

Presented by Yolanda Krisnadita

Airlane Loyalty Program Analysis

Milestone 03





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Data Science | Milestones 03-2024

These Project Milestones were created to evaluate my learning process in the Hacktiv8's Bootcamp "Data Science Fulltime Program", especially in Phase 2.

At This project my role was act as a Data Science, who will be working on a big project to solve a client problem.



Table of Content



Context

- Background story of client (Northern Light Air)
- About Airlane Loyalty Program (Categories of Member)



Problem Findings

- What impact did the campaign have on loyalty program memberships (gross / net)?
- Was the campaign adoption more successful for certain demographics of loyalty members?
- What impact did the campaign have on booked flights during summer?



Insight

- Business Insight and conclusions



Background Story



Northern Lights Air (NLA)

a fictitious airline based in Canada that serves domestic flights exclusively within the country of Canada.

April, 2012



Airlanes Loyalty Program

Reward

Discount

Special Incentive

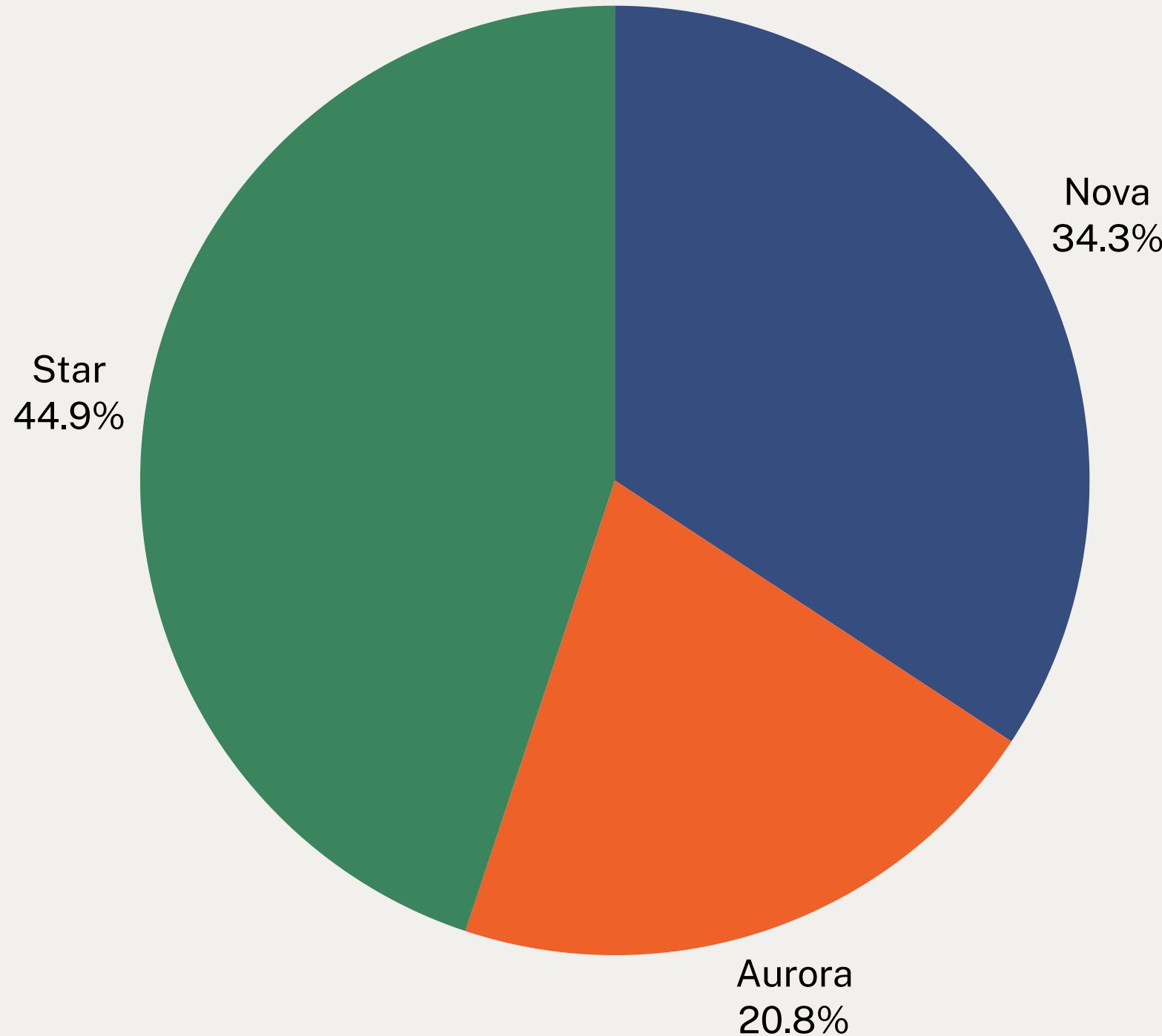


Data Size Information

24 Features

392,936 Records

[Source of Data : Maven Analytic](#)

