POWER BI
REPORT

FlyingWhale AirLine- 2024

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Introduction

In the dynamic landscape of the airline industry, the pursuit of excellence in customer service and operational efficiency is paramount for sustained success. FlyingWhale Airline, a leading fictional international carrier, recognizes the critical role of business intelligence (BI) in achieving these objectives. With a steadfast commitment to elevating the passenger experience, optimizing operational performance, and refining loyalty programs, FlyingWhale Airline embarks on a journey to harness the power of data-driven insights.

Background

FlyingWhale Airline, a prominent international carrier, is dedicated to enhancing its business intelligence capabilities to optimize customer experience and loyalty programs. With a commitment to understanding travel patterns and maximizing operational efficiency, FlyingWhale Airline embarks on leveraging data-driven insights to remain competitive and customer-centric in the dynamic aviation industry. In an era marked by evolving consumer preferences and competitive pressures, FlyingWhale Airline recognizes the imperative of adapting and innovating to maintain its position as a leader in service excellence and customer satisfaction. Through a thorough analysis of Customer Flight Activity and Customer Loyalty History, the airline seeks to glean actionable insights that will inform strategic decision-making and drive tangible business outcomes, ultimately reinforcing its commitment to delivering personalized experiences and fostering lasting loyalty among its diverse clientele.

Insights to be covered
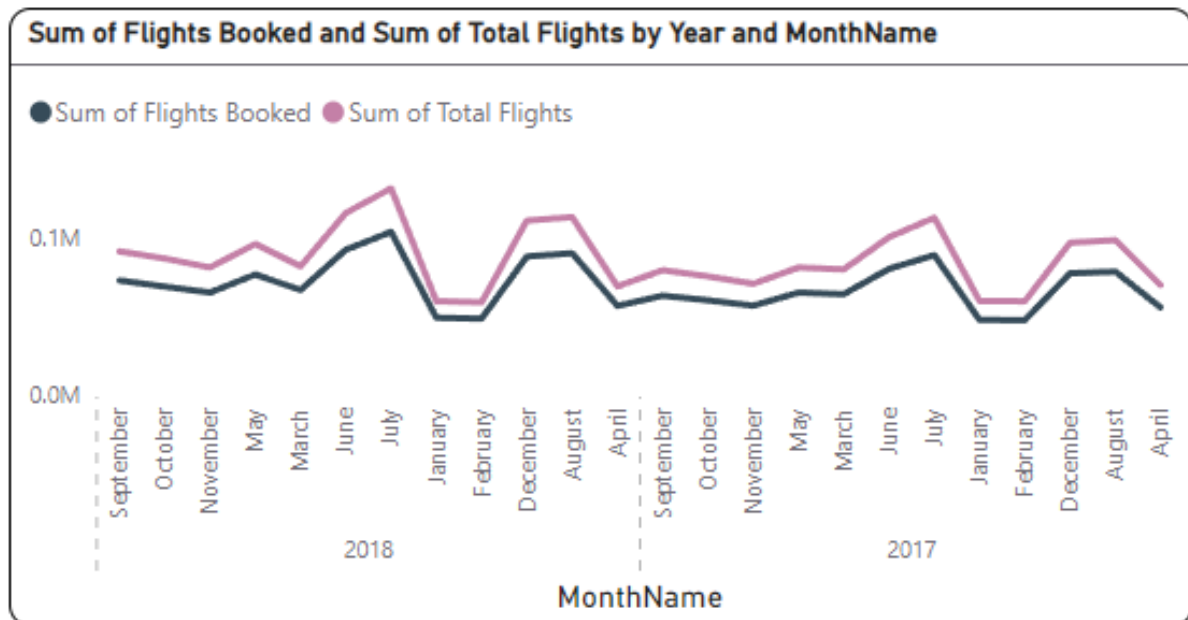
1. Flight Activity Analysis:

- Analyze monthly and yearly flight booking patterns.
- Explore the correlation between flight distances and loyalty points accumulated. Include a trend line and a max line. Assess the impact of companion bookings on loyalty points redeemed
- What is the number of companions where members are redeeming the most points?

2. Loyalty Segmentation:

- Segment customers based on loyalty card status.
- Show Total number of flights by Loyalty Card across months
- Analyze the demographics and behaviors of customers
- Depict Number of loyalty members by marital status
- Show flights booked by loyalty card and broken up by gender
- Show median distance travelled by different loyalty card tiers
- Use the Narrative visual to autogenerate insights. Make sure to remove insights that may not be useful.
- Identify trends in Customer Lifetime Value (CLV) across loyalty segments. Which credit card tier on average has customers with the highest Customer Lifetime Value?

3. Enrollment and Cancellation Trends:

- Analyze the reasons and patterns behind membership cancellations.
- Provide information for average duration of enrollment among cancelled members by province.
- Which province sees members cancelling the fastest? Bonus: Depict this information on a map
- Most popular months for cancellations
- Cancellations by education and marital status. Which demographic is cancelling the most?
- Which loyalty card members have the lowest enrollment duration among cancellations
- Recommend strategies for improving enrollment and retention.

