Project: Rockbuster Stealth Data Analysis
Category: SQL | Data Analytics | Business Intelligence
Tools Used: PostgreSQL, pgAdmin, Excel, Tableau, PowerPoint

Project Overview

Rockbuster Stealth LLC is a US movie rental company facing intense competition from streaming giants like Netflix and Amazon Prime.
As a Data Analyst, I was tasked with helping Rockbuster transition into the digital streaming space by analysing their existing data to understand customer behaviour, revenue drivers, and market opportunities.

Business Objective

The management team needed actionable insights to answer questions such as:

- Which movies generate the most revenue?
- Who are Rockbuster's top customers, and where are they located?
- Which countries produce the highest rental income?
- How should Rockbuster target its marketing for the online launch?

My goal was to extract, clean, join and analyse the company's data to deliver these insights through SQL analysis and data visualization dashboards.

Data Source

The data came from Rockbuster's relational database, which included:

- **Fact Tables:** payment, rental
- **Dimension Tables:** film, category, customer, store, inventory, address, city, country, staff, and others.
- **The ERD** (Entity Relationship Diagram) showed all table relationships, enabling efficient joins for analysis.

Methodology & Process

1. Data Exploration & Understanding

- Examined table structures and key relationships using pgAdmin.
- Identified foreign keys and primary keys across tables.
- Reviewed metadata (column types, null values, cardinality).
- Sketched a schema map to visualize data flow between key entities (rental → payment → customer → country, etc.).

2. SQL Data Analysis

I wrote a series of structured SQL queries to extract and aggregate insights.

3. Data Cleaning & Validation

- Removed duplicate records and validated foreign key matches.
- Cross-checked aggregated totals against the original dataset for accuracy.
- Ensured consistent formatting for country and customer data before visualization.

4. Data Visualization in Tableau

- Connected SQL output tables to Tableau.
- Created interactive dashboards displaying:
- Revenue by country and continent, Top-performing film categories
- Customer distribution by geography
- Store performance comparisons
- Each visualization included filters and dynamic parameters to allow management to explore data interactively.

5. Final Deliverables

- SQL script collection with well-commented queries.
- Tableau Dashboard presenting executive insights.
- PowerPoint presentation summarizing findings and strategic recommendations.

Outcome

The final analysis gave Rockbuster's management a clear understanding of:

- Which content drives profit
- Where their key customers are located
- How to segment audiences for the upcoming digital platform

This project showcased my ability to:

- Write complex multi-table SQL joins
- Translate business questions into technical solutions
- Present data-driven recommendations through Tableau storytelling

🧩 Skills Demonstrated

- **SQL (PostgreSQL):** Aggregations, Joins, Subqueries, CTEs, Filtering, Grouping
- **Data Modelling:** Understanding relational schema (ERD)
- **Data Cleaning & Validation:** Ensuring referential integrity and consistency
- **Visualization:** Building interactive Tableau dashboards
- **Communication:** Presenting insights through business-oriented visuals and presentations