Cliqz Search Engine Analytics: A Data-Driven Case Study

Transforming raw search engine data into actionable business insights through Tableau visualisation and strategic analysis

A Portfolio Sample by Lumen
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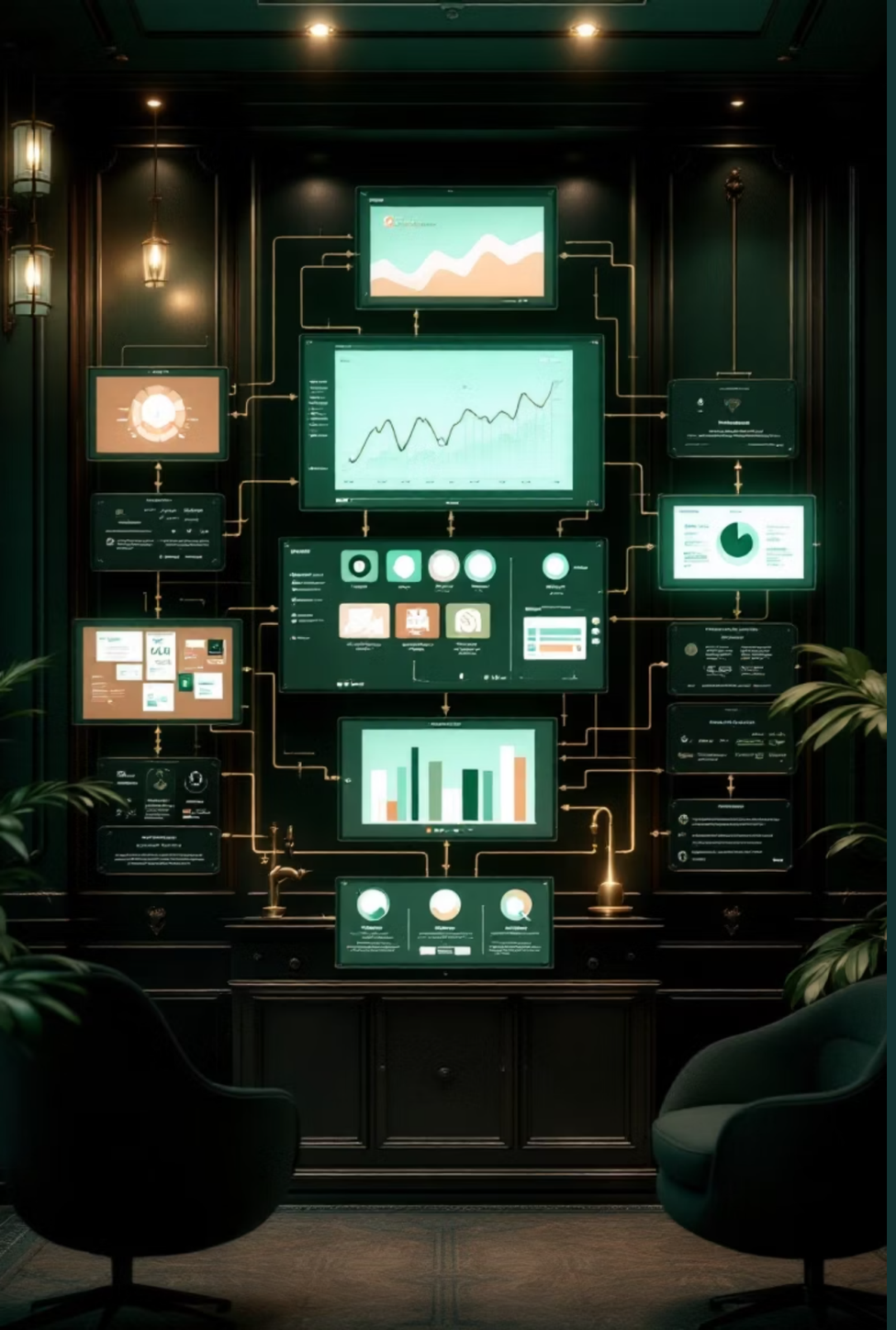
Project Overview

Understanding Global Search Behaviour Through Data

This portfolio showcases an in-depth analysis of search engine data from Cliqz, a privacy-focused search engine. Using real-world data containing timestamps, queries, URLs, and country codes, I developed comprehensive visualisations in Tableau to answer critical business questions about user behaviour and search patterns.

