

Netflix Business Analysis Report

Project Title

Netflix Business Analysis: Revenue, Churn & Engagement Insights

Problem Statement

Netflix aims to **improve customer retention, optimize revenue, and enhance content engagement** across different regions, subscription plans, and user segments.

The business faces challenges such as:

- Rising **customer churn**
- Uneven **revenue contribution across plans and countries**
- Varying **content engagement and satisfaction levels**
- Need for **data-driven decisions** to improve user retention and profitability

This project analyzes Netflix user, revenue, and engagement data to **identify key churn drivers, revenue trends, and actionable business insights** using Excel, SQL, Python, and Power BI.

Business Questions

Netflix stakeholders asked the following key questions:

1. Which **subscription plans** contribute the most revenue and churn?
 2. How does **monthly revenue trend** change over time?
 3. Which **countries drive maximum revenue**?
 4. What is the **churn rate across different subscription types**?
 5. How do **user engagement metrics** (watch hours, completion %, satisfaction) vary?
 6. Which **content genres** show the highest engagement quality?
 7. How can Netflix **reduce churn and improve retention**?
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Tools & Technologies Used

- **Microsoft Excel** – Data cleaning & preparation
 - **MySQL** – Business queries, CTEs, Window functions
 - **Python (EDA)** – Exploratory data analysis & validation
 - **Power BI** – Interactive dashboards & KPIs
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Data Preparation (Excel)

✓ Actions Performed

- Removed duplicates and invalid records
- Standardized categorical values (Plans, Country, Gender)
- Converted churn flag (0/1) into meaningful business labels
- Created:
 - **Cleaned Dataset**
 - **Data Dictionary**
 - **Cleaning Log**

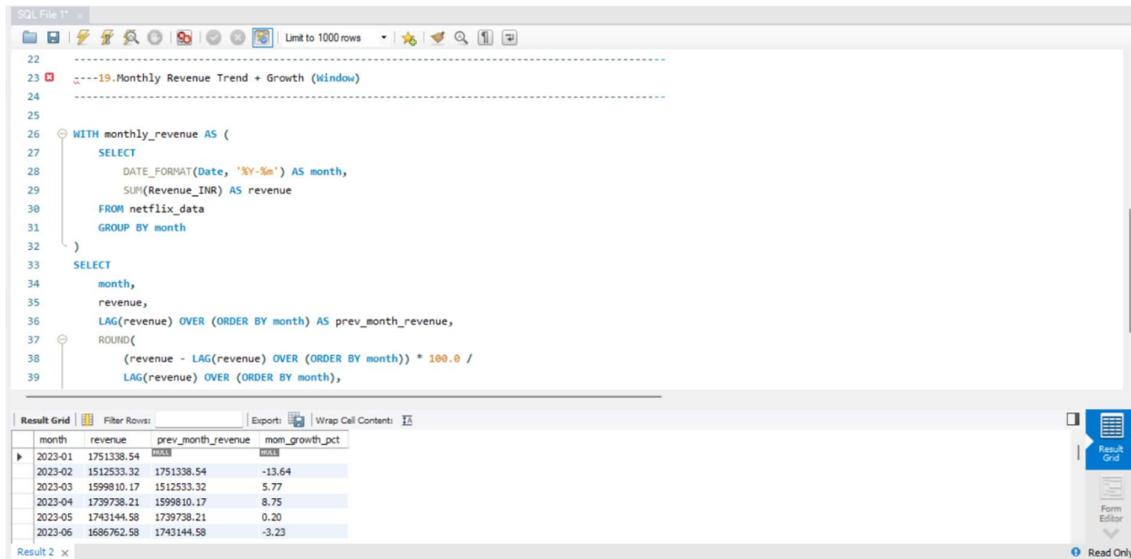
SQL Analysis (MySQL)

Advanced SQL was used to answer business-critical questions using **CTEs and Window Functions**.

◆ 1. Monthly Revenue Trend & Growth (Window Function)

Objective:

Track revenue performance over time and calculate month-over-month growth.



