**WhaleCo Streaming Analysis:**

**Introduction:**

WhaleCo, a leading TV streaming service provider, aims to gain insights into their customer base and streaming packages to optimize their offerings and improve customer satisfaction. The company has provided two datasets: "WhaleCo Members" and "WhaleCo Orders," containing information about their customers and streaming package orders.

The "WhaleCo Members" dataset includes details such as customer ID, address, occupation, salary, subscription date, and active months. The "WhaleCo Orders" dataset contains information about the streaming packages ordered by customers, including the package name, price, customer satisfaction scores (OSAT and NPS), streaming activity, and the number of internal accounts associated with each order.

The objective of this case study is to analyze the provided datasets and derive meaningful insights to help WhaleCo understand their customers better and make data-driven decisions regarding their streaming packages. The analysis will focus on the following key areas:

1. **Customer Demographics:** Understand the distribution of customers across different states, occupations, and salary ranges.
2. **Product Performance:** Identify the most popular streaming packages, assess customer satisfaction levels, and analyze the relationship between package attributes and customer behavior.
3. **Customer Segmentation:** Segment customers based on their subscription tier (Bronze\_Member, Silver\_Member, Priority\_Member) and identify any patterns or differences in their preferences and behavior.
4. **Churn Analysis:** Investigate customer churn by calculating the churn rate and identifying factors that may contribute to customers unsubscribing from the service.

By conducting a comprehensive analysis of the provided datasets, WhaleCo aims to gain valuable insights that will help them tailor their streaming packages to better meet customer needs, improve customer retention, and drive business growth in the competitive TV streaming market.

The case study will be conducted by a group of Candidates who will be assessed on their ability to preprocess the data, perform exploratory data analysis, derive meaningful insights, and present their findings through visualizations and clear documentation. The Candidates' performance will be evaluated based on their coding skills, data analysis abilities, and their capacity to translate data into actionable recommendations for WhaleCo.

**Requirements for Submission:**

* **Code:**
* **Python:** If using Python for the analysis, provide a well-documented Jupyter Notebook or Python script containing the code used for data preprocessing, exploratory data analysis, and any other relevant tasks.
  + **R:** If using R for the analysis, provide a well-documented R Markdown file or R script containing the code used for data preprocessing, exploratory data analysis, and any other relevant tasks.
* **Power BI or Tableau (Optional):**
* If using Power BI/Tableau for data visualization and dashboard creation, provide the PBIX file containing the developed Power BI report.
* **Analysis Document:**
* Prepare a Word document summarizing the analysis conducted and the key findings.
* The document should include:
  + **Introduction:** Provide a brief overview of WhaleCo, the case study objectives, and the datasets used.
  + **Methodology:** Describe the steps taken for data preprocessing, exploratory data analysis, and any other analytical techniques employed.
  + **Results:** Present the main findings from the analysis, including insights related to customer demographics, product performance, customer segmentation, and churn analysis. Use visualizations (charts, graphs) to support the findings.
  + **Recommendations:** Based on the analysis, provide data-driven recommendations to WhaleCo on how they can improve their streaming packages, customer satisfaction, and retention.
  + **Conclusion:** Summarize the key takeaways from the case study and the potential impact of the recommendations on WhaleCo's business.

**Review Process:**

The submitted deliverables will be evaluated based on the following criteria:

1. **Code Review:** 
   * **Data Validation and Cleaning:** 
     + Assess how the Candidates handle data validation and cleaning processes in their code.
     + Check if they have addressed missing values, inconsistencies, and data type conversions appropriately.
     + Ensure that no data validation or cleaning is performed in the Excel file if Python or R code is provided.
   * **Metrics Creation:** 
     + Evaluate the metrics created by the Candidates to analyze the data, such as calculating churn rate, customer satisfaction scores, or any other relevant measures.
     + Assess the appropriateness and effectiveness of the chosen metrics in addressing the case study objectives.
   * **Machine Learning Models (if applicable):** 
     + If the Candidates have implemented any machine learning models, assess the appropriateness of the chosen models, the quality of the implementation, and the interpretation of the results.
   * **Forecasting or Predictions (if applicable):** 
     + If the Candidates have included any forecasting or predictive analysis, evaluate the methodology used, the accuracy of the predictions, and the relevance to the case study objectives.
   * **Code Complexity and Organization:** 
     + Assess the overall complexity of the code, considering factors such as code readability, modularity, and efficiency.
     + Evaluate the code organization, including the use of appropriate data structures, functions, and documentation/comments.
2. **Power BI/Tableau Dashboard Review (if included):** 
   * **Visualizations:** 
     + Assess the quality and effectiveness of the visualizations created in the Power BI or Tableau dashboard.
     + Check if the visualizations are clear, informative, and aligned with the case study objectives.
   * **Presentation:** 
     + Evaluate the overall presentation of the dashboard, including the layout, color scheme, and user-friendliness.
     + Assess how well the dashboard communicates the key findings and insights from the analysis.
   * **Code Quality (if applicable):** 
     + If the Candidates have included any custom code or calculations within the Power BI or Tableau dashboard, assess the quality and accuracy of the implemented code.
3. **Word Document Analysis (Main Priority):** 
   * **Structure and Clarity:** 
     + Evaluate the structure and clarity of the analysis document.
     + Check if the document is well-organized, easy to follow, and effectively communicates the key findings and recommendations.
   * **Depth of Analysis:** 
     + Assess the depth and thoroughness of the analysis conducted by the Candidates.
     + Evaluate if they have explored various aspects of the data, derived meaningful insights, and provided data-driven recommendations.
   * **Visualization Integration:** 
     + Assess how well the Candidates have integrated visualizations (charts, graphs) into the analysis document to support their findings.
     + Check if the visualizations are relevant, clearly labeled, and effectively convey the intended insights.
   * **Recommendations and Actionability:** 
     + Evaluate the quality and practicality of the recommendations provided by the Candidates.
     + Assess if the recommendations are data-driven, aligned with the case study objectives, and actionable for Whaleco to implement.

The review process will prioritize the analysis document as the main deliverable, while also considering the quality of the code, metrics, and visualizations. The Candidates' ability to derive meaningful insights, present their findings effectively, and provide actionable recommendations will be the primary factors in assessing their performance in the case study.