



### PLACEMENTDOST

#### Note:

Please be advised that these assessment inquiries are designed to accommodate interns with diverse skill levels, ranging from novices to seasoned analysts. Should you encounter any challenging questions, you are encouraged to seek solutions independently or reach out to us for assistance at [intern@placementdost.com](mailto:intern@placementdost.com). Best wishes for success in completing the assessment!

#### Tools needed :- PowerBi, MS Excel

##### 1. Data Loading and Initial Exploration:

- Load the three tables (Customer, Flight Activity, Loyalty History, Calendar) into Power BI.
- Verify data types, check for missing values, and examine the structure of the dataset.

##### 2. Data Model and Relationships:

- Create relationships between the tables based on the appropriate fields.
- Ensure that relationships are correctly defined to facilitate analysis.

##### 3. Basic Visualizations:

- Develop a bar chart to show the total number of flights booked each year.
- Include a slicer for users to filter the data by year.

##### 4. Customer Segmentation:

- Utilize the CLV (Customer Lifetime Value) field to segment customers into different categories (e.g., high-value, medium-value, low-value).
- Create a visual representation of the customer segments.

##### 5. Geographical Analysis:

- Develop a map visualization to showcase the distribution of customers across different countries and provinces.

##### 6. Loyalty Card Analysis:

- Visualize the distribution of customers based on their loyalty card status (Star, Nova, Aurora).
- Calculate the average CLV for each loyalty card status.

##### 7. Enrollment Analysis:

- Create a line chart to show the number of enrollments over the years.
- Analyze the trend and identify peak enrollment periods.

#### **8. Cancellation Analysis:**

- Develop visuals to show the number of cancellations over the years.
- Analyze the reasons for cancellations and their impact on CLV.

#### **9. Flight Distance and Points Analysis:**

- Investigate the correlation between flight distance and loyalty points accumulated.
- Create a scatter plot to visualize this relationship.

#### **10. Monthly Revenue Analysis:**

- Calculate the monthly revenue by multiplying the total flights and dollar cost points redeemed.
- Develop a line chart to show the trend in monthly revenue over time.

#### **11. What-If Analysis:**

- Identify a relevant scenario for a what-if analysis (e.g., changes in enrollment promotions).
- Use what-if parameters to demonstrate the impact on CLV and enrollments.

#### **12. Customer Demographics Analysis:**

- Develop visuals to analyze the distribution of customers based on gender, education, and marital status.

#### **13. Monthly Active Customers:**

- Create a line chart to showcase the number of active customers each month.
- Analyze the seasonality and trends in customer activity.

#### **14. Customer Churn Analysis:**

- Calculate the churn rate by analyzing the number of customers who canceled their memberships.
- Visualize the churn rate over time.

#### **15. Customer Enrollment Type Analysis:**

- Develop visuals to analyze the distribution of customers based on their enrollment type.
- Calculate the average CLV for different enrollment types.

#### **16. Customer Lifetime Value (CLV) Trend:**

- Create a line chart to visualize the trend in CLV over the years.
- Analyze the factors influencing changes in CLV.

#### **17. Quarterly Revenue Analysis:**

- Calculate and visualize the quarterly revenue.

- Identify the quarters with the highest and lowest revenue.

#### **18. Customer Geography Drill-Down:**

- Implement drill-through functionality for users to explore detailed customer demographics based on country, province, or city.

#### **19. Dashboard Creation:**

- Combine the developed visuals into an interactive and cohesive dashboard.
- Add slicers and filters for enhanced user interaction.

#### **20. Final Review and Documentation:**

- Conduct a final review of the Power BI solution to ensure accuracy and completeness.
- Document key insights, findings, and any challenges faced during the analysis.