Health Inc. Asset Optimization & Conversion Analysis

Project Overview

This project focuses on analyzing user engagement data to optimize digital asset placements and improve conversion rates for Health Inc. The dataset consists of 100,000 rows across 12 columns, capturing how users interact with different assets presented at the end of an article.

The objective was to determine which assets performed best based on user and page characteristics and to develop an optimization strategy that maximizes revenue per page view. This required designing, cleaning, analyzing, and querying the dataset to extract meaningful insights.

Approach & Methodology:

1. Data Exploration & Preparation

- Dataset Structure: Included user behavior, page characteristics, and asset engagement data.
- Tools Used: SQL for querying and analysis, Excel for additional data validation.
- Cleaning Process:
    - Standardized variable formats.
    - Created a primary key (pageview_id) for uniqueness.
    - Identified critical vs. non-critical variables to focus on key drivers of conversion.

2. SQL Query Development & Analysis

- Wrote SQL queries to aggregate and compare conversion rates across different dimensions:
    - Asset performance by page category & topic.
    - Conversion rates for new vs. return visitors.
    - Revenue analysis based on conversion behavior.
- Segmented the data to identify patterns in user behavior and asset effectiveness.

3. Optimization & Revenue Modeling

- Compared current asset revenue to a theoretical optimized model where assets were reassigned to users and pages based on conversion trends.
- Used SQL calculations to estimate potential revenue increases by prioritizing high-performing asset placements.

Key Findings & Business Impact

- Return visitors were 2.5x more likely to convert than new users.
- Asset C had the highest conversion rate but the lowest revenue per conversion.
- Asset A provided the best balance of conversion rate and revenue.
- Reallocating assets based on data-driven insights could increase total revenue by an average of 23%.

Skills & Tools Used

- SQL: Data querying, aggregation, and revenue modeling.
- Data Analysis: Identifying key trends, patterns, and actionable insights.
- Optimization Strategy**:** Using data to inform business decisions and improve conversion outcomes.

This project demonstrates practical SQL skills, data-driven decision making, and the ability to translate analytics into business impact. I learned a lot during this project, building on skills learned in my class work as well as my previous project analyzing sales data. But more importantly I had a lot of fun. The more I use the tools involved in data analytics the more confident I become that this is the work I want to do in my career.