Strategic Decision Making with PowerBI

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PRE-REPORT ON OTT PLATFORMS

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1. Problem Statement

OTT platforms face increasingly fierce competition in the digital streaming space, which results in challenges with **user retention** and **engagement**. Despite offering a wide variety of content, many platforms struggle to keep their users active or engaged, especially in specific **demographics** or **regions**. Additionally, it becomes difficult to **optimize content** offerings, recommend content that users will love, and decide which marketing campaigns are most effective in terms of **user acquisition and retention**.

The goal of this report is to identify key factors that affect retention and engagement, optimize content recommendations, and create data-driven marketing strategies for improving user experience and satisfaction.

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2. Data Requirement

Why Data is Critical

To understand and solve the platform's challenges, we need to gather detailed and diverse data from different sources. **Data-driven decisions** will help optimize user engagement, content strategy, pricing, and marketing. The data required includes:

- **User Data**:
    - **Demographics** (Age, Gender, Region, Device Usage): Helps in segmenting users and understanding viewing preferences across different groups.
    - **Subscription Type** (Basic, Standard, Premium): This allows for targeted analysis of how subscription plans affect retention and engagement.
    - **Churn Rate**: Understanding which users are leaving the platform and why is critical for retention strategies.
- **Content Data**:
    - **Genres**: Which genres are most popular, and how different content types affect user engagement.
    - **Ratings and Reviews**: Understand which pieces of content are performing well and why, based on user feedback.
    - **Viewing Metrics**: Data such as watch time, most-watched shows, and content consumption patterns.
- **Engagement Data**:

    - **Watch time**: How long do users stay engaged with content? This can also show patterns in binge-watching or content consumption habits.
    - **Device Type**: Knowing whether users prefer watching on mobile, laptop, smart TV, etc., helps optimize the platform for different devices.
    - **Peak Hours**: When are users most active? This will aid in content scheduling and marketing efforts.
- **Revenue Data**:
    - **Subscription Revenue**: How much is each type of subscription contributing to the bottom line?
    - **Ad Revenue**: For ad-supported plans, understanding ad viewership and user engagement with ads is essential.
- **Marketing Data**:
    - **Campaign Performance**: Metrics like click-through rates, engagement rates, and conversions from marketing campaigns will help measure their effectiveness.
    - **Acquisition Channels**: Identifying which marketing channels (social media, email, influencer partnerships, etc.) drive the most conversions.

Domain Expert Input

To ensure the insights are relevant, it's critical to consult with industry experts. These experts can guide the selection of key metrics, data collection strategies, and interpretation of trends in the broader streaming industry.

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3. Data Collection

Data Sources

1. **Internal Data**:
    - **Platform Logs**: Collect data directly from the platform's user activity logs (e.g., user sessions, views, ratings).
    - **User Profiles**: Data regarding user subscriptions, viewing preferences, and feedback.
    - **Revenue Tracking Systems**: Extract information on subscription payments, ad revenues, and churn.
2. **External Sources**:

- **Public Datasets (e.g., Kaggle)**: Datasets like Netflix user behavior, content popularity, or global streaming trends can be used to augment internal data and provide insights for comparison.
- **Social Media Insights**: Collect data on how users engage with the platform on platforms like Twitter, Instagram, and Facebook.

3. **Synthetic Data**:
    - In case of gaps, synthetic data can be created using AI or sampled from existing patterns to fill in missing areas or test hypotheses.

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4. Data Validation

Once the data is collected, it is essential to ensure that it is **reliable** and **accurate**:

- **Consistency Checks**: Ensure that the data follows a consistent format, particularly for date stamps and user activity logs.
- **Accuracy Verification**: Cross-check key metrics, such as user churn rates and engagement times, against known values to ensure there are no discrepancies.
- **Completeness**: Check that critical fields are filled. For instance, if a user's data on subscription status is missing, it could distort analysis on churn.

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5. Data Cleaning

Cleaning the data ensures that the analysis is based on accurate, relevant, and usable information.

- **Outlier Treatment Using Box and Whisker Model**:
    - The **Box and Whisker model** will help visualize the distribution of data, allowing us to detect and handle **outliers** in the dataset, such as unusually high or low viewing times, or incorrect revenue values.
    - Outliers like a user watching content for 24 hours straight or sudden spikes in watch time can skew averages, so we either **remove** or **investigate** these anomalies further.
- **Missing Data**:
    - For **missing data**, especially in key columns such as **subscription plans** or **user ratings**, the rows can be **dropped** if they contain critical missing values. For non-critical columns, imputation strategies (e.g., filling in the

missing values with the median or average) could be used, but for crucial features, dropping the data may be the best choice.

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6. Tools

Power BI for Data Visualization and Analysis

Power BI will play a critical role in transforming raw data into insightful visualizations:

- **Univariate Analysis**:
    - **Pie charts** can show the distribution of users by genre or region.
    - **Bar charts** can highlight the popularity of subscription plans or the number of active users in a given time period.
- **Bivariate Analysis**:
    - **Scatter plots** can explore relationships, such as how **subscription plan pricing** correlates with **user retention**.
    - **Line graphs** can track churn rate and user engagement over time.
- **Multivariate Analysis**:
    - **Heatmaps** can illustrate user engagement patterns across **regions** and **device types**.
    - **Bubble charts** can analyze **watch time** vs. **user demographics**, highlighting different segments with varying engagement.

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7. Dashboard

A **dashboard** serves as the real-time reporting tool for stakeholders, providing clear visualizations to make decisions quickly.

What is a Dashboard?

A **dashboard** is an interactive tool that consolidates complex data into visual formats such as charts and graphs, allowing users to monitor metrics and trends in real time. For an OTT platform, a dashboard could include metrics like:

- **Subscriber growth** over time
- **Churn rate** by region or subscription plan
- **Top content** based on engagement

- **Ad revenue performance**

Importance of a Dashboard

- **Immediate insights**: Dashboards present key data trends at a glance, making it easier for decision-makers to act.
- **Track performance**: Real-time monitoring helps teams to adjust marketing campaigns, content recommendations, and pricing strategies quickly.
- **Optimize strategies**: By visualizing user behaviors, content performance, and marketing effectiveness, dashboards help fine-tune business strategies.

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8. Storytelling

What Is Storytelling in Data?

Data storytelling is the process of presenting data in a way that tells a clear, compelling narrative. Instead of just showing raw data, it integrates the data with context and insights, leading to actionable conclusions. For example:

- A report may describe how **younger users** tend to favor **action-packed genres** while **older users** prefer **drama and documentaries**.

Importance of Storytelling

- **Engage stakeholders**: Data can be overwhelming without a clear story, so framing insights as a narrative makes it easier for stakeholders to absorb and act upon.
- **Drive Action**: Storytelling helps to connect insights with real-world outcomes, making it easier to implement strategic decisions.
- **Enhance Decision Making**: When executives can see the full picture through a data story, they are better equipped to make data-backed decisions quickly.