The screenshot shows the MySQL Workbench interface with a SQL editor and a result grid. The SQL code is as follows:

```
SQL File 1
22 -----
23 ---19.Monthly Revenue Trend + Growth (Window)
24 -----
25
26 WITH monthly_revenue AS (
27     SELECT
28         DATE_FORMAT(Date, '%Y-%m') AS month,
29         SUM(Revenue_INR) AS revenue
30     FROM netflix_data
31     GROUP BY month
32 )
33 SELECT
34     month,
35     revenue,
36     LAG(revenue) OVER (ORDER BY month) AS prev_month_revenue,
37     ROUND(
38         (revenue - LAG(revenue) OVER (ORDER BY month)) * 100.0 /
39         LAG(revenue) OVER (ORDER BY month),

```

The result grid displays monthly revenue data with calculated growth percentages:

month	revenue	prev_month_revenue	mon_growth_pct
2023-01	1751338.54		
2023-02	1512533.32	1751338.54	-13.64
2023-03	1599810.17	1512533.32	5.77
2023-04	1739738.21	1599810.17	8.75
2023-05	1743144.58	1739738.21	0.20
2023-06	1686762.58	1743144.58	-3.23

Business Insight:

- Revenue shows **seasonal fluctuations**
 - Certain months experience **negative MoM growth**, indicating churn or lower engagement
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◆ 2. Churn Rate by Subscription Type (CTE)

Objective:

Identify which subscription plans have higher churn risk.

The screenshot shows a SQL editor window with the following code:

```
SQL File 1* x
45
46 ---->16.Churn Rate by Subscription Type (CTE)
47
48
49 WITH churn_stats AS (
50     SELECT
51         Subscription_Type,
52         COUNT(*) AS total_users,
53         SUM(Churn_Flag) AS churned_users
54     FROM netflix_data
55     GROUP BY Subscription_Type
56 )
57 SELECT
58     Subscription_Type,
59     total_users,
60     churned_users,
61     ROUND(churned_users * 100.0 / total_users, 2) AS churn_rate_pct
62 FROM churn_stats
```

The result grid displays the following data:

Subscription_Type	total_users	churned_users	churn_rate_pct
Unknown	8000	1239	15.49
Basic	36776	5542	15.07
Premium	22995	3435	14.94
Standard	32229	4804	14.91

Business Insight:

- **Basic and Unknown plans** show relatively higher churn
- Premium users are comparatively more stable

◆ 3. Revenue Contribution by Country (Window Function)

Objective:

Understand which countries drive the most revenue.

The screenshot shows a SQL editor window with the following code:

```
SQL File 1* x
65
66 ---->17.Revenue Contribution by Country (Window Function)
67
68 WITH country_revenue AS (
69     SELECT
70         Country,
71         SUM(Revenue_INR) AS country_revenue
72     FROM netflix_data
73     GROUP BY Country
74 )
75 SELECT
76     Country,
77     country_revenue,
78     ROUND(
79         country_revenue * 100.0 / SUM(country_revenue) OVER (),
80         2
81     ) AS revenue_share_pct
82 FROM country_revenue
83 ORDER BY country_revenue DESC;
```

The result grid displays the following data:

Country	country_revenue	revenue_share_pct
India	26990320.19	45.00
USA	11938790.28	19.91
UK	7231723.58	12.06
Canada	5991313.88	9.99
Australia	4832869.11	8.06
Germany	2993163.44	4.99

Business Insight:

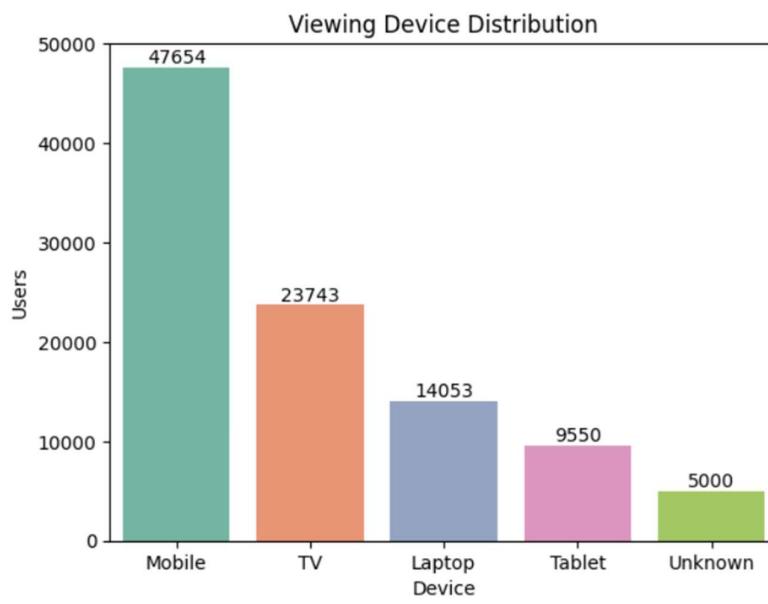
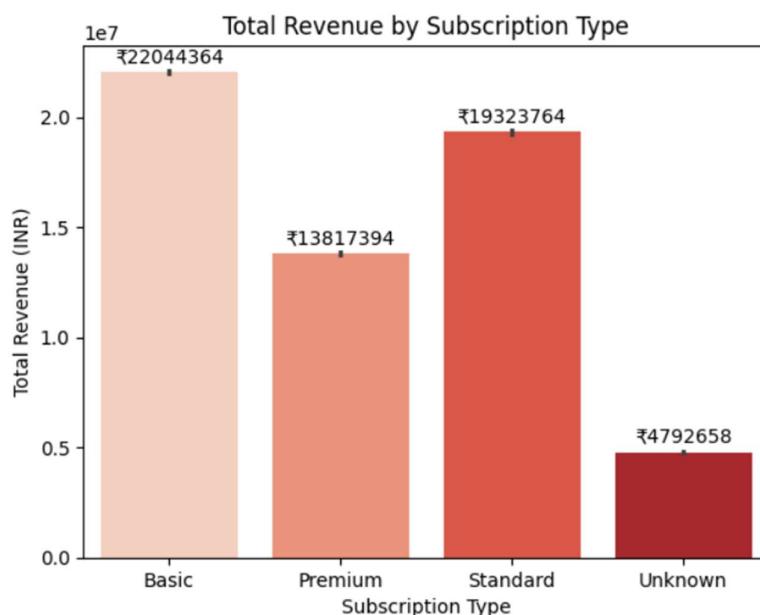
- India and USA contribute the **largest revenue share**
- Opportunity to expand monetization in mid-tier regions