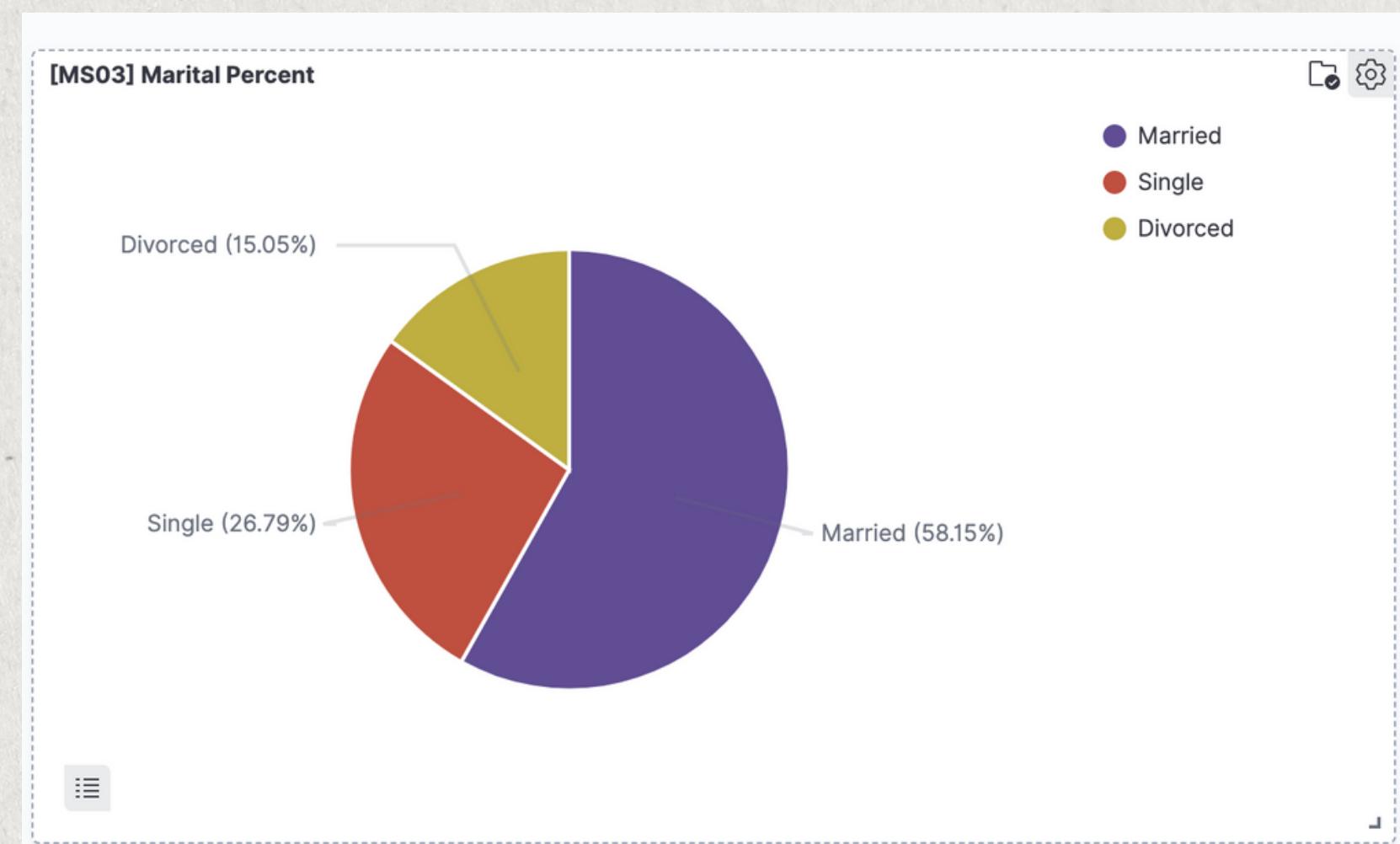
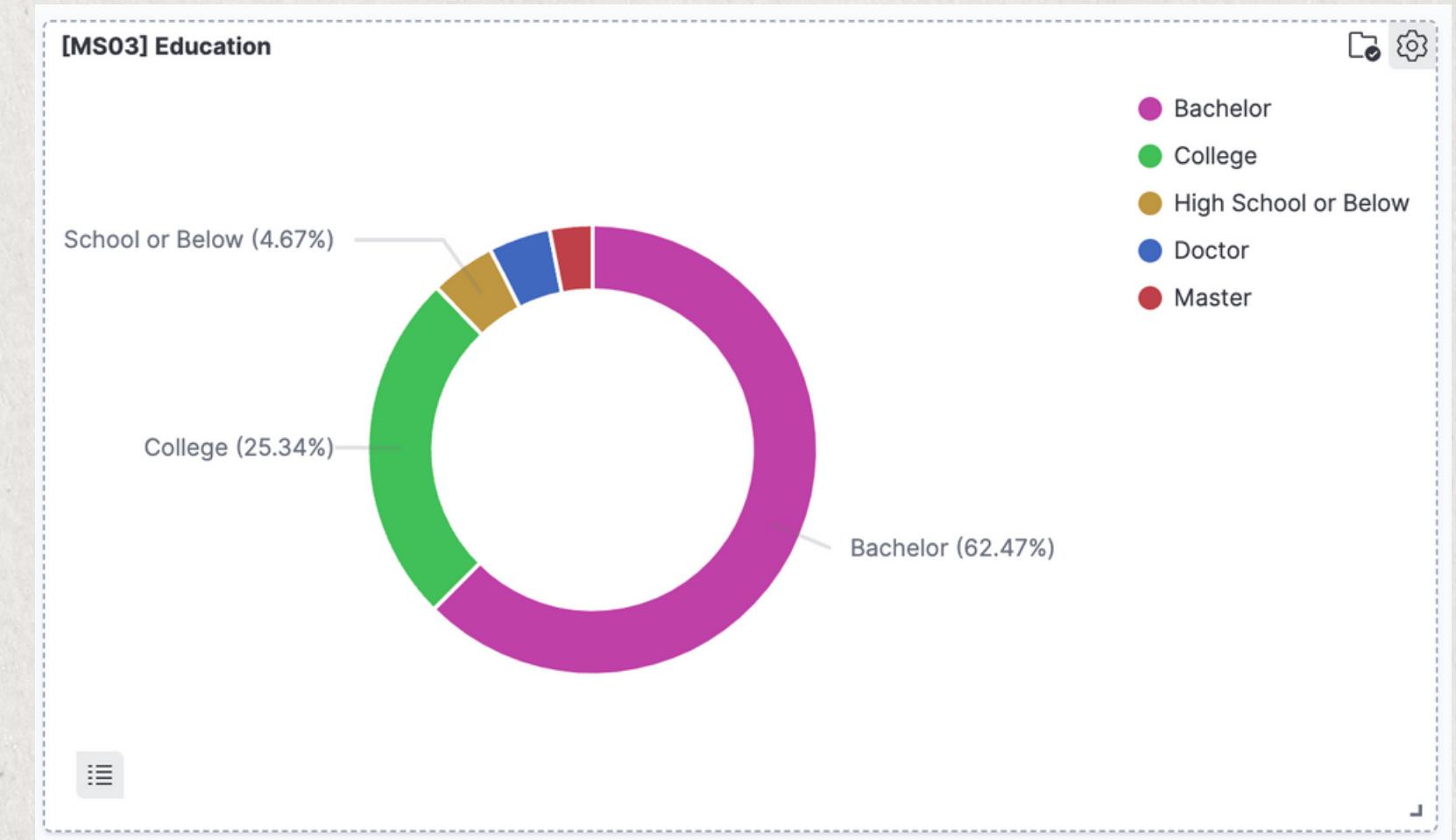
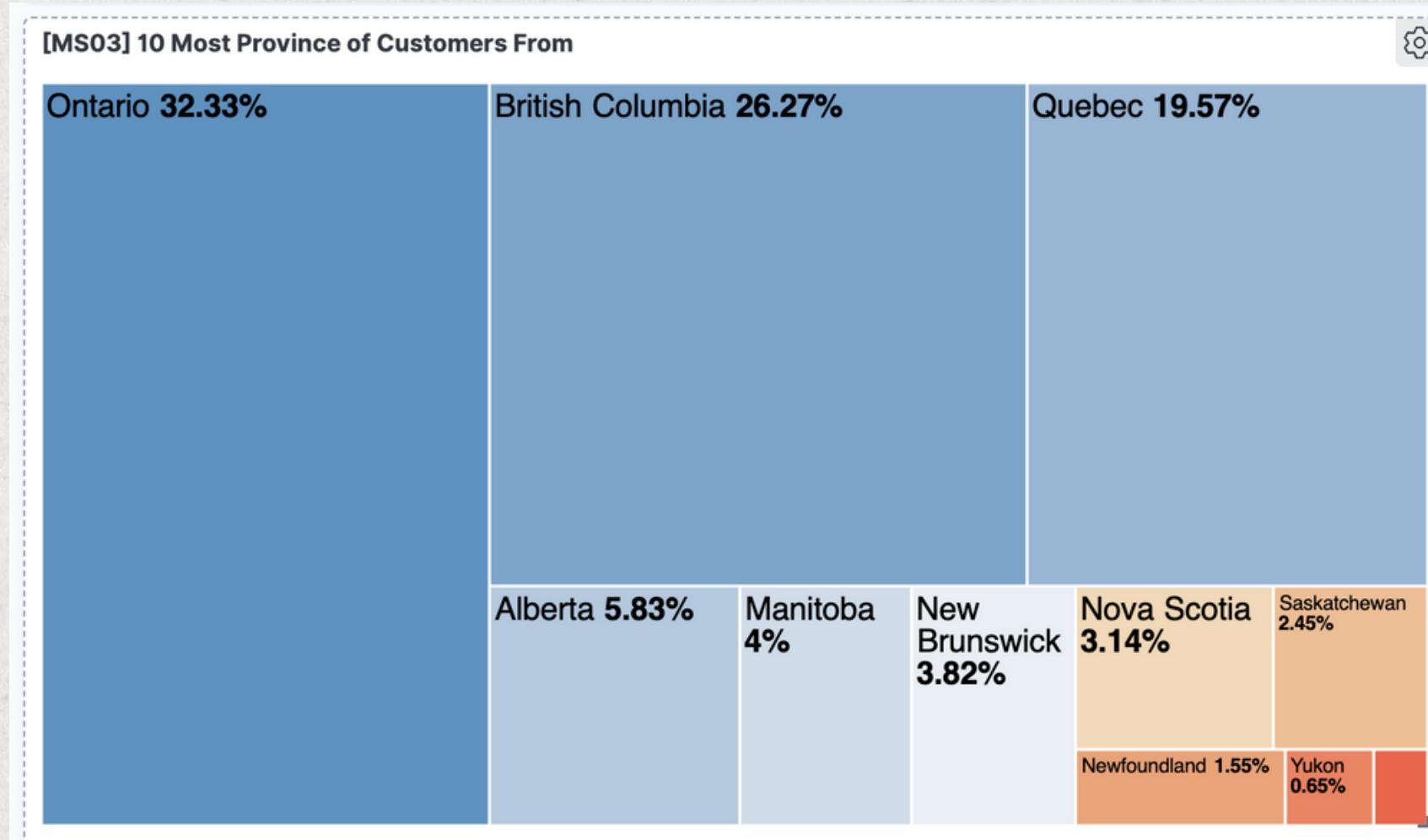


