**SYNOPSIS**

**of the Project**

**Netflix Engagement Dataset**

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**PROFORMA FOR SYNOPSIS**

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## **Introduction**

In order to complete this project, it will be necessary to collect the data on the engagement behaviour of subscribers of Netflix, which is the world's largest streaming platform through the use of Microsoft Power BI to realize necessary visualizations and analyses of the data. The main aim is to figure out interesting patterns via easy-to-understand and manipulable presentations that can help the user to get a clear picture of the performance of the content and customer behavior.

The world of online content has seen massive increases in user numbers and is thus the entertainment industry is one of its main benefactors. To be able to convert the collected mass of data into comprehensible and visually appealing documents that can be interactively accessed, not only this project, but that of others which will follow will be useful for decision makers to sense and derive trends, show TV shows and films popularity, and realize the affinity of different user segments.

Subjected to the examination are the VOD behavior trends of the viewer, the content retention level, the time of the day when the peak of the viewing is, genre popularity, and demographic user profiles. These numbers are not only useful in the evaluation of the audience's interest in the current content but also as the basis for the future generation of content and recommendation strategies.

Through the example of such a project, Business Intelligence tools like Microsoft Power BI are shown to be able to transform the complex information into intelligence that can be easily converted to actionable decisions, thus outdoing the competition in an ever-changing media market space.

1. **Motivation**

In today’s digital world, entertainment is highly competitive, and streaming platforms like Netflix depend heavily on user engagement data to lead the market. Getting to know viewer preferences, content patterns, and the way viewers behave has become so crucial that the effect of the measures is quite evident in the content space being optimized, user satisfaction brought to a higher level, or the platform’s growth enabled. With the powerful tools of modern technology, sifting the relevant information out of the vast volumes of data and translating them into comprehensible and actionable insights has become quite crucial. The launch of the present research was aimed at tackling the task of gisting and graphically representing data that is diverse and multifaceted in the way that the decision-making processes both of the non-technical and technical stakeholders are facilitated. Employing Power BI, the most efficient Business Intelligence system in the market, the attempt was to make it easy and attractive for the user to use the dashboard to get important data performance indicators like viewership trends, user retention, content popularity, and engagement metrics. This graphical presentation method further stimulates speedy understanding of the data and additionally enlightens content producers, marketers, or executives to take decisions supported by rapid insights. At the end of the day, the main goal of this project is to serve as an example of how data visualization and analytics can transform raw data into compelling stories and hence provide a base for the brightest data-oriented strategies pertinent to the ever-changing arena of digital streaming.

1. **Objective**

* To analyze patterns in user engagement across genres, time periods, and countries.
* To evaluate the performance of different content types (movies vs series).
* To identify trends in watch time and user preferences.
* Scope includes interactive data filtering and drill-through analysis within Power BI dashboards.

