Dynamic Market Health Tableau Dashboard

Internship Project – Internet Brands, September 2024

Project Overview

The **Dynamic Market Health Tableau Dashboard** was developed as part of my internship to assist account managers in optimizing ad strategies across markets for Avvo and Martindale-Hubbell. It integrated calls-per-dollar (CPD) performance data, offering a strategic view of market health through an interactive map and customized filters.

This tool became a daily resource for account managers, enhancing client retention and upsell strategies by providing actionable insights on ad performance, underperforming markets, and areas of potential growth.

Data Collection Process

1. **Source Identification:**
    - Primary data sources included Avvo and Martindale-Hubbell databases for ad performance metrics, such as calls generated, dollar spend, and client retention rates.
    - Supplemental data on market demographics and competition levels was sourced from publicly available market analysis reports.
2. **Data Integration:**
    - SQL queries were used to extract raw data from internal databases, combining metrics like:
        - Calls-per-Dollar (CPD): Derived from total calls and spend by market.
        - Conversion Rates: Calculated from call data to gauge market performance.
    - Excel lookups facilitated merging additional external datasets with internal data for a comprehensive view.

SQL Querying Process

1. **Custom Queries for Data Extraction:**

Example Query: Extracting market-level performance data:

```
SELECT
  market_id,
  market_name,
```

```
    SUM(calls) AS total_calls,
    SUM(spend) AS total_spend,
    ROUND(SUM(calls) / SUM(spend), 2) AS CPD
FROM
    market_performance
WHERE
    market_status = 'Active'
GROUP BY
    market_id, market_name
ORDER BY
    CPD DESC;
```

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    - Querying was iterative, focusing on accuracy and reducing redundancies by joining multiple tables and creating reusable views.
2. **Data Transformation:**
    - Filters applied during query execution allowed extraction of region-specific data.
    - Temporary tables were created to compute derived metrics (e.g., CPD and historical averages) before importing into Tableau.

Excel Lookup and Analysis

1. **Data Harmonization:**
    - Excel served as a bridge between SQL outputs and Tableau inputs, ensuring alignment across metrics and sources.
    - VLOOKUP and INDEX-MATCH functions were used to:
        - Match market IDs with demographic data.
        - Populate missing fields in performance datasets.
2. **Pre-Dashboard Validation:**
    - Pivot tables summarized key metrics by region to validate SQL outputs.
    - Conditional formatting highlighted inconsistencies in CPD or spend metrics before final integration.

Dashboard Implementation

1. **Interactive Features in Tableau:**
    - **Market Map:** A dynamic heatmap visualized CPD performance, segmented by region and market size.
    - **Custom Filters:** Account managers could filter by geography, CPD thresholds, and call volume.

    - **Trend Analysis:** Line charts displayed historical CPD trends, aiding in performance prediction.
2. **Real-Time Updates:**
    - Automated data refreshes were set up to sync SQL outputs with Tableau, ensuring dashboards remained current.

Key Outcomes

- Enhanced strategic market decisions by highlighting underperforming areas and growth opportunities.
- Improved operational efficiency by reducing manual data analysis for account managers.
- Delivered a user-centric tool that supported revenue growth and contributed to organizational goals.

This project exemplifies my ability to integrate SQL querying, Excel-based data manipulation, and Tableau visualization to deliver actionable insights in a business context.