Categories Data Percentage



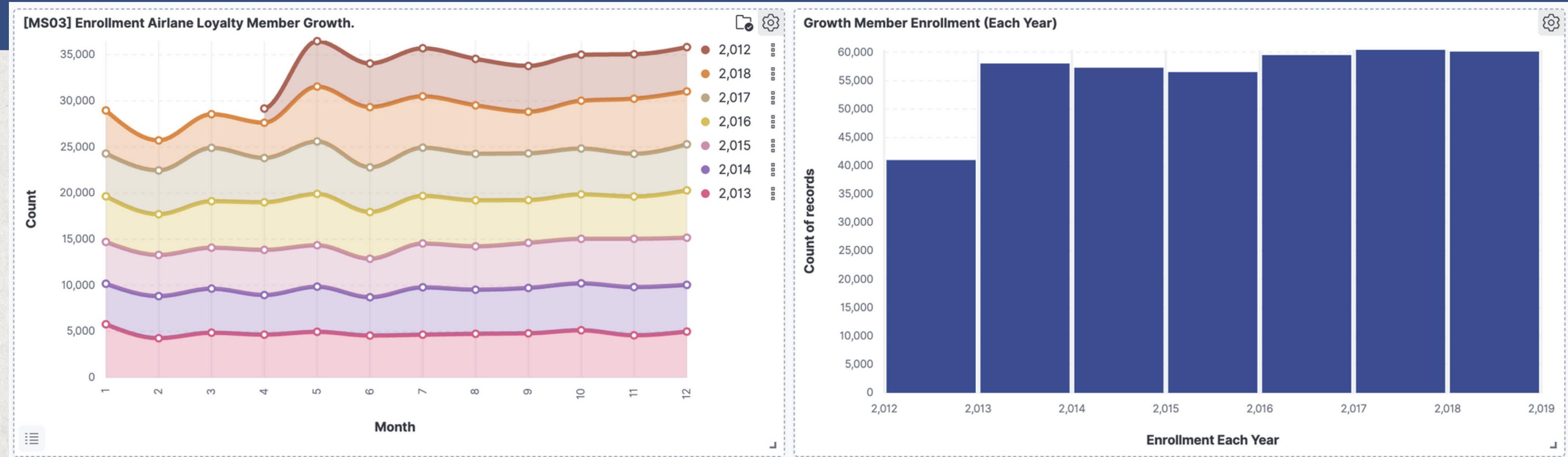
Customers Demography

Where they lives, Their education and Marital status





Member Enrollment Each Year



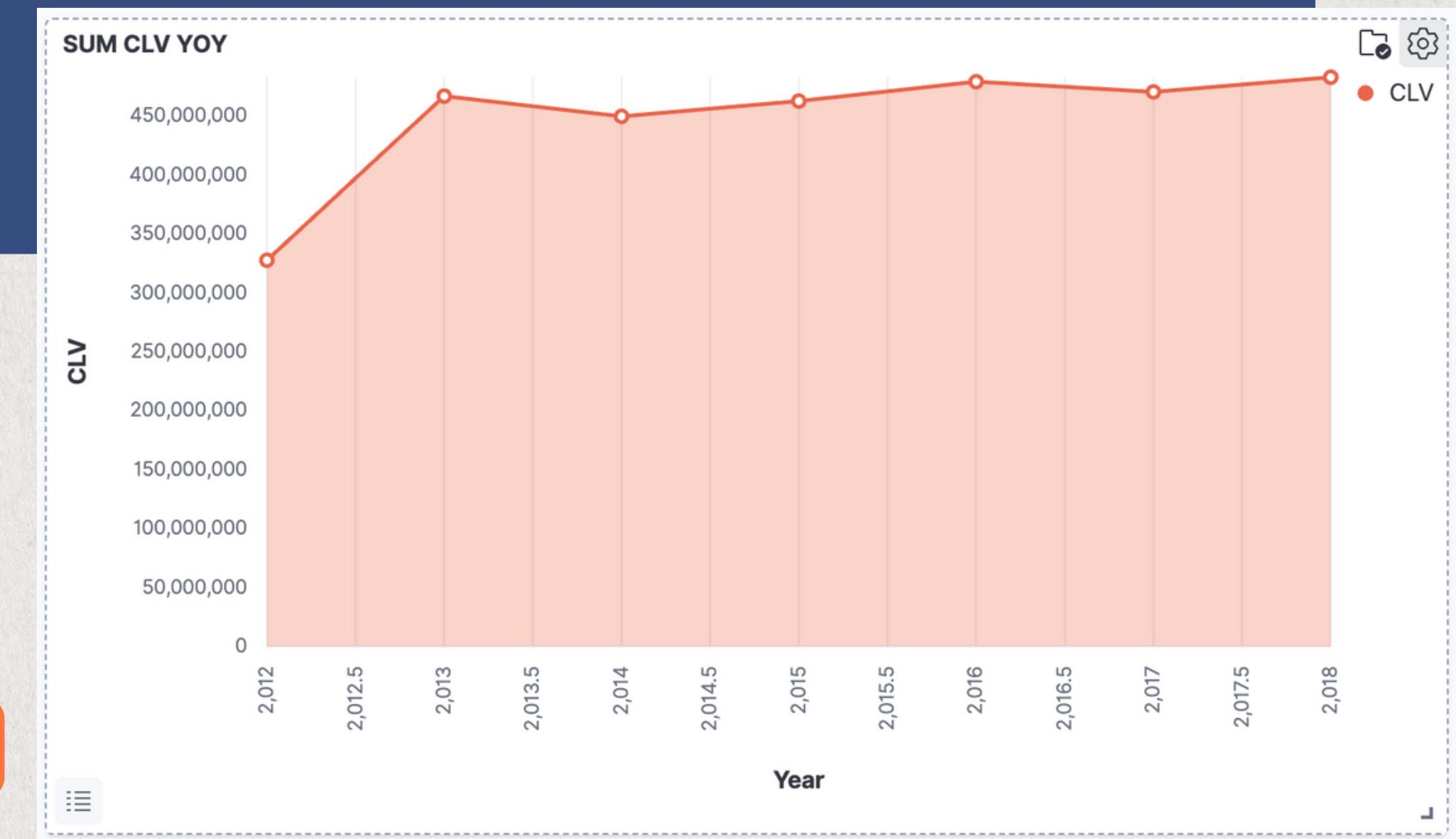
Since the inception of the aircraft loyalty program, and the surge in growth of registered members in May 2012. Year-on-year growth until early 2018 saw an average growth of 2000 members per month.



Impacted In Customer Lifetime Value

CLV (Customer Lifetime Value) is the total revenue or profit generated by a customer over the entire course of their relationship with your business.

C\$ 400 Million ++ Each Year.



Categories Airlanes Loyalty Program Card

STAR

NOVA

AURORA

[MS03] Loyalty Card				
Loyalty Card	Total Flight(avg)	Salary(avg)	Distance(avg)	CLV(avg)
Star	1.294	57,778.938	1,930.817	6,720.54
Nova	1.297	60,503.956	1,947.382	8,061.80
Aurora	1.294	61,006.859	1,955.074	10,666.50



Finding 01

Decreasing Total Flight in 2017

Source of Data : Maven Analytic



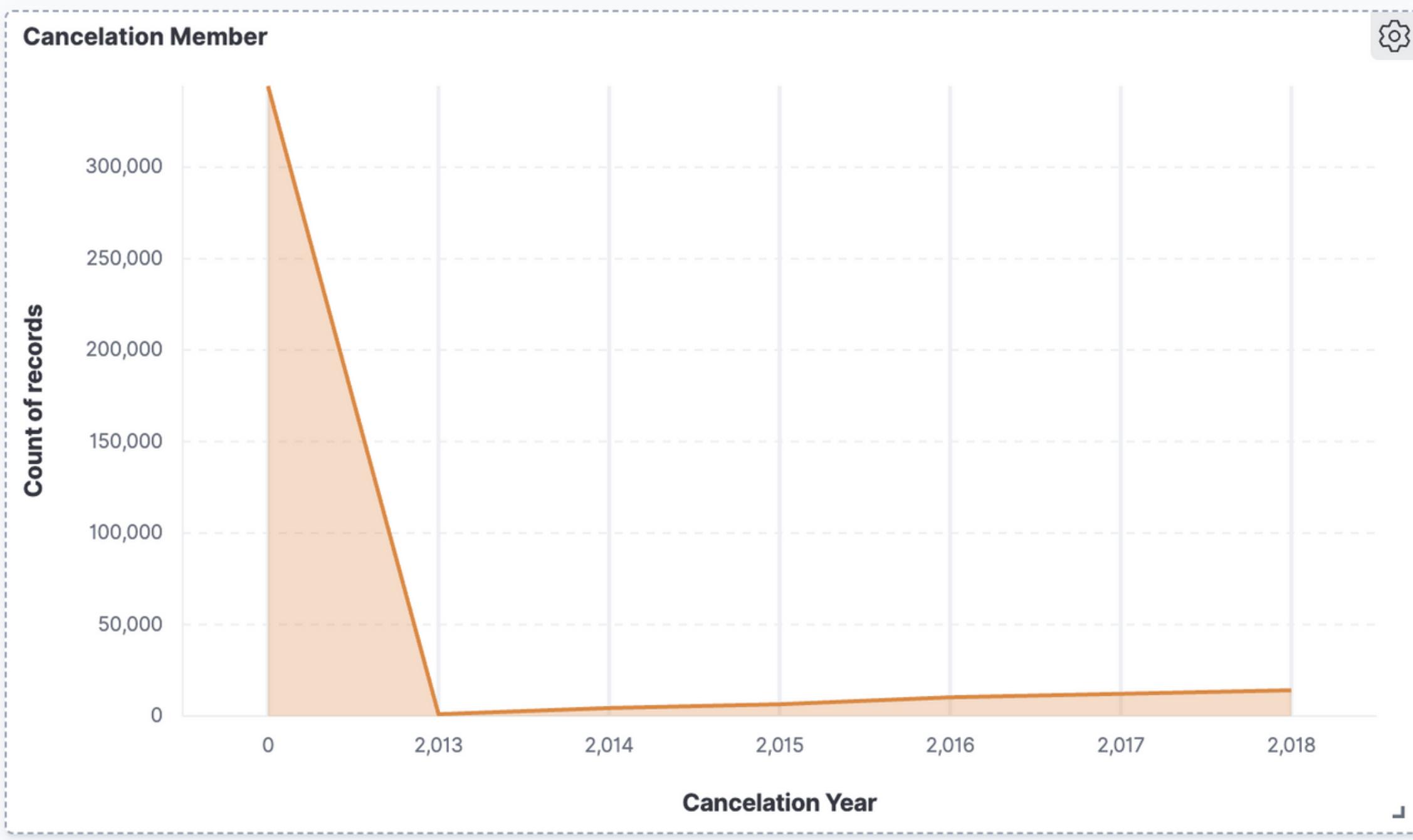
Wait?