Sum of Flights Booked and Sum of Total Flights by Year and MonthName
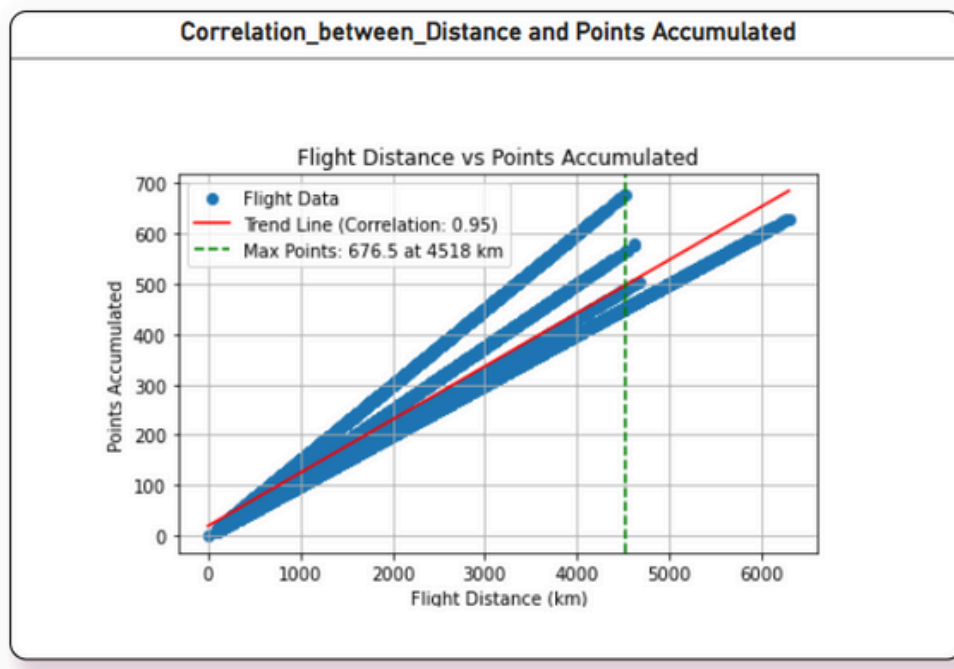
Description

an analysis of monthly and yearly flight booking patterns was conducted utilizing the Customer Flight Activity dataset. The dataset contains records of flights booked by customers over various periods, including details such as the month and year of booking. Months were appropriately named and sorted to ensure accurate analysis and visualization of the data.

Insights

- Monthly Flight Booking Patterns: The analysis revealed fluctuations in flight bookings throughout the year, with certain months exhibiting higher booking volumes compared to others. Seasonal trends may be evident, with peak travel months coinciding with holidays, vacation periods, or other factors influencing travel demand.
- Yearly Flight Booking Trends: By aggregating monthly data, overarching trends in yearly flight bookings emerged. These trends provide insights into the overall trajectory of customer demand over time, highlighting potential growth opportunities, challenges, or areas for optimization.

Interpretation

The consistent trend of higher flight bookings in July, August, and December each year suggests a clear seasonality in travel demand. July and August likely correspond to peak summer vacation months, while December may coincide with holiday travel. This pattern implies that customers prefer to travel during these periods, potentially for leisure or family-related reasons. FlyingWhale Airline can capitalize on these peak seasons by adjusting capacity, pricing strategies, and marketing efforts to meet the heightened demand, thereby maximizing revenue and enhancing customer satisfaction during these critical periods.

Correlation_between_Distance and Points Accumulated

Flight Distance vs Points Accumulated
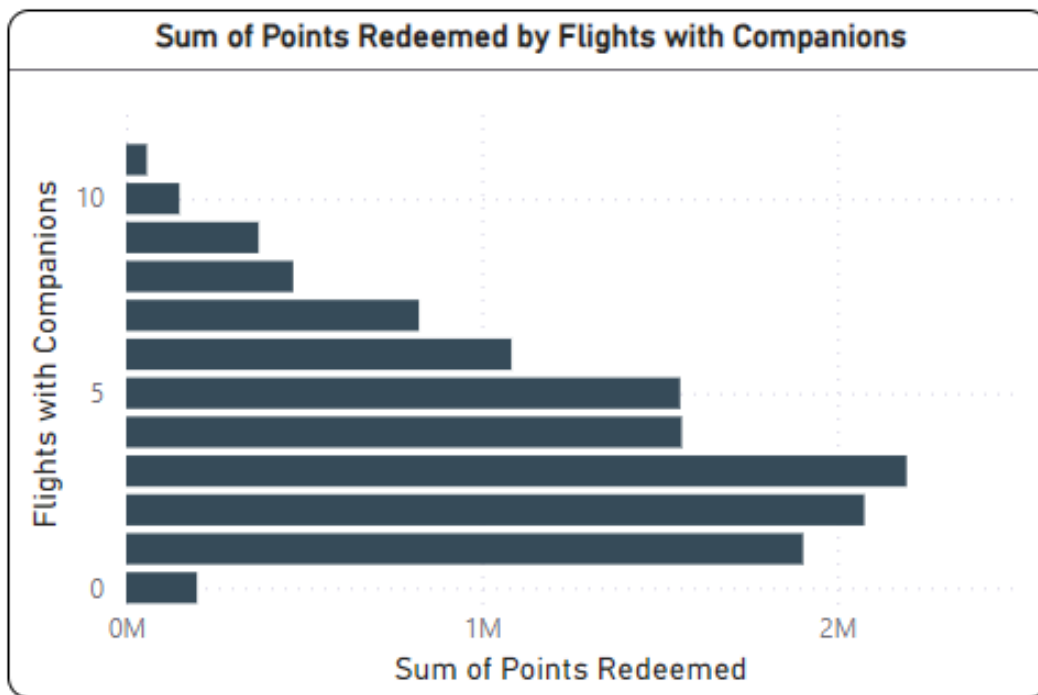
Description

An exploration of the correlation between flight distances and loyalty points accumulated was conducted using the available dataset. Flight distances represent the kilometers traveled during a specific period, while loyalty points accumulated denote the rewards earned by customers for their travel activity. The analysis aimed to uncover any discernible relationship between these two variables, with a focus on visualizing trends and identifying key insights.

