improve product presentation or CTAs.

- **Office** and **Accessories** categories show higher conversion rates, which may suggest product preference or better merchandising.

- Categories like **Women's T-Shirts** and **Writing Instruments** have high add-to-cart rates but **zero purchases**, hinting at friction during checkout or delivery options.

Recommendations

- Optimize product pages (especially high-drop ones) to improve Add-to-Cart conversions.

- Improve checkout UX and offer incentives for abandoned carts.

- Prioritize promotion of high-converting categories like **Office** and **Accessories**.

🔗 **Access the Project**

- **GitHub Repo**: [https://github.com/parikshithm/powerbi-funnel-analysis-google-store]