The total number of flights decreased in 2017 where there was an increase or addition of Airlanes Loyalty Program members.

YEAR	Enrollment	Cancellation	Percentace
2012	41016		0%
2013	58032	1056	1.82%
2014	57288	4416	7.70%
2015	56520	6480	11.46%
2016	59520	10272	17.25%
2017	60432	12192	20.17%
2018	60128	14140	23.51%

Check Enrollment and Cancel

If we look at the ratio of customers who canceled their membership, we can see an increase of more than 11% since 2016. It continued to increase until it reached 23% in 2018.

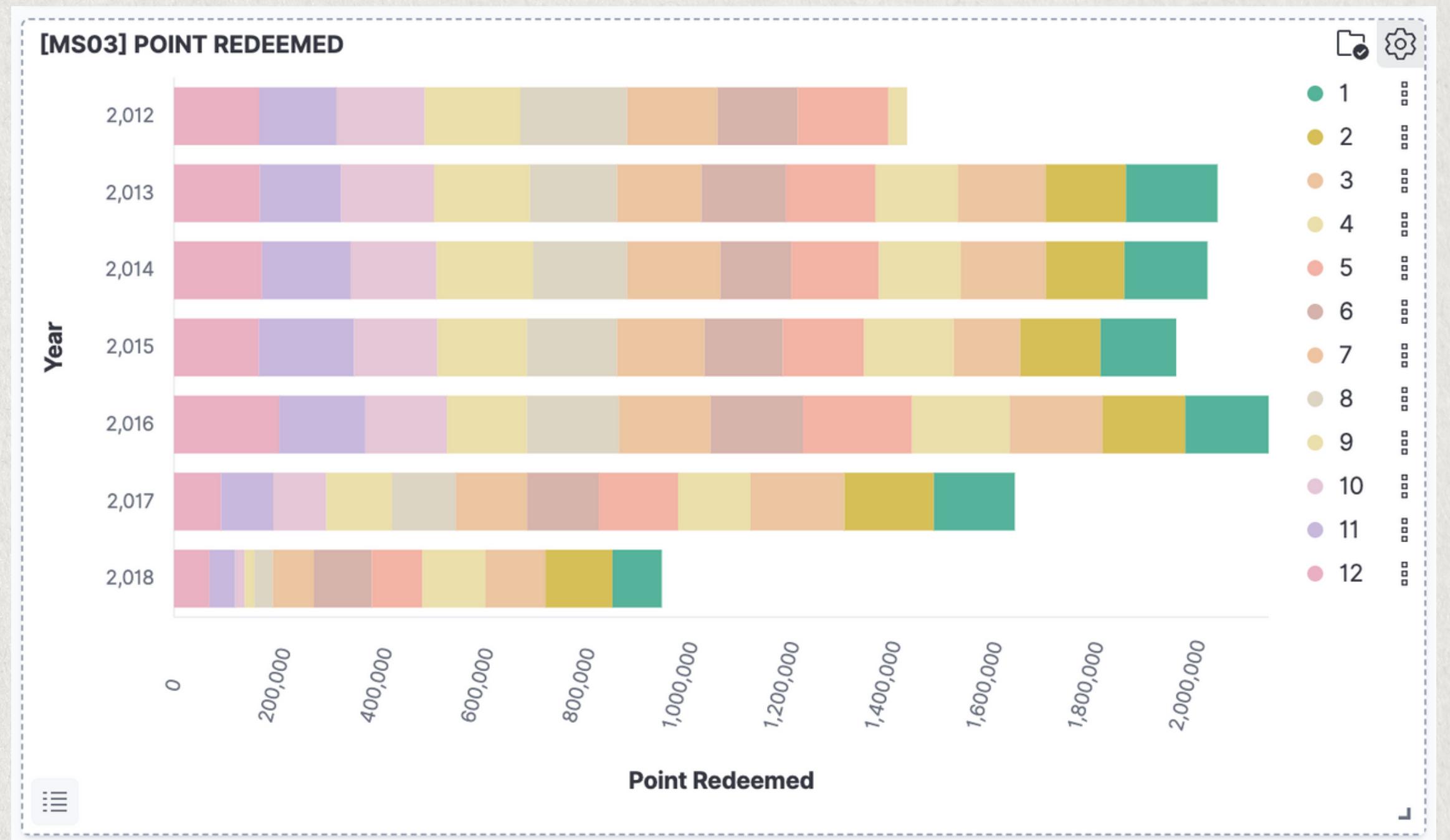


14.01%

*Comparison between
customers who are still
actively joining airlines
loyalty programs and
customers who was
cancelled the program*