1. **Proposed Methodology**
   1. **Dataset Collection**  
      Gathered Netflix user engagement data from reliable sources, ensuring relevance to key performance indicators such as watch time, user demographics, content type, and viewing patterns.
   2. **Data Cleaning and Preprocessing**  
      Performed data cleaning to handle missing values, remove duplicates, correct inconsistencies, and ensure data accuracy using tools like Excel and Power Query in Power BI.
   3. **Data Transformation**  
      Applied necessary transformations (e.g., changing data types, formatting dates, categorizing content) to prepare the dataset for effective modeling and visualization.
   4. **Data Importation into Power BI**  
      Loaded the cleaned dataset into Power BI Desktop, ensuring compatibility and readiness for modeling.
   5. **Creating Data Models and Relationships**  
      Designed an efficient data model by establishing relationships between relevant tables (e.g., user profiles, content metadata, engagement metrics) to support cross-functional analysis.
   6. **Designing the Dashboard Layout**  
      Structured the report layout with an intuitive user interface to enhance user navigation and experience.
   7. **Visualizing Data Using Interactive Elements**  
      Built multiple interactive dashboards featuring bar charts, pie charts, line graphs, cards, slicers, and filters to display insights across various dimensions such as content type, time spent, and regional preferences
   8. **Insight Generation and Interpretation**  
      Interpreted visualizations to generate actionable insights that could support strategic decisions regarding content planning and personalization.
   9. **Final Presentation and Delivery**  
      Prepared the final dashboard and report for presentation to stakeholders, ensuring clarity, accuracy, and alignment with project goals.
2. **Expected outcome of the proposed work**
3. **Comprehensive Power BI Dashboard Showcasing Netflix User Engagement**  
   The project culminated in the development of a dynamic and visually engaging Power BI dashboard that presents in-depth insights into user engagement across the Netflix platform. The dashboard serves as a central tool for stakeholders to explore data interactively, enabling quick access to key performance indicators and engagement metrics.
4. **Clear Visualization of Top-Performing Content and Viewing Trends**  
   Through intuitive visualizations such as bar charts, line graphs, and KPI cards, the dashboard highlights high-performing shows and movies based on total watch time, frequency of views, and user ratings. Time-based trends also reveal peak viewing periods, seasonal content popularity, and long-term shifts in user preferences.
5. **Detailed Segmentation of Viewer Behavior by Genre, Country, and Duration**  
   The analysis provides a granular understanding of audience behavior, segmenting insights by genre (e.g., drama, comedy, thriller), country/region, and session duration. This segmentation supports strategic decisions such as content localization, genre investment, and targeted marketing campaigns.
6. **Demonstration of Power BI as a Strategic Storytelling and Analytics Tool**  
   The project effectively demonstrates how Power BI can be used not just for data visualization, but as a robust storytelling platform. By turning complex datasets into coherent visual narratives, Power BI empowers content strategists, analysts, and executives to derive actionable insights and align business strategies with real user behavior in the streaming media space.
7. **Proposed Contents**An Overview of the table

It contains the following columns -----

* Customer ID
* Subscription Length (Months)
* Customer Satisfaction Score (1-10)
* Daily Watch Time (Hours)
* Engagement Rate (1-10)
* Device Used Most Often
* Genre Preference
* Region
* Payment History (On-Time/Delayed)
* Subscription Plan
* Churn Status (Yes/No)
* Support Queries Logged
* Age
* Monthly Income ($)
* Promotional Offers Used
* Number of Profiles Created
* The dataset used for this project comprises both numerical and categorical variables that provide a comprehensive view of Netflix user engagement. Numerical columns include **Customer ID**, **Subscription Length (Months)**, **Customer Satisfaction Score (1–10)**, **Daily Watch Time (Hours)**, **Engagement Rate (1–10)**, **Support Queries Logged**, **Age**, **Monthly Income ($)**, and **Number of Profiles Created**. These columns help quantify user behavior and preferences. For instance, daily watch time and engagement rate indicate how actively a user interacts with the platform, while subscription length and age offer demographic and loyalty-related insights.
* On the other hand, categorical columns such as **Device Used Most Often**, **Genre Preference**, **Region**, **Payment History (On-Time/Delayed)**, **Subscription Plan**, **Churn Status (Yes/No)**, and **Promotional Offers Used** provide qualitative information about user habits and characteristics. These are essential for segmentation and comparative analysis. For example, understanding which device or region correlates with higher engagement can guide Netflix’s marketing and content distribution strategies. This blend of data types allows for both descriptive and diagnostic analytics using Power BI’s visualization capabilities

1. **Conclusion**

This project successfully showcases the effectiveness of Power BI as a powerful tool for analyzing and visualizing user engagement data from Netflix. By transforming raw, complex datasets into clear and interactive dashboards, the project enables a deeper understanding of viewer behavior, such as genre preferences, regional trends, watch durations, and factors influencing customer satisfaction and churn. These insights not only help identify high-performing content and user segments but also support strategic decisions around content creation, personalized recommendations, and subscription model enhancements. Moreover, the project highlights the importance of visual storytelling in making data more accessible and actionable for business stakeholders. The techniques employed—ranging from data cleaning and modeling to advanced visualizations—demonstrate how BI tools like Power BI can bridge the gap between data and decision-making in the entertainment industry. Overall, the outcomes lay a solid foundation for future work involving predictive analytics, real-time reporting, and integration of additional data sources for more comprehensive streaming analytics.