Insights

- **Strong Positive Correlation:** The correlation coefficient of 0.95 indicates a strong positive correlation between flight distances and loyalty points accumulated. This suggests that as the distance traveled increases, there is a corresponding increase in the accumulation of loyalty points. Customers who undertake longer flights tend to accrue more loyalty points, potentially due to factors such as higher ticket prices, premium service offerings, or increased frequency of travel.

- **Trend Line and Max Line:** The inclusion of a trend line allows for the visualization of the overall trend in the relationship between flight distances and loyalty points accumulated. Additionally, the incorporation of a max line highlights the maximum loyalty points accumulated for a given flight distance, providing a reference point for performance evaluation and goal-setting.

Interpretation

The strong positive correlation between flight distances and loyalty points accumulated underscores the effectiveness of FlyingWhale Airline's loyalty program in incentivizing customer engagement and reward redemption. This insight enables the airline to strategically manage its loyalty program, tailor marketing strategies, and optimize revenue generation. By rewarding customers proportionally to their travel activity, the airline encourages loyalty and repeat business, ultimately enhancing customer retention and lifetime value while maintaining competitiveness in the market.

Sum of Points Redeemed by Flights with Companions

Description

The analysis assesses the impact of companion bookings on loyalty points redeemed by members of FlyingWhale Airline's loyalty program. Companion bookings refer to flights booked with additional passengers accompanying the primary member. The dataset provides insights into the number of companions associated with loyalty point redemptions, allowing for an examination of how these bookings influence the redemption of loyalty points.

Insights

Optimal Companion Bookings: The analysis reveals that members redeem the most loyalty points when booking flights with three companions. This suggests that there may be a threshold effect, wherein the presence of three companions maximizes the redemption of loyalty points.

Interpretation

Strategic Companion Booking Incentives: Understanding the optimal number of companions for maximizing loyalty point redemption enables FlyingWhale Airline to strategically design companion booking incentives within its loyalty program. By offering targeted promotions or rewards for bookings with three companions, the airline can encourage customers to maximize their loyalty point redemptions, thereby enhancing engagement and fostering loyalty.

This concise interpretation highlights the strategic implications of the analysis, allowing FlyingWhale Airline to leverage insights to optimize its loyalty program and enhance customer satisfaction.

| MonthName	Aurora	Nova	Star	Total
⊟ July	40152	64705	88574	193431
2016	7328	11009	15335	33672
2013	6679	10810	14733	32222
2014	6651	10460	14307	31418
2015	5986	9755	14231	29972
2017	5163	8633	12478	26274
2012	4481	7855	10086	22422
2018	3864	6183	7404	17451
⊞ June	35742	58891	78609	173242
⊞ August	34388	57988	76828	169204
⊞ December	34527	56173	75347	166047
⊞ May	29536	48221	64413	142170
⊞ September	28621	45415	62343	136379
⊞ March	26904	44267	60028	131199
⊞ October	26924	44199	58338	129461
⊞ November	25164	41364	55722	122250
⊞ April	23231	38164	51116	112511
⊞ January	20050	33027	43859	96936
⊞ February	19805	32446	44083	96334
Total	345044	564860	759260	1669164

Description

The analysis segments customers based on their loyalty card status within FlyingWhale Airline's loyalty program. The dataset is structured to include information on the total number of flights taken by customers categorized by their loyalty card status across different months.

Insights

- **Segmentation by Loyalty Card Status:** Customers are segmented into distinct groups based on their loyalty card status, such as standard members and those with upgraded or premium membership tiers.

- **Total Number of Flights:** The analysis provides a breakdown of the total number of flights taken by customers within each loyalty card status category across various months. This allows for a comparison of flight activity between different customer segments over time.

Interpretation

- **Targeted Marketing Strategies:** By segmenting customers based on loyalty card status and analyzing their flight activity, FlyingWhale Airline can tailor marketing strategies and promotional offers to cater to the unique preferences and behaviors of each customer segment. For example, premium members may be targeted with exclusive benefits or upgrades to enhance their loyalty and encourage continued patronage.

- **Performance Evaluation:** The analysis enables FlyingWhale Airline to assess the performance of its loyalty program across different customer segments. By comparing the total number of flights taken by customers with varying loyalty card statuses, the airline can identify areas for improvement or optimization in its loyalty program offerings and benefits.