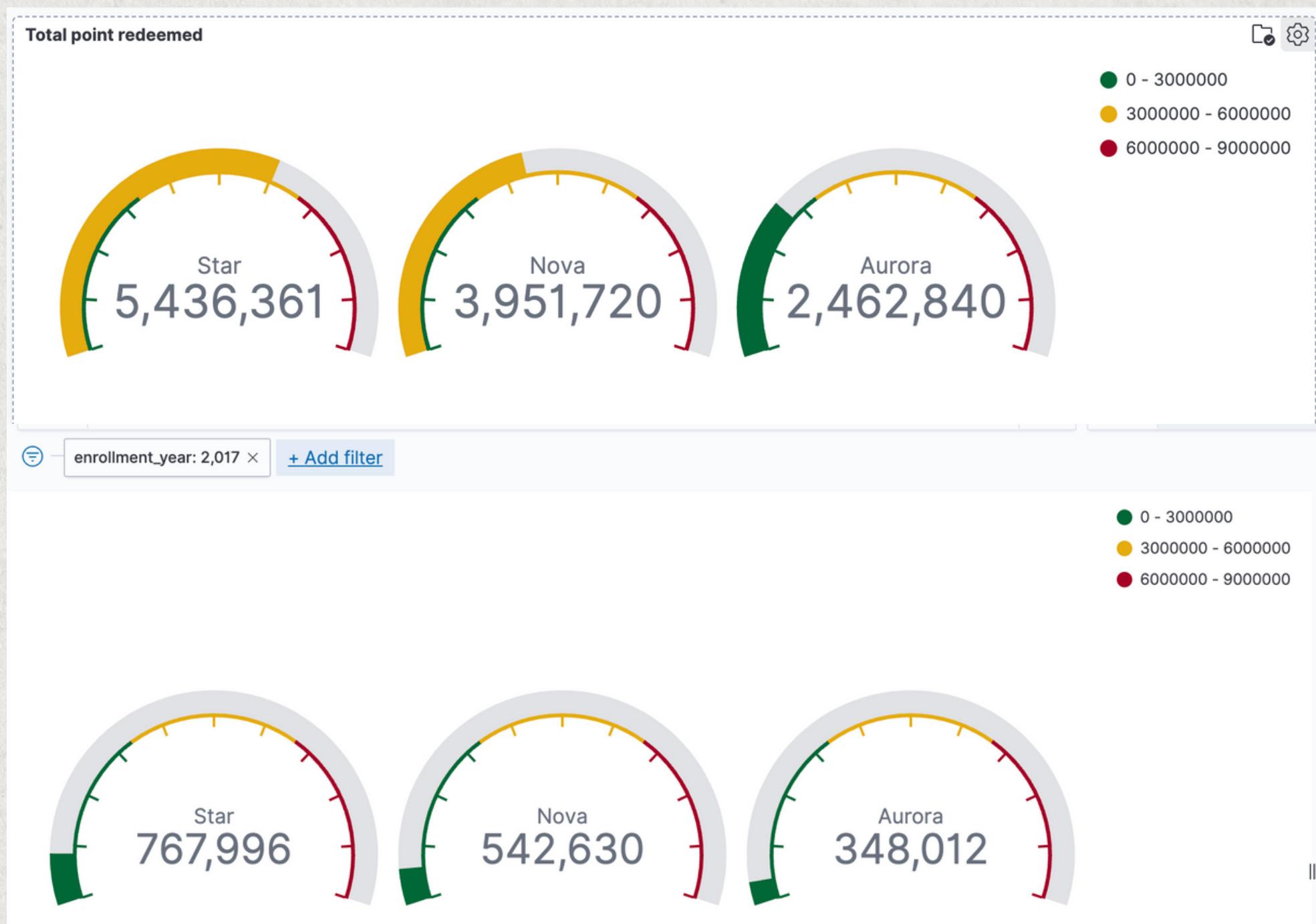


The decrease in Total Flight can be seen from the number of customers who have also decreased in redeeming points.





Customers who hold Star loyalty cards are very active in redeem points when compared to customers who have aurora loyalty cards.