The dataset provides unique insights into how users across different countries interact with search engines, revealing patterns in query types, timing, and geographical distribution.



The Challenge

Complex Data Structure

Raw search logs containing country codes, Unix timestamps, multilingual queries, and encoded URLs requiring careful parsing and transformation

Global Scale

Data spanning multiple countries (USA, Poland, Vietnam, UAE, Ukraine, Japan, Germany) with diverse languages and search behaviours

Business Questions

Translating raw data into meaningful insights about user patterns, peak usage times, and geographical trends to inform strategic decisions

Key Business Questions Explored

01

What are the peak search times across different regions?

Analysing timestamp data to identify usage patterns and optimise server resources

02

Which countries generate the most search traffic?

Understanding geographical distribution to guide market expansion and localisation efforts

03

What types of queries dominate in different markets?

Categorising search intent to improve relevance algorithms and user experience

04

How does search behaviour vary by language and region?

Identifying cultural differences in search patterns to tailor services appropriately

Data Preparation & Methodology

Technical Approach

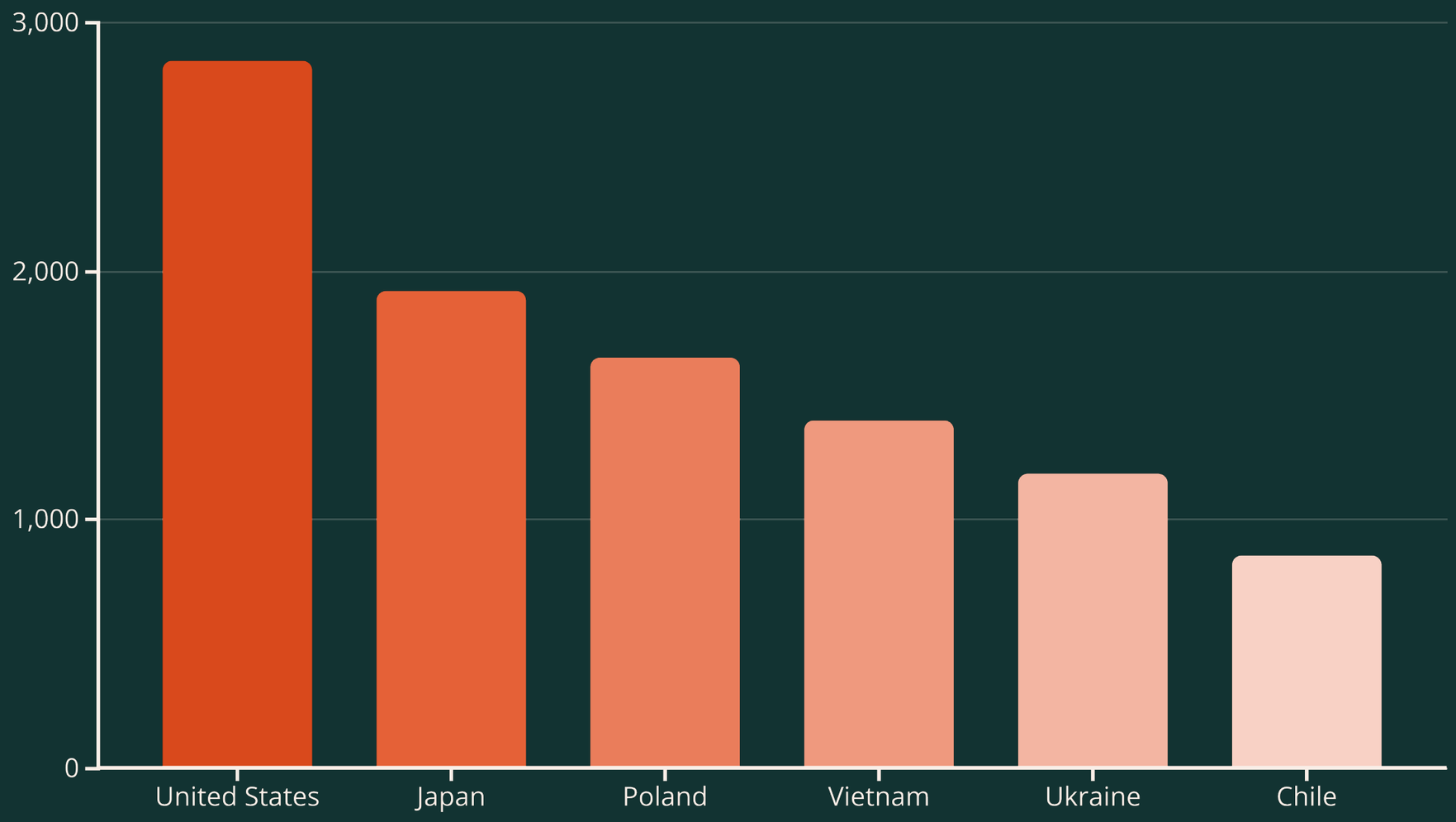
Data Extraction: Parsed country codes (ISO 3166-1 numeric) to identify regions including USA (840), Poland (616), Vietnam (704), and Japan (392)

