Airlines

Data Analysis Report

Report By

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Introduction

In today's dynamic business landscape, the ability to harness and analyze data has become an indispensable tool for informed decision-making and sustainable growth. This data analysis report delves into the sales performance of the **Airline Company** in the year 2017, aiming to provide a comprehensive understanding of its revenue trends, customer behavior, and key insights that can inform strategic actions.

As businesses navigate an increasingly competitive market, gaining insights into sales data has never been more critical. Accurate and timely analysis allows organizations to adapt to changing consumer preferences, optimize inventory management, enhance marketing strategies, and ultimately, drive profitability.

In this report, we employ a variety of analytical tools and techniques to dissect the sales data of the **Airline Company**. By exploring historical sales patterns, identifying seasonal trends, and examining the impact of external factors, we aim to uncover hidden opportunities and challenges that can guide the store's future endeavors.

Purpose Of Analysis

The primary objective of this data analysis report is to provide a comprehensive and insightful examination of the sales performance of [Store Name] during the specified time period. The analysis serves several key purposes:

1. **Performance Evaluation**: This analysis aims to assess the historical sales performance of SuperStore to gauge how well it has met its revenue targets and to identify any growth or contraction trends over time. By evaluating past performance, we can gain valuable insights into the store's financial health.

2. **Trend Identification**: The report will seek to identify and analyze sales trends within the data. By recognizing patterns in sales data, we can understand seasonal fluctuations, identify peak sales periods, and uncover any recurring buying behaviors exhibited by customers.

3. **Customer Behavior Analysis**: Understanding customer behavior is vital for a retail establishment. This analysis will delve into customer purchase patterns, demographics, and preferences to inform marketing strategies, inventory management, and customer engagement initiatives.

4. **Key Insights for Decision Making**: Our analysis will provide actionable insights that [Store Name] can use to make data-driven decisions. Whether it's optimizing product offerings, refining pricing strategies, or enhancing the customer experience, these insights aim to guide strategic actions that will ultimately improve sales.

Insights

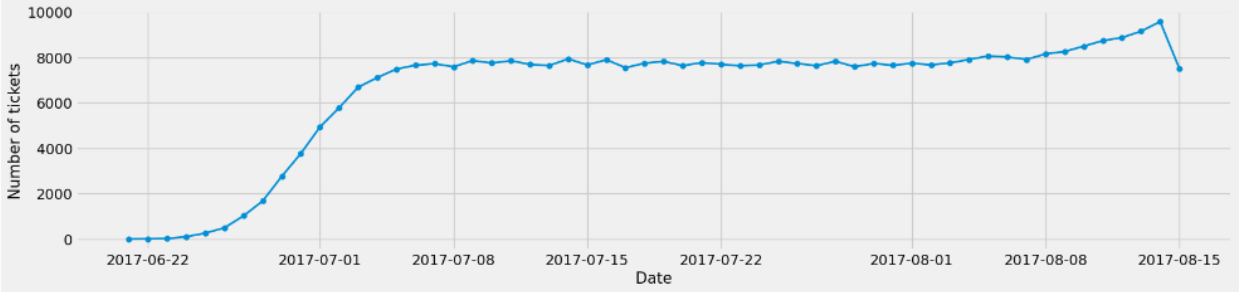
Record Shares of Vendors

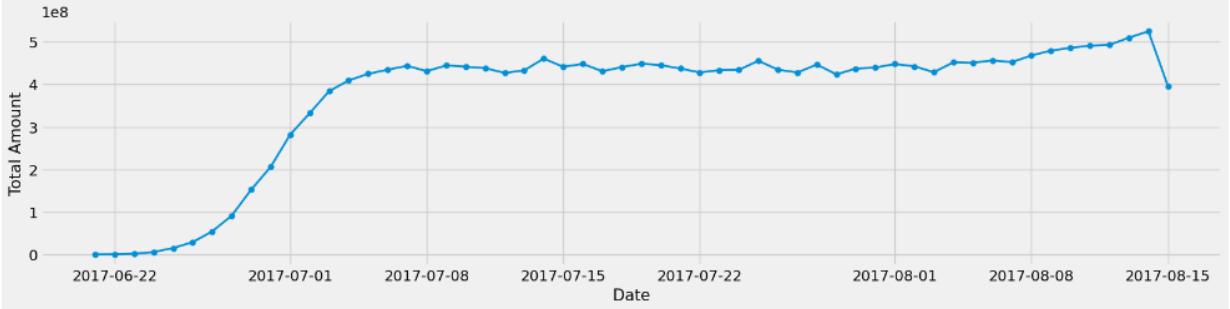
The basic analysis of data provides insights into the number of planes with more than 100 seats, how the number of tickets booked and total amount earned changed over time, and the average fare for each aircraft with different fare conditions. These findings will be useful in developing strategies to increase occupancy rates and optimize pricing for each aircraft. The table shows the aircraft with more than 100 seats and the actual count of the seats.