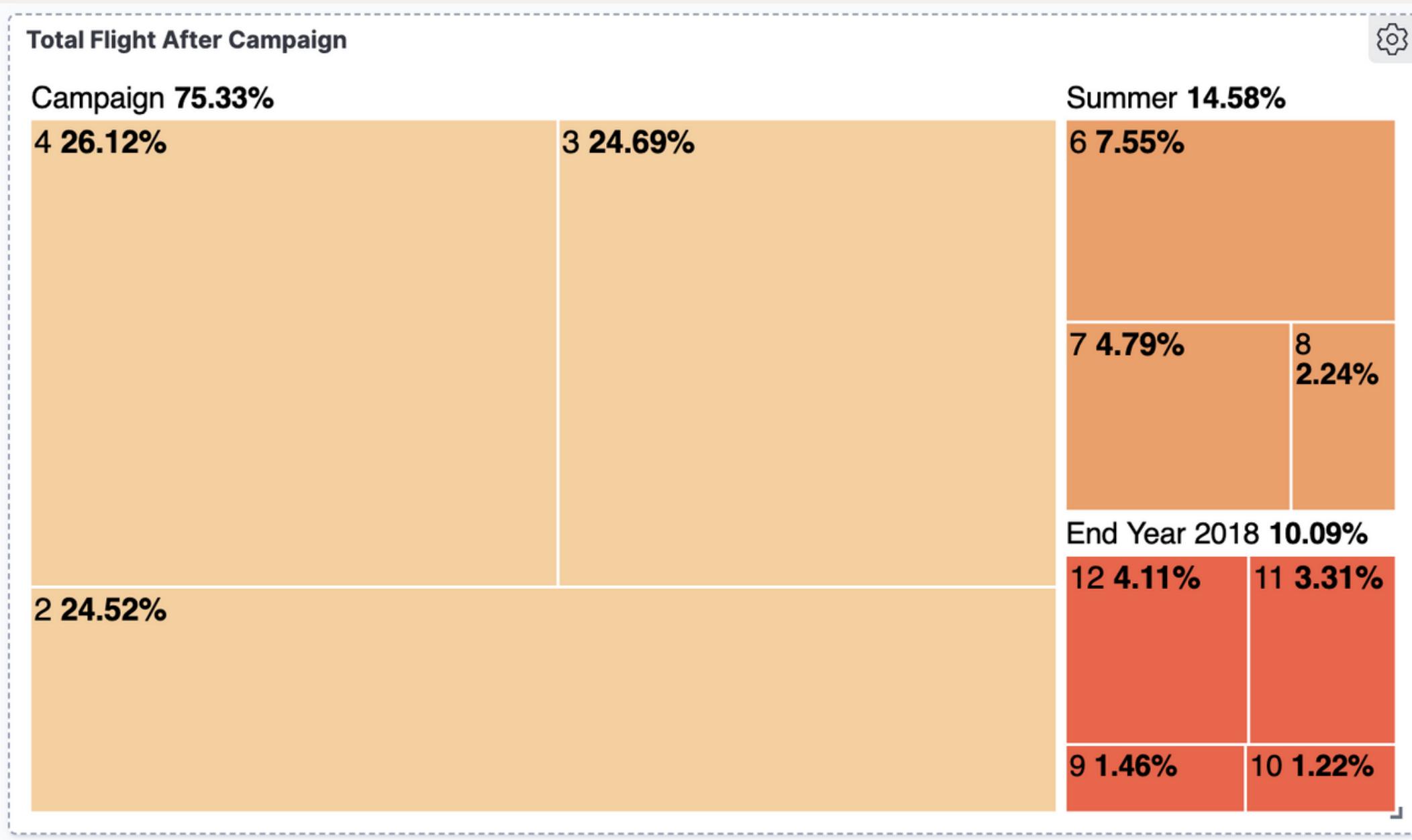




Finding 02

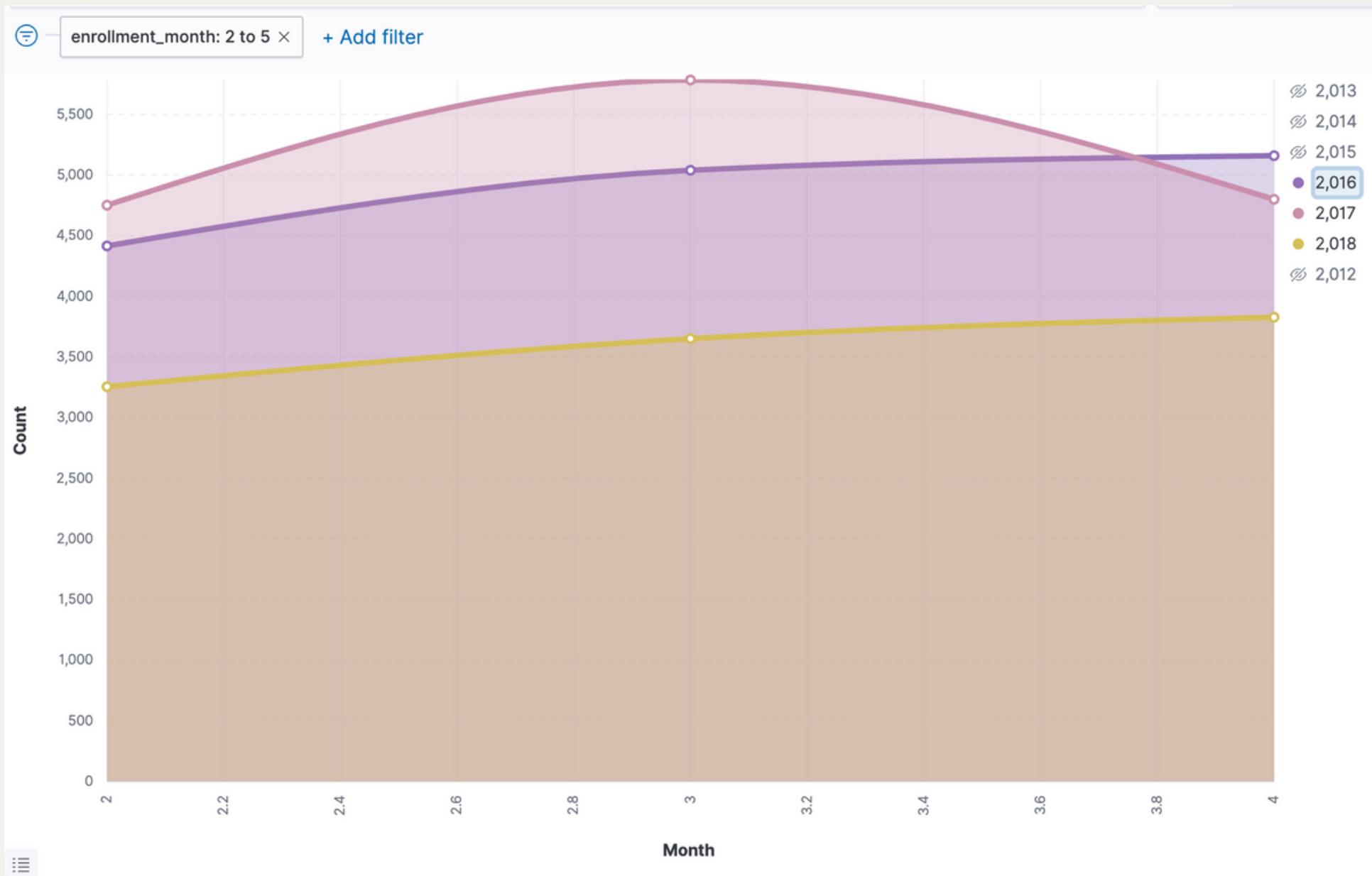
NLA Make A Campaign to Improve Program Enrollment

Source of Data : Maven Analytic



