

NORTHERN LIGHTS AIR DASHBOARD

Marital Status

Divorced

Married

Single

Education

Bachelor

College

Doctor

High School or Below

Master

Loyalty Card

Aurora

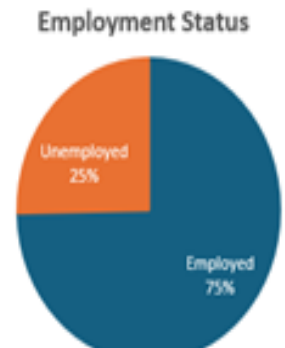
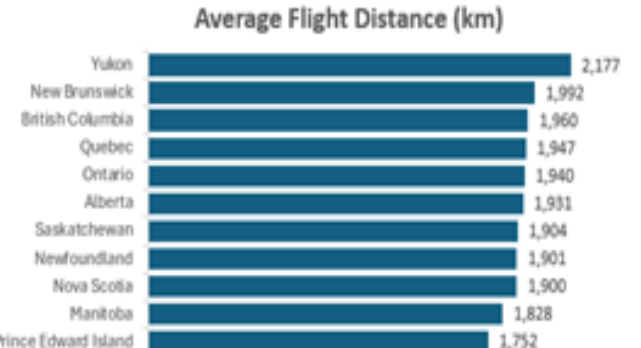
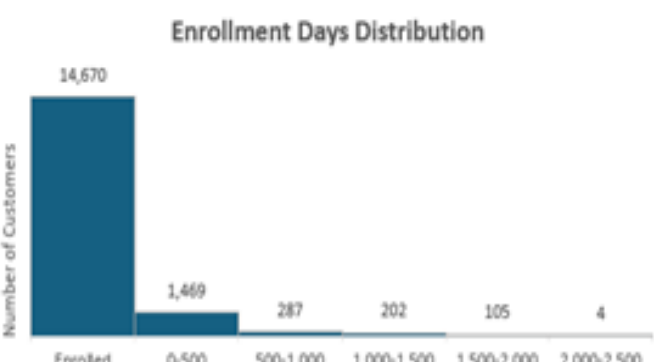
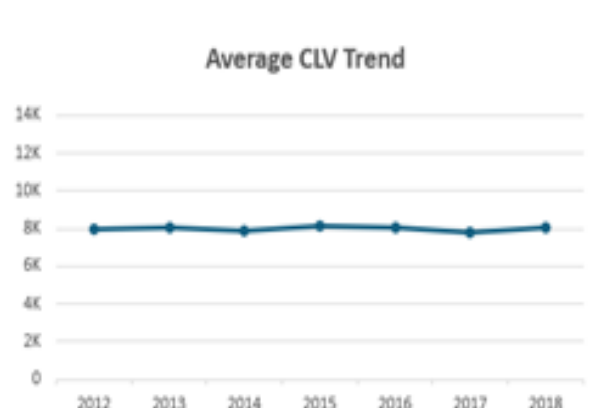
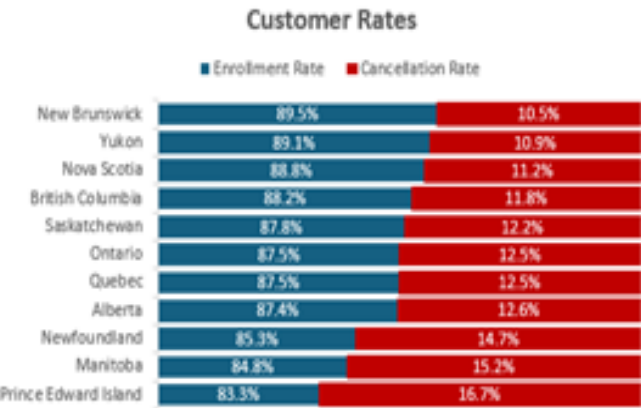
Nova

Star

Enrollment Type

2018 Promotion

Standard



Objective

- ▶ I have just been hired as the Lead Marketing Analyst for Northern Lights Air (NLA), a Canadian airline looking to boost enrollment for their loyalty program.
- ▶ NLA ran a promotion from Feb 1st - Apr 30th, 2018, offering 1.5x loyalty card points to new members for flights booked through the remainder of the year.
- ▶ My task is to analyze the promotion's success by providing insights into loyalty program enrollments, cancellations, and flights booked during the campaign's duration.
- ▶ I will also provide recommendations to the NLA leadership team for how to run future promotions.

Approach

- ▶ I performed a customer segmentation analysis to determine customer loyalty.
- ▶ I used Excel and PowerPivot to create a dashboard and relational data model.
- ▶ I have uploaded all the files for this project onto my [GitHub](#).