**Count of Loyalty Number by Marital Status**
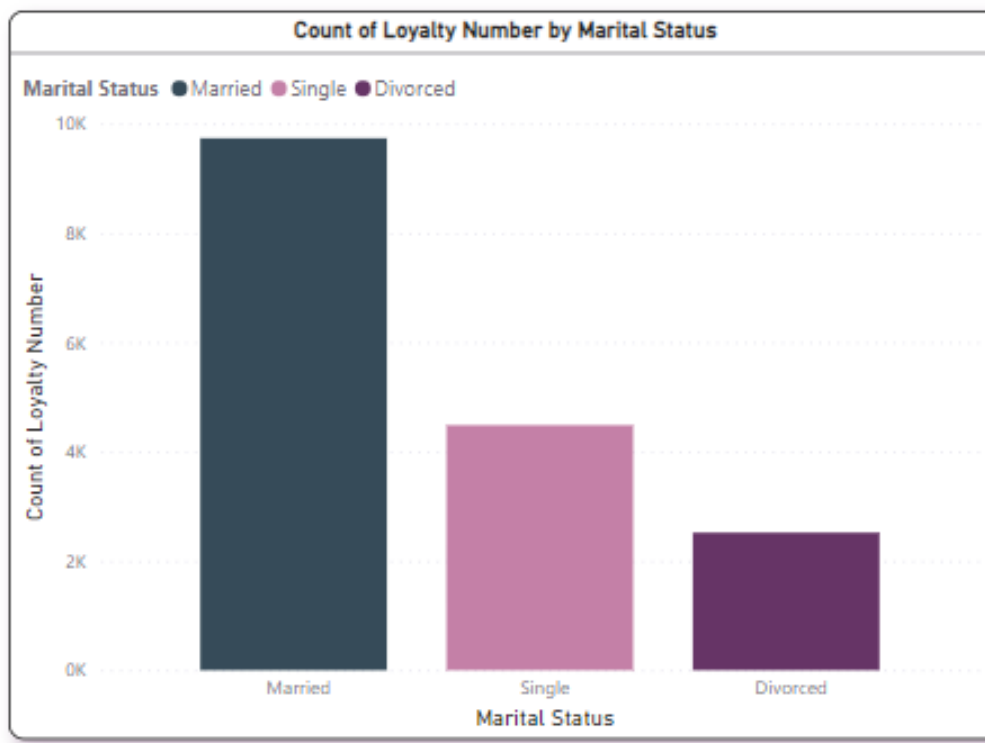
Description

The analysis examines the demographics and behaviors of customers within FlyingWhale Airline's loyalty program. Specifically, it focuses on depicting the number of loyalty program members categorized by marital status.

Insights

- **Marital Status Distribution:** The analysis reveals the distribution of loyalty program members across different marital status categories, such as single, married, divorced, or widowed.

- **Loyalty Program Membership:** Each marital status category is associated with a corresponding count of loyalty program members, providing insights into the demographic composition of the loyalty program base.

Interpretation

- **Targeted Marketing Strategies:** Understanding the marital status distribution among loyalty program members enables FlyingWhale Airline to tailor its marketing strategies and communication efforts to resonate with the unique needs and preferences of each demographic segment. For example, marketing campaigns may be customized to appeal to married couples planning family vacations or to singles seeking solo travel experiences.

- **Customer Engagement Opportunities:** By analyzing the number of loyalty program members by marital status, FlyingWhale Airline can identify potential opportunities to engage with specific demographic groups more effectively. For instance, special promotions or loyalty program benefits may be offered to newlyweds or couples celebrating anniversaries, fostering deeper connections and enhancing customer loyalty.

**Sum_Flights Booked by Loyalty Card & Gender**
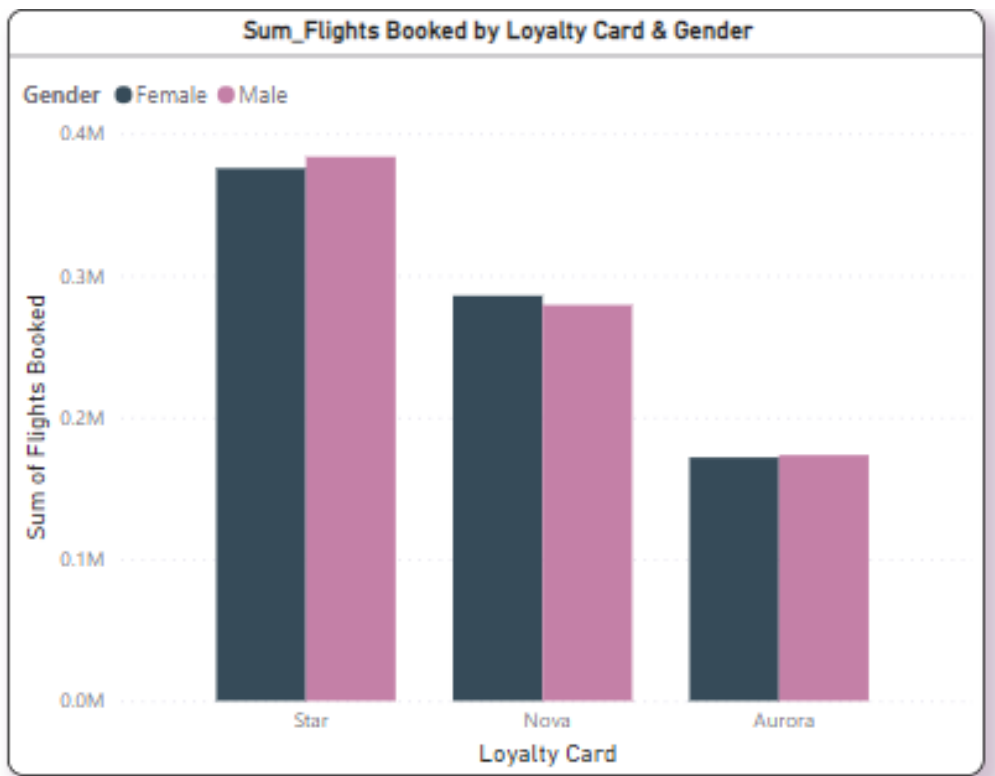
Description

The analysis dissects flight bookings by loyalty card status and further segments the data based on gender within FlyingWhale Airline's customer base. The dataset provides insights into the number of flights booked by loyalty card holders, categorized by gender.