Summer Total Flight

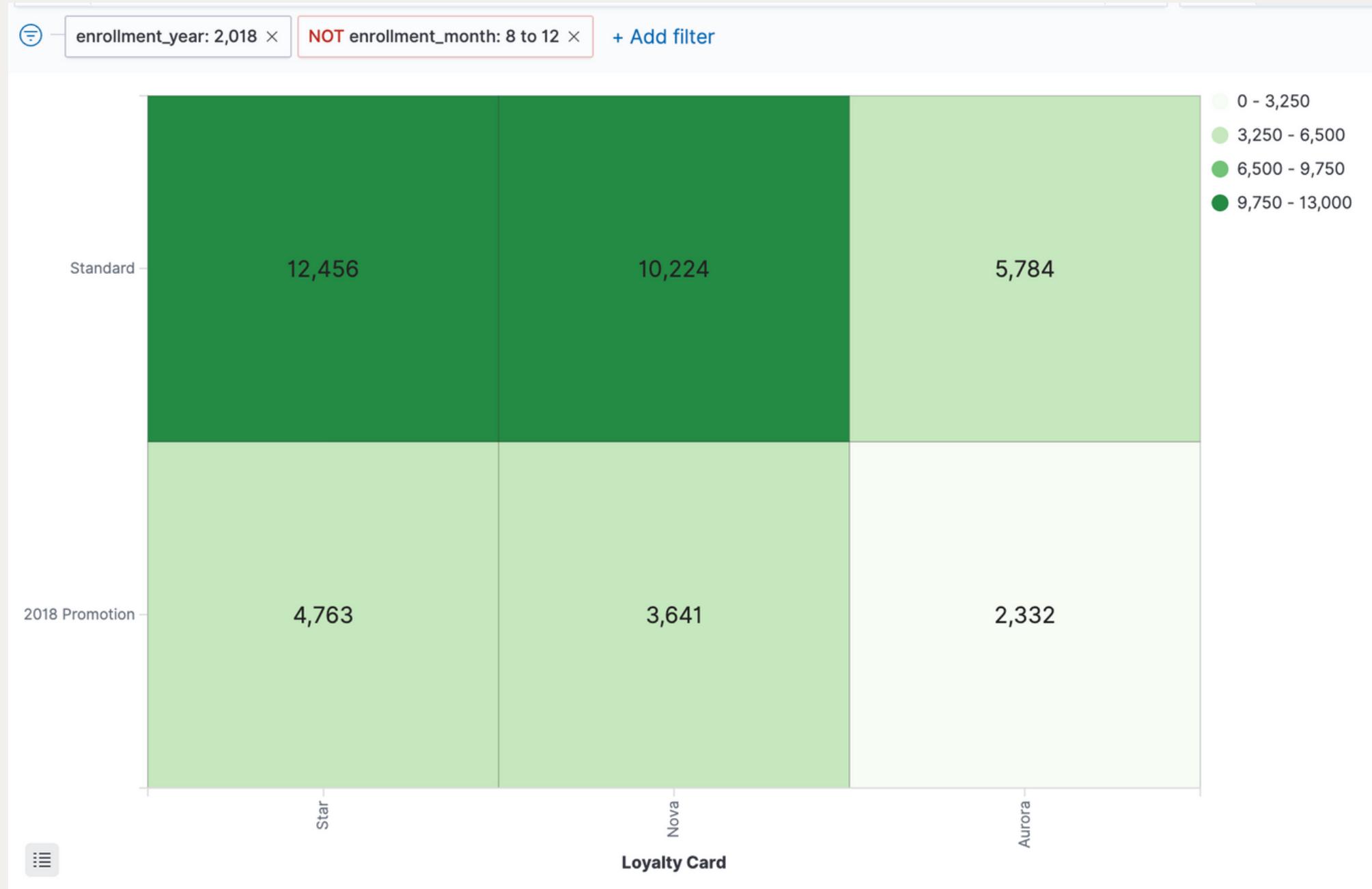
The impact of the post-campaign on total flights has decreased where in summer it only reached 14.58% in 2018.