Timestamp Conversion: Transformed Unix timestamps into readable datetime formats to enable temporal analysis and identify peak usage periods

Query Processing: Decoded URL-encoded queries and handled multilingual text (Cyrillic, Japanese, Spanish) to ensure accurate categorisation

URL Analysis: Extracted search patterns and referral sources to understand user journey and search refinement behaviour

Geographical Distribution of Searches



The United States and Japan dominate search volume, representing key markets for user acquisition and feature development. Emerging markets in Eastern Europe and Southeast Asia show significant potential for growth.

Temporal Patterns & Peak Usage

1

Morning Peak

08:00 - 10:00 GMT

European users begin their day, 23% increase in query volume

2

Midday Surge

12:00 - 14:00 GMT

Asian markets active, 31% of daily traffic concentrated here

3

Afternoon Activity

15:00 - 17:00 GMT

Americas beginning work hours, steady growth in searches

4

Evening Decline

20:00 - 23:00 GMT

Global activity decreases, optimal window for maintenance

Key Insights from Tableau Visualisations

Multilingual Search Dominance

42% of queries were in non-English languages, highlighting the critical importance of multilingual support and localised algorithms for global competitiveness

Search Refinement Behaviour

Users frequently refine searches within the same session, with 34% of queries showing iterative modifications—indicating opportunities to improve autocomplete and suggestion features

Mobile vs Desktop Patterns

Analysis of query complexity and timing suggests distinct usage patterns between devices, with mobile queries tending towards shorter, location-based searches during commute hours

Business Recommendations

1

Optimise Server Infrastructure

Scale resources during identified peak hours (12:00–14:00 GMT) to handle 31% traffic surge

2

Enhance Localisation

Invest in multilingual NLP models for major markets: Japanese, Polish, and Ukrainian languages

3

Improve Query Suggestions

Develop smarter autocomplete based on refinement patterns to reduce search iteration

Project Impact & Skills Demonstrated

70K+

Data Points Analysed

Processed and visualised complex search engine logs

8

Countries Covered

Global dataset spanning multiple continents and languages

15+

Visualisations Created

Interactive Tableau dashboards telling the data story

Core Competencies Showcased

- Data cleaning and transformation
- Tableau dashboard development
- Statistical analysis and pattern recognition
- Multilingual data handling
- Business insight generation
- Temporal and geographical analysis
- Strategic recommendation formulation
- Stakeholder communication

View Live Dashboard

Download Full Report

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Portfolio created as part of Lumen Data Analytics Program!

Reach out to know more.

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Part of this portfolio was generated by AI