Insights

- **Loyalty Card Status Breakdown:** The analysis presents a breakdown of flight bookings by different loyalty card statuses, such as standard, premium, or elite membership tiers.

- **Gender Segmentation:** Within each loyalty card status category, the data is segmented based on gender, allowing for a comparison of flight bookings between male and female customers.

Interpretation

- **Gender-Based Marketing Strategies:** By dissecting flight bookings by loyalty card and gender, FlyingWhale Airline can develop targeted marketing strategies tailored to the preferences and behaviors of male and female customers across different loyalty tiers. This approach enables the airline to personalize promotional offers and incentives, optimizing customer engagement and loyalty.

- **Customer Segmentation Insights:** Analyzing flight bookings by loyalty card and gender provides valuable insights into the booking behaviors of different customer segments. FlyingWhale Airline can leverage this information to identify trends, preferences, and opportunities for enhancing service offerings and loyalty program benefits to better meet the needs of its diverse customer base.

Median_Distance_By_Loyalty_Card

519 (35.82%)
480 (33.13%)
450 (31.06%)

- Aurora_MD
- Nova_MD
- Star_MD
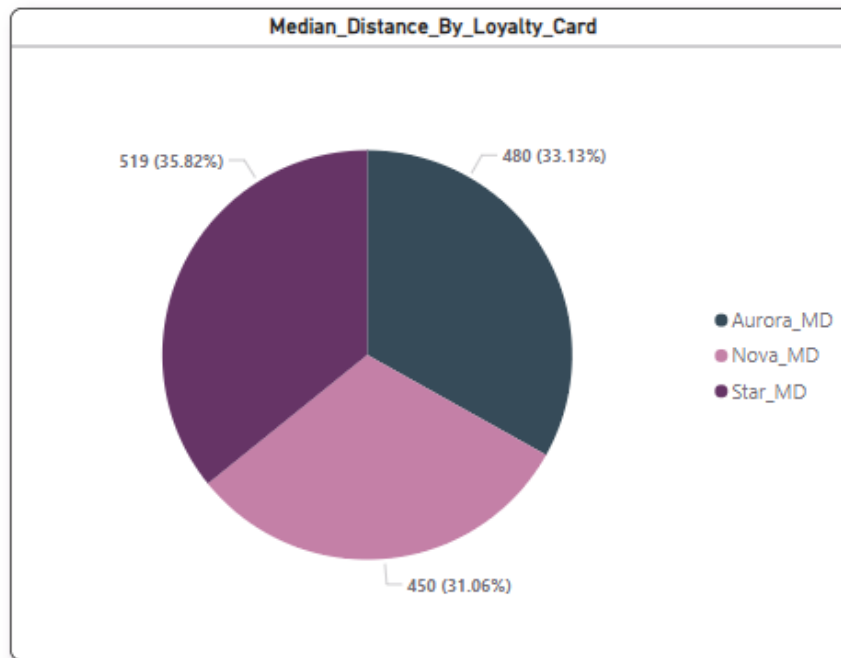
Description

The analysis focuses on depicting the median distance traveled by customers across different loyalty card tiers within FlyingWhale Airline's customer base. The dataset provides insights into the median distance traveled by customers categorized by their loyalty card status, such as standard, premium, or elite membership tiers.

Insights

- *Loyalty Card Tier Breakdown:* The analysis presents a breakdown of median distance traveled by customers across various loyalty card tiers.

- *Distance Comparison:* By comparing the median distance traveled between different loyalty card tiers, the analysis highlights potential variations in travel behavior and preferences among customers with different levels of loyalty program membership.

Interpretation

- *Tier-Based Service Customization:* Understanding the median distance traveled by different loyalty card tiers allows FlyingWhale Airline to customize its services and offerings to better meet the needs and expectations of customers in each tier. For example, premium or elite members who typically travel longer distances may benefit from enhanced amenities or exclusive perks tailored to their travel preferences.

- *Loyalty Program Optimization:* Analyzing the median distance traveled by different loyalty card tiers provides insights into the value proposition of each tier within the loyalty program. FlyingWhale Airline can use this information to optimize its loyalty program benefits and incentives, ensuring that each tier offers compelling rewards and experiences that resonate with its target customer segments.
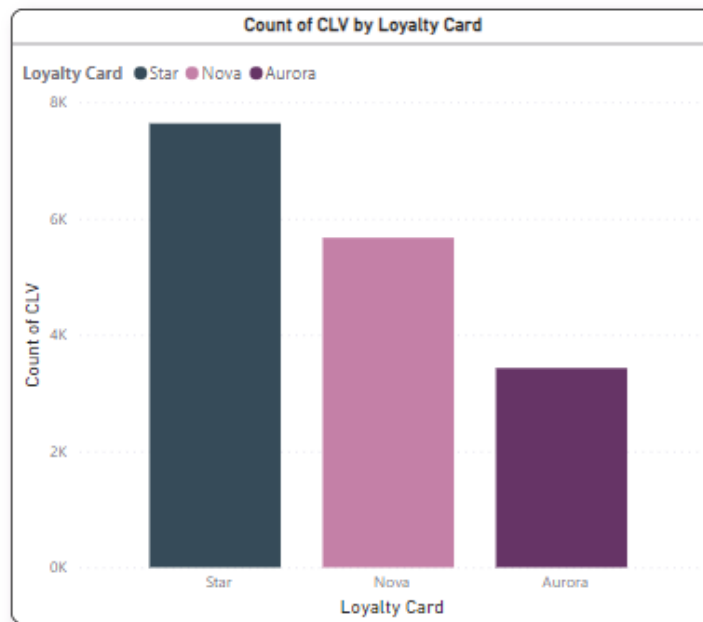
Description

