

Capstone Project Proposal

Capstone Project Proposal: Power BI Dashboarding for Netflix Content Analytics

This project proposes the development of interactive dashboards using Power BI to analyze Netflix's content catalog, user reviews, and viewership trends. The aim is to derive meaningful insights that can support content strategy, audience targeting, and overall engagement improvements.

1. Problem Statement

Background: Netflix offers a vast array of content across genres and languages. However, decision-makers lack a unified, real-time view of content performance, audience preferences, and feedback patterns, limiting their ability to optimize content offerings.

Objective: To design a suite of dashboards that provide visibility into key metrics such as content popularity, viewer engagement, and sentiment analysis from user reviews.

Scope: This phase will focus on integrating data from Netflix's content listings, user viewership patterns, and review sentiments.

2. Data Sources

- netflix_titles.csv: Metadata about Netflix shows and movies (title, genre, release year, country, etc.)
- netflix_viewership.csv: Data on content views by users, including watch duration and timestamps.
- netflix_reviews.csv: User-generated reviews and ratings for Netflix content.
- Optional: External demographic or benchmark data (future scope)

3. Methodology

- **Data Integration:** Clean and join datasets using unique identifiers (e.g., title IDs).
- **Data Transformation:** Normalize text fields, perform sentiment analysis, and compute metrics like average watch time, ratings trends, and genre-based engagement.
- **Dashboard Design:** Create Power BI dashboards with filters for genre, country, release year, and sentiment.
- **Interactivity:** Use slicers and drilldowns to explore trends over time, by region and content type.

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4. Expected Outcomes

- Dashboards showing top-performing content across genres, countries, and timeframes.
- Viewer behavior analysis including watch time trends and drop-off points.
- Visual summaries of user sentiments and ratings distribution.
- Actionable insights to guide content acquisition and marketing strategies.

5. Tools and Technologies

- Power BI for dashboard creation
- SQL/Python for data processing and sentiment analysis
- Natural Language Processing (NLP) libraries (e.g., TextBlob or Vader)
- Excel for validation and previews

6. Risks and Challenges

- Complexity in sentiment analysis due to slang, mixed language, or sarcasm in reviews
- Data inconsistencies across datasets (e.g., title mismatches)
- Designing visuals that are intuitive for both technical and non-technical users

7. Conclusion

This project aims to leverage Netflix's data to build insightful, visually engaging dashboards that enhance strategic planning and viewer satisfaction. By synthesizing multiple datasets, the dashboards will empower stakeholders with meaningful, data-driven decision-making tools.