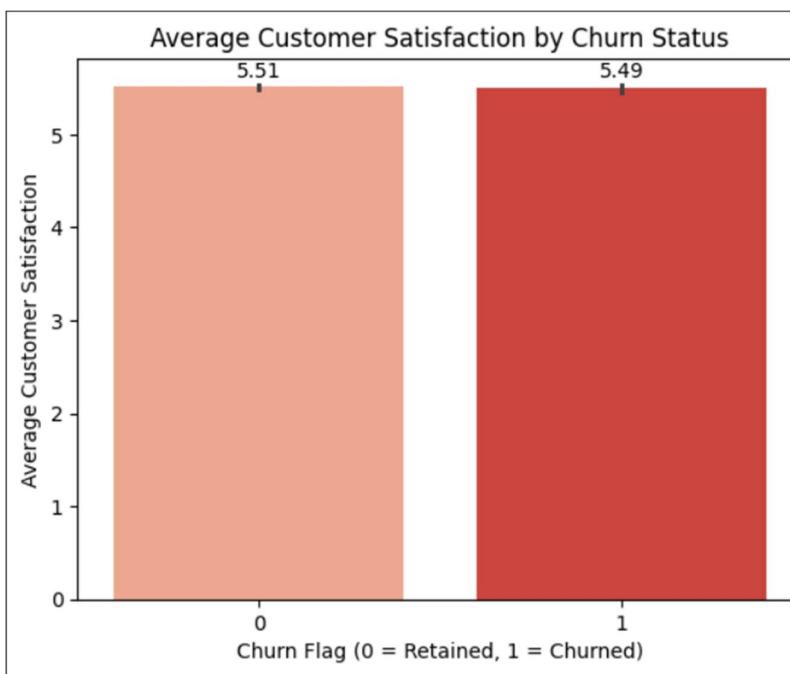
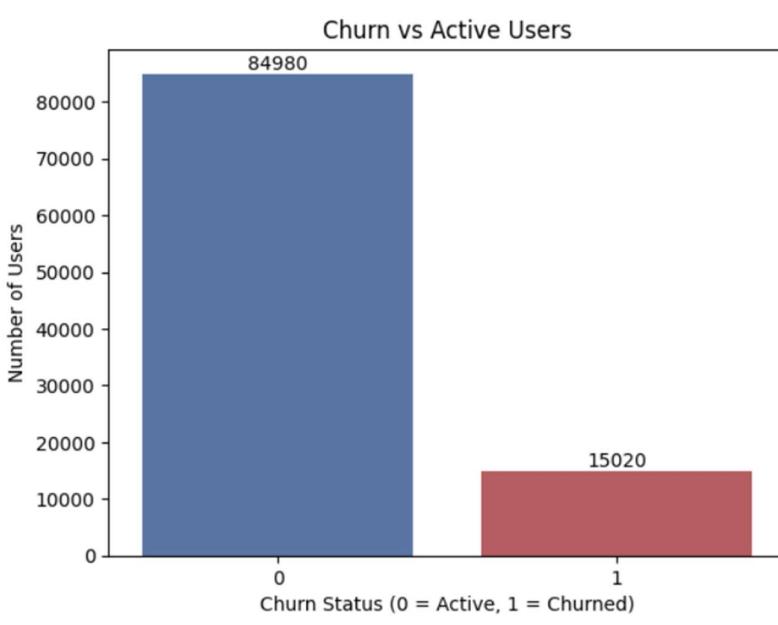
Python Exploratory Data Analysis (EDA)

Python was used to **validate trends discovered in SQL** and explore deeper behavioral patterns.