As we delve into the analysis of FlyingWhale Airline's customer demographics and booking behaviors, it's crucial to understand the nuanced trends and patterns that emerge from the data. By examining key metrics such as gender distribution, average flight bookings, disparities in flight bookings based on loyalty card status, and the distribution of loyalty numbers across different marital statuses, we gain valuable insights into the diverse characteristics and behaviors of FlyingWhale Airline's loyal customer base. Let's explore the narrative insights to uncover actionable information that can inform strategic decision-making and enhance customer engagement efforts."

Insights

- ***Gender and Flight Bookings:*** Males accounted for approximately 22.99% of the total sum of flights booked, indicating a slightly higher participation compared to females.

- ***Average Flight Bookings by Gender:*** On average, males had a slightly higher sum of flights booked (278,722) compared to females (277,666).

- ***Gender Disparity in Flight Bookings by Loyalty Card Status:*** The largest disparity between male and female flight bookings occurred when the loyalty card status was "Star," with males booking 8,098 more flights than females in this category.

- ***Marital Status and Loyalty Number Counts:*** Married individuals had the highest count of loyalty numbers at 9,735, representing a significant portion of the customer base. In contrast, divorced individuals had the lowest count of loyalty numbers at 2,518, indicating a lower level of participation.

Interpretation

These insights provide valuable information on gender disparities in flight bookings, average flight bookings by gender, differences in flight bookings based on loyalty card status, and the distribution of loyalty numbers across different marital statuses.

Count of CLV by Loyalty Card

Loyalty Card ● Star ● Nova ● Aurora

Description

This analysis focuses on identifying trends in Customer Lifetime Value (CLV) across different loyalty segments within FlyingWhale Airline's customer base. The dataset provides insights into the CLV of customers segmented by their loyalty card tiers.

Insights

- **CLV Trends Across Loyalty Segments:** The analysis reveals variations in CLV across different loyalty segments, indicating differences in the lifetime value of customers based on their loyalty card tiers.

- **Highest CLV by Loyalty Card Tier:** On average, customers holding the Star loyalty card tier exhibit the highest CLV compared to other loyalty card tiers, indicating that this segment represents the most valuable customers in terms of lifetime value.

Interpretation

- **Strategic Insights for Loyalty Program Management:** Identifying trends in CLV across loyalty segments provides valuable insights for FlyingWhale Airline to optimize its loyalty program offerings. By understanding which loyalty segments contribute the most to CLV, the airline can tailor its loyalty program benefits and incentives to further engage and retain high-value customers.

- **Focus on Star Loyalty Card Tier:** The finding that customers with the Star loyalty card tier have the highest CLV underscores the importance of this segment to FlyingWhale Airline's overall revenue and profitability. This insight suggests that allocating resources and initiatives to enhance the experience and retention of Star tier customers may yield the greatest returns in terms of CLV and long-term profitability.
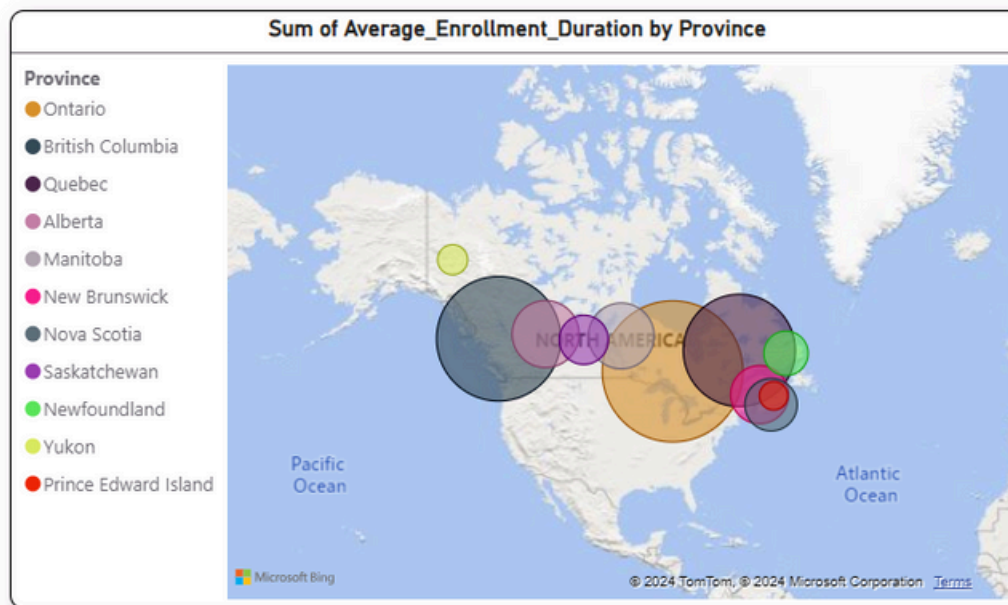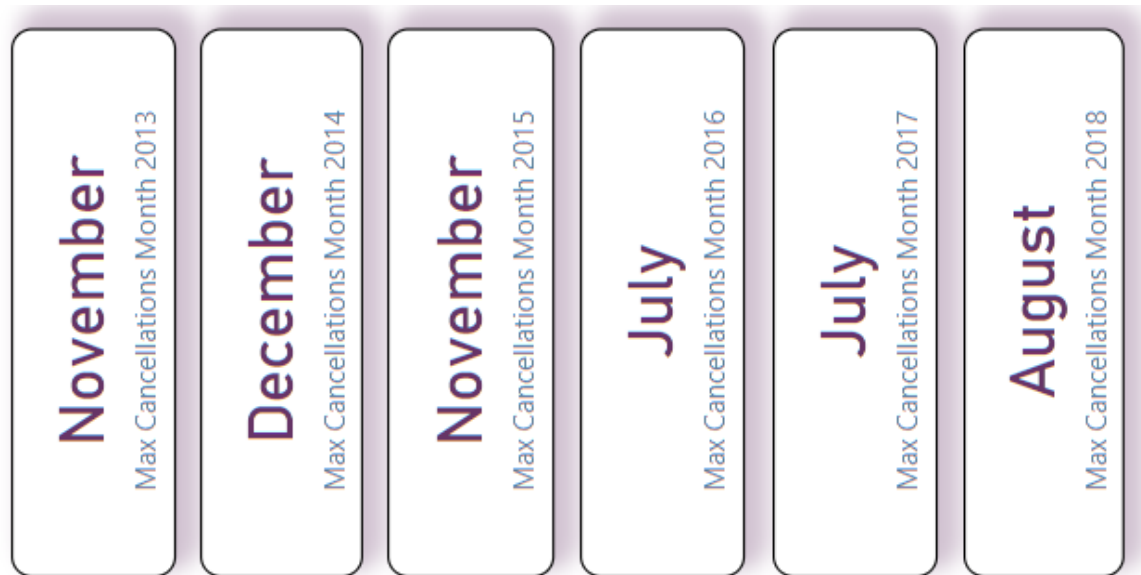
Description