Scope of Analysis

- ▶ My customer segmentation analysis includes the following customer information:
 - ▶ Enrollment and Cancellation rates
 - ▶ Enrollment and Employment Status
 - ▶ Salary Distribution
 - ▶ Total Flights
 - ▶ Average Flight Distance
 - ▶ Loyalty Points Accumulated and Redeemed
 - ▶ Dollar Cost Points Redeemed
 - ▶ Marital Status
 - ▶ Education
 - ▶ Enrollment Type
 - ▶ Loyalty Card

Questions

- ▶ To determine the success of the promotion, my analysis aims to answer the following questions:
 - ▶ What was the customer profile for the NLA customers?
 - ▶ Did the promotion increase customer enrollments?
 - ▶ Did the promotion decrease customer cancellations?
 - ▶ Did the promotion increase enrollment duration?
 - ▶ Did the promotion increase customer lifetime value on average?

Assumptions

- ▶ There were employee salaries with null values.
 - ▶ I assumed that these employees were unemployed.
- ▶ There were negative employee salaries.
 - ▶ I assumed that the negative was a user input error.
 - ▶ So, I removed the negative values from the salaries.

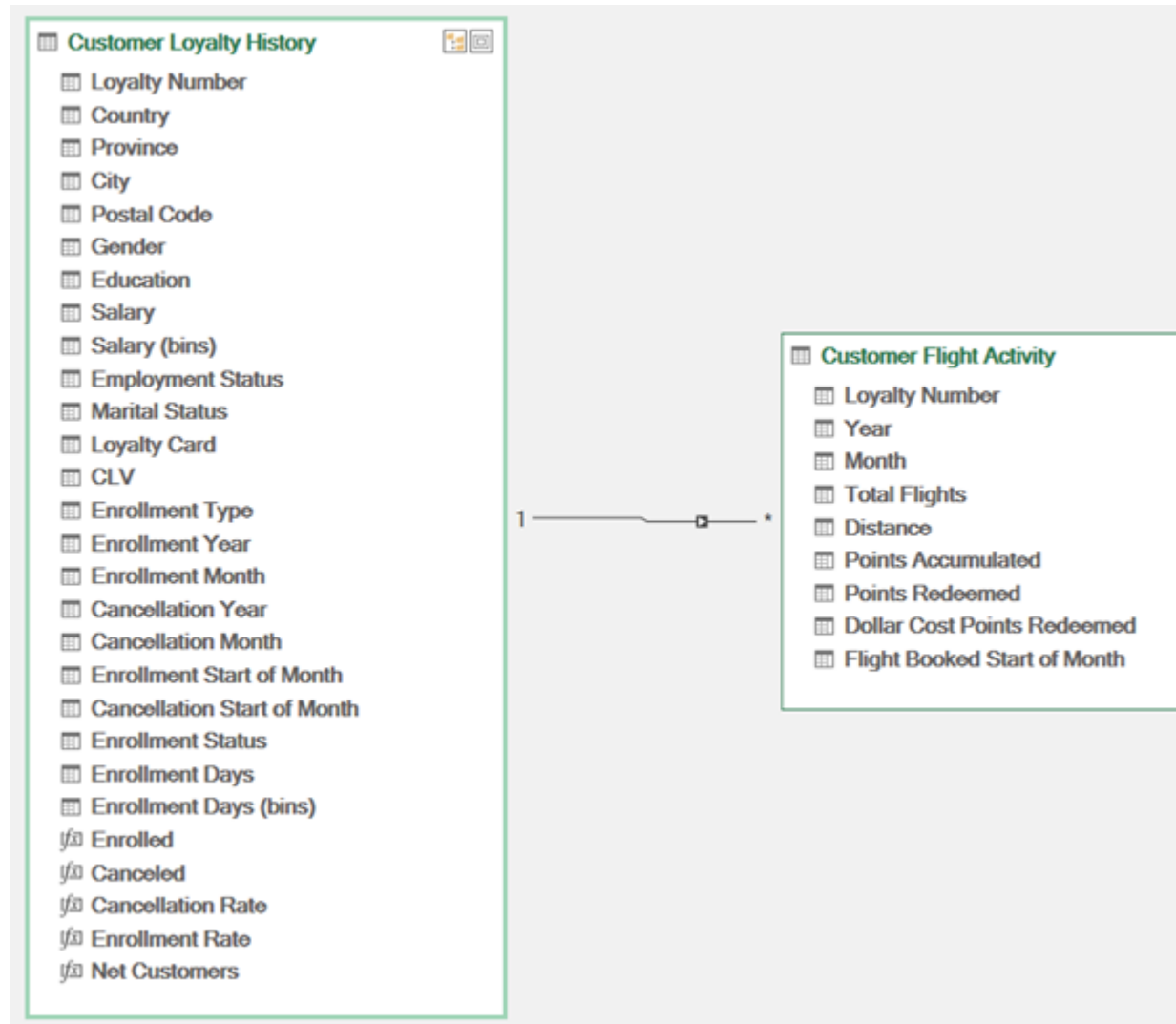
About the Dataset

- ▶ The dataset for this project consists of the following tables:
 - ▶ Customer Flight Activity
 - ▶ A fact table containing information about each customer's flight activity.
 - ▶ Customer Loyalty History
 - ▶ A dimension table containing information about each customer's loyalty history and personal data.