✓ Analysis Performed

- Distribution of watch hours & satisfaction
- Churn vs engagement comparison
- Subscription-wise behaviour analysis
- Country & genre-level engagement patterns





Key Insight:

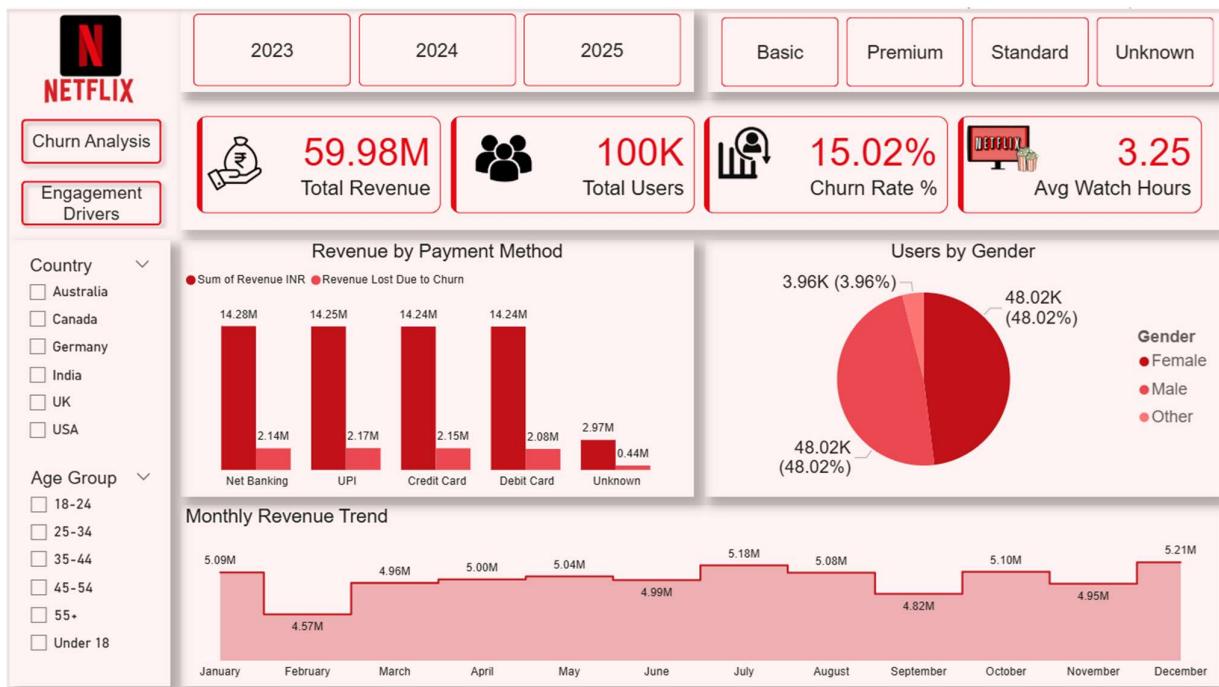
- Users with **lower watch hours and satisfaction scores** are more likely to churn
- Higher engagement directly correlates with retention

Power BI Dashboard

An interactive Power BI dashboard was built to provide **executive-level insights**.

◆ Dashboard Pages

1. Overview
2. Churn Analysis
3. Engagement Drivers



Key KPIs Tracked

- Total Revenue
- Total Users
- Churn Rate (%)
- Revenue Lost Due to Churn
- Avg Watch Hours
- Average Completion %
- Average Satisfaction Score
- Retained Users

Business Insights Summary

-  **15% churn rate** is causing significant revenue loss
 -  Premium & Standard plans generate higher revenue but still face churn
 -  Few countries dominate revenue contribution
 -  Certain genres drive **higher engagement quality**
 -  Lower engagement → higher churn probability
-

Business Recommendations

1.  Introduce **retention offers** for high-churn plans
2.  Invest more in **high-engagement genres**
3.  Localize content for high-revenue regions
4.  Improve user experience to increase satisfaction
5.  Monitor churn monthly using automated dashboards