This analysis examines the average duration of enrollment among members who have canceled their membership within FlyingWhale Airline's loyalty program, segmented by province. The dataset provides insights into the average duration of enrollment before cancellation for members across different provinces.

Insights

- ***Average Duration of Enrollment among Cancelled Members:*** The analysis reveals the average length of time that members remain enrolled in the loyalty program before canceling their membership, broken down by province. This metric provides insights into the retention period of members before attrition.

- ***Province with Fastest Cancellation Rate:*** By comparing the average duration of enrollment across provinces, the analysis identifies which province experiences the fastest cancellation rate, indicating potential challenges or issues in member retention and engagement in that region.

Interpretation

- ***Retention Strategy Optimization:*** Understanding the average duration of enrollment among canceled members by province allows FlyingWhale Airline to identify regions with the highest cancellation rates and prioritize retention efforts accordingly. By addressing factors contributing to early cancellations in these regions, such as service quality, competition, or demographic trends, the airline can implement targeted strategies to improve member retention and loyalty.

- ***Geospatial Insights for Decision-Making:*** Depicting this information on a map provides visual clarity on cancellation trends across different provinces, facilitating informed decision-making and resource allocation. By visualizing provinces with the fastest cancellation rates, FlyingWhale Airline can pinpoint geographic areas requiring focused attention and intervention to mitigate attrition and enhance customer retention efforts.

November Max Cancellations Month 2013	**December** Max Cancellations Month 2014	**November** Max Cancellations Month 2015	**July** Max Cancellations Month 2016	**July** Max Cancellations Month 2017	**August** Max Cancellations Month 2018

Description

This analysis focuses on identifying the most popular months for cancellations within FlyingWhale Airline's loyalty program. The dataset provides insights into the distribution of cancellations across different months, allowing for the identification of peak cancellation periods. Additionally, the analysis displays the month from each year with the highest number of cancelled flights, categorized by the used card.

Insights

Most Popular Months for Cancellations: The analysis reveals the specific months within each year that experienced the highest number of canceled flights within the loyalty program. By isolating the peak cancellation months, patterns and trends in member attrition become apparent, allowing for targeted interventions to improve retention.

Interpretation

- ***Strategic Retention Planning:*** Identifying the most popular months for cancellations enables FlyingWhale Airline to implement proactive retention strategies during these periods. By understanding the factors contributing to increased cancellations during certain months, such as seasonal travel patterns, economic conditions, or service issues, the airline can develop targeted initiatives to mitigate attrition and enhance member satisfaction.

- ***Operational Optimization:*** Utilizing PowerBI's cards visuals to display the peak cancellation months provides a succinct and easily understandable representation of cancellation trends over time. This enables FlyingWhale Airline to quickly identify and prioritize months requiring heightened attention and resources for retention efforts, streamlining decision-making and operational planning.

Cancellation by Demographics

| Education ▲	Divorced		Married		Single		Total
Bachelor	🔶	192	🟢	865	🔺	229	1286
College	🔶	44	🔶	193	🔺	290	527
Doctor	🔶	24	🔶	57	🔶	15	96
High School or Below	🔶	14	🔶	66	🔶	13	93
Master	🔶	17	🔶	33	🔶	15	65
Total		291		1214		562	2067

Description

This analysis examines cancellations within FlyingWhale Airline's loyalty program, focusing on the intersection of education and marital status demographics. The dataset is utilized to determine which demographic group exhibits the highest cancellation rate.

Insights

Cancellations by Education and Marital Status: The analysis reveals cancellation trends among different demographic groups based on their education level and marital status. By comparing cancellation rates across various combinations of education and marital status, insights into the most prevalent cancellation demographics emerge.