Count Enrollment in Campaign Period

This visualization compares the 3-month campaign period conducted by NLA with the previous 2 years with the same 3-month period of February, March, and April.

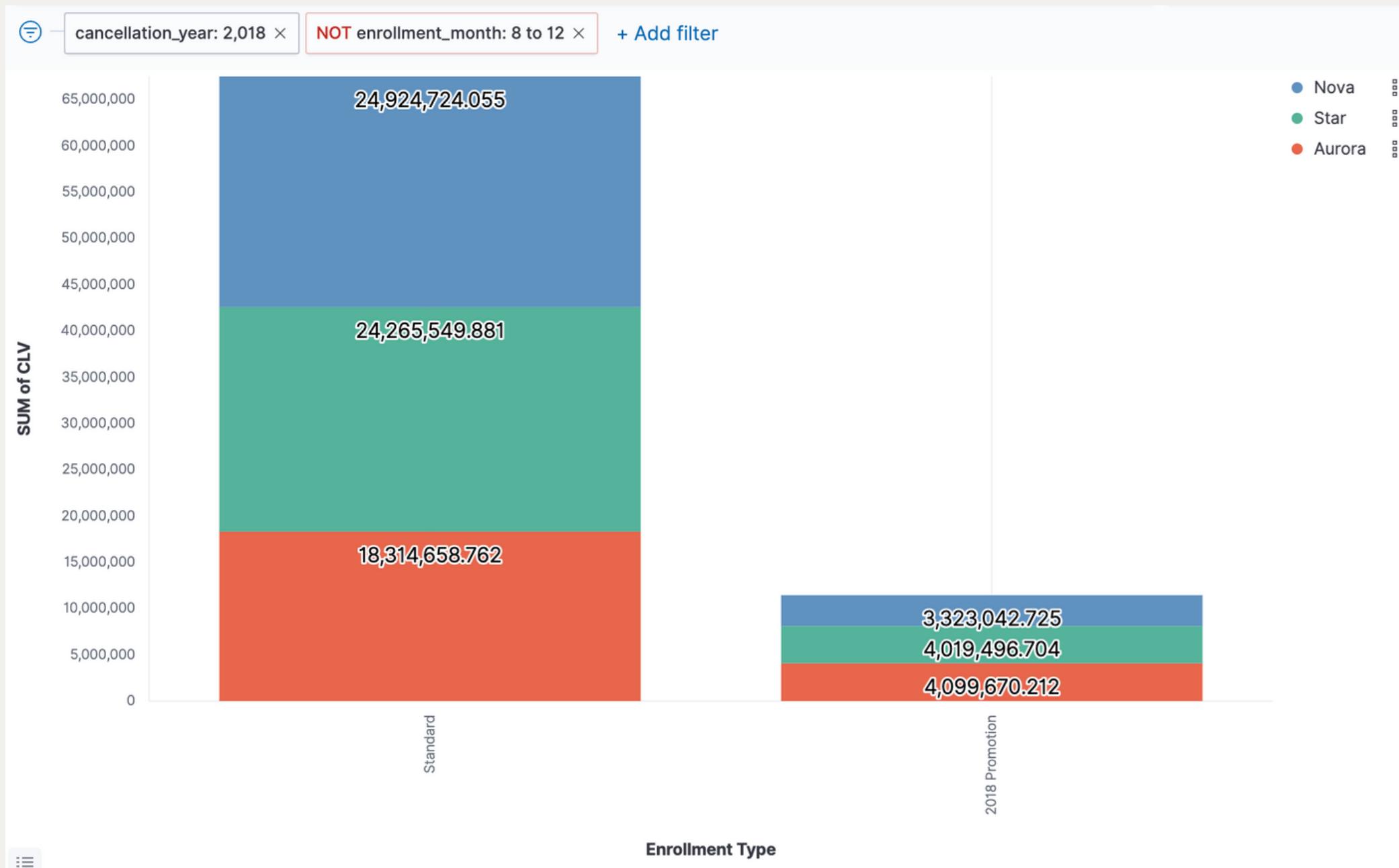
It can be seen that the customer enrollment has a range of more than 1500-2000 customers under the previous 2 years when NLA did not conduct a campaign.



Count Enrollment in 2018 Campaign

The comparison in the visualization shows the promotion period and 3 months after the promotion was completed.

It can be seen that customers who enroll the Star card type dominate. The campaign carried out by NLA is said to be **less successful in increasing enrollment** as seen from members who enroll outside the campaign period in larger numbers.



Sum CLV in 2018 Campaign

Comparison of customer lifetime value results during the campaign period in 2018 with customer lifetime value 3 months after the campaign period.

During the campaign period, customers with **Aurora loyalty cards generated the highest CLV value** compared to other loyalty card holders. It can be said that the benefits of this campaign are very influential on Aurora loyalty card holders, seen from the increase in CLV value.



Recap Finding

Finding 01

- The effect of the decline in total flights in this dataset can only be seen from the total points redeemed by members.
- Other causal factors why in 2017 there was a decrease in total flights and an increase in airline loyalty program cancelations need to be analyzed more deeply.
- Adding customer review data to better find out what exactly is the customer's expectation that has not been found in this loyalty program.

Finding 02

- In the campaign period run by the NLA in the February-April 2018 period, it was able to increase total flights.
- CLV value in the campaign period was below C\$5 million.
- For Aurora loyalty card user customers, it produces the highest CLV value during the period compared to other loyalty card holders. That means the campaign that is run is suitable for Aurora loyalty card holder customers.
- However, the campaign conducted by NLA proved that the campaign was not successful in improving enrollment.
- This is evidenced by the decline in total enrollment in the campaign period, the number of enrollments was below 4000 members,



Bussiness Insight

- To increase enrollment or create campaigns that attract more members to enroll in the loyalty program, it is necessary to cross-analyze customer satisfaction feedback in order to find out the causes of the increase in customer curn.
- Conduct an in-depth analysis of the strategies that have been carried out in 2015 that can manrik many customers register in the loyalty program so that they can be implemented again.
- The campaign conducted in 2018 was able to increase the CLV value of Aurora loyalty card holders. So it is better to evaluate the campaign to be developed with the aim of increasing the CLV value of other loyalty card holder customers.





Thank you
very much!