HEMA PROJECT

ANDREA LOPEZ
EFREN LOPEZ
MICHELLE SHAFFER
HERAT DEVISHA

@GITHUB USERNAMES
https://github.com/alope1
https://github.com/efrenlop01
https://github.com/mshaffe9
https://github.com/HDevisha

Throughout our market research, there were many industries we wanted to choose. We research industries such as the banking industry, private equity industry, etc. After looking around for many jobs and their descriptions, we came across a job posting by Disney. We selected the job because it caught all of our attention. We liked the company, job description as well as the department and the location of the job. We also appreciated that this position would give us an opportunity to use the skills acquired through this Business Analytics program and apply them to real world problems. We want to better understand and improve Bundle growth and subscriber behavior for Disney's streaming services (Hulu, Disney+, ESPN+). We plan to solve this problem using each of the data toolkit items below.

Data Toolkit Items and Their Application:

1. R/Python/SAS (or another statistical analysis tool) and SQL:

Application: These programming languages and SQL for database querying will be pivotal for data manipulation, analysis, and statistical modeling. Python and R, for instance, offer extensive libraries for data analysis (Pandas, NumPy) and machine learning (scikit-learn, TensorFlow for Python; dplyr, ggplot2 for R) which can be utilized for predictive modeling, segmentation analysis, and trend identification. SQL will be essential for extracting relevant data from Disney's databases.

2. Statistical Modeling, Machine Learning, and Other Quantitative Approaches:

Application: Implementing models that can reliably predict subscriber behavior and understanding factors driving Bundle growth. These models can aid in clustering and segmenting the audience based on their behavior and preferences, enhancing personalization strategies. Techniques like significance testing will support in validating the findings and ensuring reliability in the recommendations made.

3. Data Visualization Tools (Tableau, PowerBI, etc.):

Application: These tools will be crucial for visualizing data trends, making the insights accessible to non-technical stakeholders. Interactive dashboards can provide real-time insights into Bundle performance, subscriber demographics, and engagement metrics, facilitating quick and informed decision-making. It's a good way of presenting the data and our findings in it since it doesn't require a tech-savvy person to get a good grasp of it.

4. Experience with AB/MVT Testing Constructs:

Application: Designing and analyzing A/B tests and multivariate tests to experiment with different strategies for improving the Bundle offering. This could include testing different marketing messages, pricing strategies, or new features within the bundle. The results from these tests will guide evidence-based adjustments to enhance subscriber acquisition and retention.

5. Collaboration with Marketing, Product, Data Science, and Data Solutions Teams:

Application: Effective communication and collaboration with these teams will ensure that the insights generated are aligned with business goals and can be integrated into marketing

strategies, product development, and overall business planning. This interdisciplinary approach will help in crafting a coherent strategy that leverages insights from all angles of the business.

The One Metric That Matters (OMTM) for measuring subscriber behavior is “subscriber growth rate”. This metric directly indicates the success of Disney’s streaming services and will allow us to drive strategic initiatives to enhance user acquisition, retention, and overall business growth.

Plan to Solve the Problem:

1. **Descriptive Analytics Dashboard:**

   Objective is to Provide an overview of Bundle trends, subscriber behavior, and key performance indicators (KPIs). The components will be, Visualization of subscriber growth over time (monthly/quarterly/yearly). Breakdown of subscriber demographics (age, location, etc.). Analysis of content consumption patterns (popular shows, genres, etc.).

2. **Data Sources:** Subscriber data from Disney's databases, Viewing history and engagement data. Tools that will be used are Tableau or PowerBI for dashboard creation. Implementation would entail Regular updates to the dashboard to ensure real-time insights.
3. **Diagnostic Analytics Dashboard:** Objective is to identify factors influencing Bundle growth and subscriber behavior. Components will include analysis of churn rate and factors contributing to subscriber attrition. Identification of successful marketing campaigns and their impact on subscriber acquisition. Comparison of user engagement across different platforms (Hulu, Disney+, ESPN+). Data Sources include marketing campaign data, User feedback and surveys. Tools: Tableau or Looker for dashboard creation. Implementation: Regular reviews to pinpoint areas for improvement and strategic interventions.
4. **Automated Data Pipeline:** Used for streamlining data collection and processing to ensure timely insights. Key parts include: Automated extraction of data from various sources (databases, APIs, etc.). Data cleaning and transformation to maintain data integrity. Regular updates to the analytics dashboards and models. Data Sources: Finanical statements containing subscriber information, viewing history, etc. External data sources such as social media metrics, market trends, etc. Tools: Python (with libraries like Pandas, SQLAlchemy), Apache Airflow for pipeline orchestration. Implementation: Set up scheduled tasks for data extraction, cleaning, and updating dashboards.
5. **Predictive Model:** Aim is to forecast Bundle growth and subscriber behavior based on historical data. Components: Time-series analysis to predict future subscriber counts. Machine learning models to forecast churn rate and identify factors influencing retention. Data Sources: Historical subscriber data, Marketing campaign performance data. Tools: Python (with libraries like scikit-learn, TensorFlow for ML models), Jupyter Notebooks for model development. Implementation: Regular updates to the predictive model based on new data and model evaluation.

Result to be achieved:

By implementing this plan, Disney's Data Analyst team can gain deeper insights into Bundle growth and subscriber behavior, identify areas for improvement, and make data-driven decisions to enhance the streaming service experience for users.