Data Cleaning Strategy

- ▶ I added the following calculated columns to the Customer Flight Activity Table:
 - ▶ Flight Booked Start of Month (the starting date of when customers started flying)
- ▶ I added the following calculated columns to the Customer Loyalty History Table:
 - ▶ Enrollment start of Month (the starting date of when customers enrolled)
 - ▶ Cancellation start of Month (the date when the customer canceled their membership)
 - ▶ Enrollment Days (the number of days that a customer was enrolled with NLA)
 - ▶ Enrollment Status (a flag indicating whether a customer is enrolled or not)
 - ▶ Employment Status (a flag indicating whether a customer is employed or not)
- ▶ I created the following DAX measures:
 - ▶ Enrolled (the number of customers that are enrolled with NLA)
 - ▶ Canceled (the number of customers that canceled their membership to NLA)
 - ▶ Enrollment Rate (the ratio of enrolled customers to the sum of enrolled and canceled customers)
 - ▶ Cancellation Rate (the ratio of canceled customers to the sum of enrolled and canceled customers)
 - ▶ Net Customers (the difference between enrolled and canceled customers)

Data Model



Customer Growth Insights

- ▶ Customers from these two provinces had the highest and lowest enrollment rates:
 - ▶ New Brunswick: enrollment rate (89.5%), cancellation rate (10.5%)
 - ▶ Prince Edward Island: enrollment rate (83.3%), cancellation rate (16.7%)
- ▶ The number of net customers has been increasing from years 2012-2018.
 - ▶ The number of customers enrolling has been substantially higher than the number of customers canceling during this span.
 - ▶ The years 2012-2013 saw a considerable increase in both customers enrolling and customers canceling.
 - ▶ The number of customers enrolling and canceling remained relatively constant during the years 2013-2017.
 - ▶ The promotion years (2017-2018) saw a significant spike in the number of customers enrolling and a significant drop in customers canceling.

Customer Profile Insights (All Customers)

- ▶ Top 3 provinces where customers were from that booked a flight:
 - ▶ Ontario (164,105 flights)
 - ▶ British Columbia (135,178 flights)
 - ▶ Quebec (99,973 flights)
- ▶ Flights booked by customers from Yukon had the longest average flight distance (2,177 km)
 - ▶ Although flight distances from all provinces were almost about the same (~2,000 km).
- ▶ 12% of all customers canceled their NLA membership.
 - ▶ Most customers who canceled their membership (1,469) were enrolled for no more than 500 days.
- ▶ 75% of all customers are currently employed.
 - ▶ Most employed customers (10,978) make no more than \$100K per year.
- ▶ the total loyalty points and dollar cost points both increased during 2017-2018.
- ▶ The average CLV has remained relatively constant from 2012-2018.

Customer Profile Insights (Marital Status)

- ▶ Divorced and single customers had the highest enrollment rates.
 - ▶ Single customers from Prince Edward Island had significantly lower enrollment rates (61.5%) compared to customers from other provinces (~90%).
- ▶ Most enrolled customers are married (8,521).
- ▶ Unemployment is highest among single customers (54%).

Customer Profile Insights (Education)

- ▶ Customers with master's degrees had the highest enrollment rates.
 - ▶ Customers from New Brunswick and Nova Scotia with master's degrees had significantly lower enrollment rates (~75%) compared to customers from other provinces (~90%).
- ▶ Most enrolled customers have bachelor's degrees (9,189).

Customer Profile Insights (Loyalty Card)

- ▶ Customers with Aurora and Nova Loyalty Cards had the highest enrollment rates.
 - ▶ Customers from Prince Edward Island with Aurora Loyalty Cards had significantly lower enrollment rates (66.7%) compared to customers from other provinces (~90%).
- ▶ Most enrolled customers have the Star Loyalty Card (6,736).
- ▶ Customers with the Aurora Loyalty Card have the highest CLV on average (~12,000).

Conclusion

- ▶ The Loyalty Card Promotion was successful in increasing customer loyalty.
 - ▶ The customer growth trend discussed earlier supports this conclusion.
- ▶ The Loyalty Card Promotion did not change the average CLV.
 - ▶ The average CLV trend discussed earlier supports this conclusion.
- ▶ NLA customers tend to cancel their membership relatively quickly.
 - ▶ The number of customers canceling their membership after more than 500 days was rare.
- ▶ NLA customers are mostly middle-class employees.
 - ▶ The number of customers making more than \$100K is rare.
- ▶ NLA customers prefer to fly from Ontario, British Columbia, and Quebec for around the same flight distances.
 - ▶ The average flight distance statistics discussed earlier support this conclusion.

Recommendations

- ▶ Continue using the Loyalty Card Promotion program to attract new customers.
 - ▶ The Loyalty Card Promotion was successful, so it is recommended to keep using it.
- ▶ Concentrate the promotion program on customers with the following profile:
 - ▶ Are from New Brunswick, Ontario, British Columbia, or Quebec
 - ▶ Are single or divorced
 - ▶ Have a bachelor's or master's degree
 - ▶ Make less than \$100K
 - ▶ Use the Aurora or Star Loyalty Card
- ▶ Customers with this profile have the following characteristics:
 - ▶ the highest enrollment rates
 - ▶ The greatest number of flights booked
 - ▶ The largest average CLV