HCLSoftware | Business Case

Overview

This project demonstrates how SEO data can be transformed into **end-to-end data analytics work**. While the original engagement focused on SEO performance, this repository reframes the work through a **Data Analyst lens**—covering data collection, structuring, analysis, insights generation, and business recommendations.

The goal of this project is to show recruiters how raw, messy marketing data from multiple sources can be converted into **actionable insights using analytics thinking**, not just SEO execution.

Business context

HCLSoftware manages multiple product-focused web pages **(3500+ sub-page)** competing in a crowded enterprise software market. The challenge was to: -

1. Understand how users discover content through search

2. Identify engagement and drop-off patterns

3. Evaluate content performance against competitors

4. Support growth decisions with measurable data

Data sources (raw data collection)

This project uses **real-world analytics data** aggregated from multiple platforms:

- **SERPs**: Keyword rankings, impressions, click behavior
- **Google Analytics**: User sessions, page-level engagement, traffic sources
- **Google Search Console**: Pages require improvement
- **SEMrush**: Competitive benchmarks, keyword difficulty, visibility trends
- **Directories & Referral Sources**: Traffic attribution and quality signals

   All datasets were cleaned, standardized, and structured before analysis.

Data modeling & preparation

- Combined multi-source datasets into analysis-ready tables
- Normalized metrics across platforms (CTR, sessions, impressions)
- Created derived fields for engagement quality and intent
- Segmented users by source, landing page, and behavior

Analysis approach

The analysis followed a structured analytics workflow:

1. **Traffic Diagnostics** – Identify high vs low-performing acquisition channels
2. **Engagement Analysis** – Measure user interaction depth and drop-off behavior
3. **Search Intent Mapping** – Align queries with content intent
4. **Competitive Gap Analysis** – Compare visibility and opportunity areas
5. **Trend Analysis** – Detect growth, decline, and seasonal patterns

SQL and BigQuery were used to aggregate, filter, and analyze large datasets efficiently.

Key insights

- A small subset of landing pages generated a disproportionate share of high-intent traffic
- Informational queries drove volume, while transactional queries drove engagement
- Pages ranking outside the top 5 positions showed sharp CTR decay
- Certain competitors outperformed due to content depth rather than backlink volume
- Referral traffic from niche directories showed higher engagement quality than generic sources

Business recommendations

- Prioritize optimization of high-intent, mid-ranking pages
- Align content structure with observed user search intent
- Reallocate efforts toward channels with higher engagement efficiency
- Use competitor gap data to guide content expansion

Each recommendation is directly tied to measurable metrics and analysis outputs.

Tools & Technologies

- SQL
- Google BigQuery
- Google Analytics
- Google Search Console
- SEMrush
- Excel

Research objective

To evaluate how search-driven user behavior translates into engagement and business value.

Sample research questions

- Which traffic sources deliver the highest engagement efficiency?
- How does ranking position impact user behavior?
- What gaps exist between HCLSoftware and competitors in search visibility?

Sample metrics used

- Engagement rate index
- CTR by ranking bucket
- Session quality score
- Competitor visibility

Example findings (using Visualization, Google analytics and Canva)

- Pages ranking 4–7 positions showed the highest optimization potential
- Long-tail keywords contributed more consistent engagement than head terms
- Competitor advantage was content relevance, not traffic volume

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Why this project matters

This repository showcases: - Analytical thinking over tool usage - Business-oriented insights, not vanity metrics - Real-world, multi-source data handling

It bridges the gap between **SEO data** and **core data analytics skills**, making it relevant for Data Analyst roles.

Disclaimer

All data is anonymized and presented for demonstration purposes only.