Interpretation

- ***Identifying the Most Cancellation-Prone Demographic:*** Married individuals pursuing bachelor's degrees are identified as the demographic group with the highest cancellation rate. This finding highlights a specific demographic segment that may be more susceptible to flight cancellations, necessitating targeted retention efforts and customer satisfaction initiatives tailored to address their unique needs and concerns.

- ***Tailored Retention Strategies:*** Armed with knowledge of the demographic group exhibiting the highest cancellation rate, FlyingWhale Airline can develop customized retention strategies to mitigate cancellations among married individuals pursuing bachelor's degrees. These strategies may include personalized communication, exclusive offers, or enhanced customer support services designed to improve satisfaction and loyalty within this demographic segment.
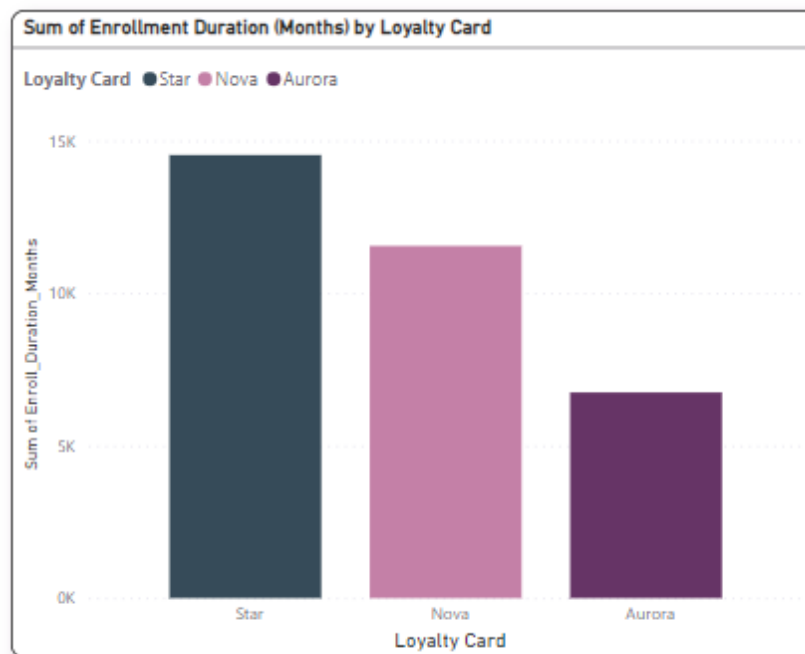
Description

This analysis investigates the enrollment duration among canceled members within FlyingWhale Airline's loyalty program, focusing on different loyalty card tiers. The dataset is utilized to identify which loyalty card members have the shortest enrollment duration before cancellation.

Insights

Enrollment Duration among Canceled Members: The analysis examines the length of time that members remain enrolled in the loyalty program before canceling their membership. By comparing enrollment durations across different loyalty card tiers, insights into the shortest enrollment durations among canceled members are revealed.

Interpretation

- ***Identification of Loyalty Card with Shortest Enrollment Duration:*** Aurora loyalty card members are identified as having the shortest enrollment duration among canceled members. This finding suggests that members holding the Aurora loyalty card tier may be more prone to early attrition or dissatisfaction, warranting further investigation into the factors contributing to their short enrollment durations and potential opportunities for retention.

- ***Retention Strategy Alignment:*** Understanding which loyalty card tier experiences the shortest enrollment duration among canceled members allows FlyingWhale Airline to align its retention strategies and resources accordingly. By focusing on initiatives tailored to address the needs and preferences of Aurora loyalty card members, such as personalized offers, enhanced services, or targeted communication, the airline can improve member satisfaction and loyalty, ultimately reducing early cancellations.

Conclusion

In conclusion, the analysis presented in this report provides valuable insights into the dynamics of FlyingWhale Airline's loyalty program, shedding light on customer demographics, booking behaviors, retention trends, and factors influencing member attrition. By delving into various aspects of customer data, we have gained a deeper understanding of the challenges and opportunities facing the airline in its quest to optimize customer satisfaction, loyalty, and overall business performance.

Our exploration of customer demographics has revealed intriguing patterns, from gender disparities in flight bookings to the distribution of loyalty program memberships across different marital statuses and education levels. These insights serve as a foundation for targeted marketing strategies, personalized customer experiences, and tailored loyalty program offerings designed to resonate with the diverse needs and preferences of FlyingWhale Airline's customer base.

Furthermore, our analysis of booking behaviors and cancellation trends has unearthed critical opportunities for improvement in customer retention and engagement. By identifying peak cancellation months, pinpointing demographic groups with the highest cancellation rates, and assessing enrollment durations among canceled members, we have identified areas where proactive intervention and strategic initiatives can enhance member satisfaction, loyalty, and lifetime value.

As FlyingWhale Airline moves forward, it is imperative to leverage these insights to inform data-driven decision-making, refine business strategies, and prioritize initiatives aimed at fostering long-term customer relationships and sustainable growth. By adopting a customer-centric approach, embracing innovation, and continuously monitoring and adapting to evolving market dynamics, the airline can solidify its position as a leader in the aviation industry and ensure enduring success in the competitive landscape.

In essence, this report serves as a roadmap for FlyingWhale Airline's journey toward excellence in customer experience and loyalty management. By harnessing the power of data and insights, the airline can navigate challenges, capitalize on opportunities, and embark on a trajectory of sustained growth, profitability, and customer-centric innovation.