aircraft_code	number_seats
319	116
320	140
321	170
733	130
763	222
773	402

Tickets Booked by Date

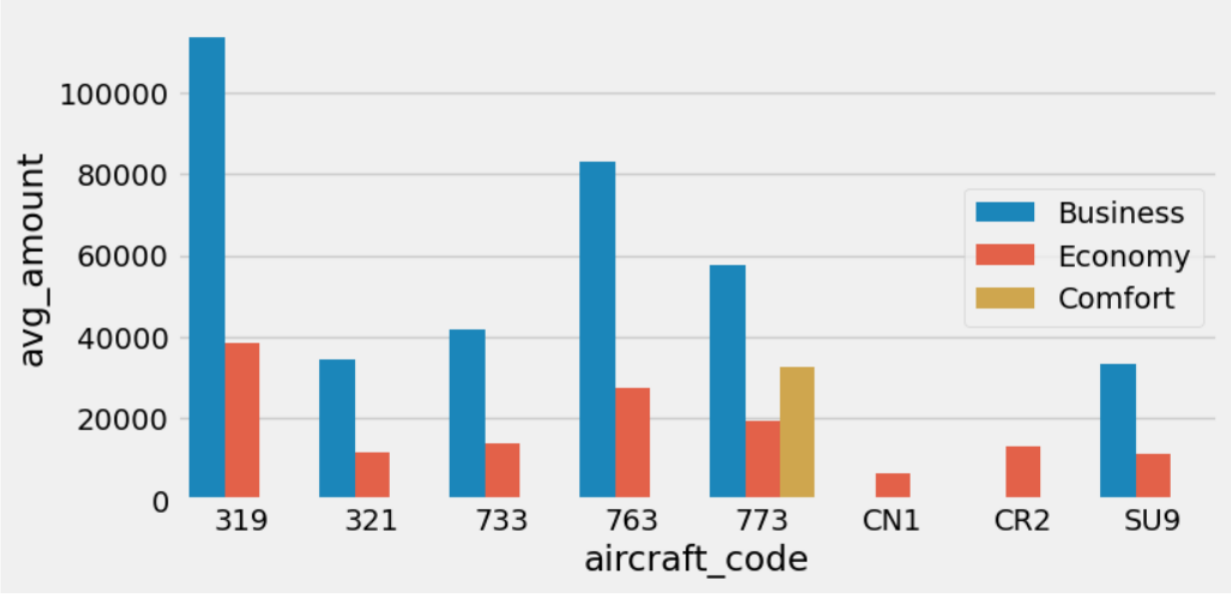
In order to gain a deeper understanding of the trend of ticket bookings and revenue earned through those bookings, we have utilized a line chart visualization. Upon analysis of the chart, we observe that the number of tickets booked exhibits a gradual increase from June 22nd to July 7th, a noticeable peak in ticket bookings where the highest number of tickets were booked on a single day. It is important to note that the revenue earned by the company from these bookings is closely tied to the number of tickets booked. Therefore, we can see a similar trend in the total revenue earned by the company throughout the analyzed time period. These findings suggest that further exploration of the factors contributing to the peak in ticket bookings may be beneficial for increasing overall revenue and optimizing operational strategies.





Average Amount vs Fare Condition

We were able to generate a bar graph to graphically compare the data after we completed the computations for the average costs associated with different fare conditions for each aircraft. The figure shows the data for three types of fares: business, economy & comfort. It is worth mentioning that the comfort class is available on only one aircraft, the 773. The CN1 & CR2 planes, on the other hand, only provide the economy class. When different pricing circumstances within each aircraft are compared, the charges for the business class are consistently greater than those for economy class. This trend may be seen across all plans, regardless of fare conditions.



Analyzing Occupancy Rate

Airline must thoroughly analyze their revenue streams in order to maximize profitability. The overall income per year and average revenue per ticket for each aircraft are important metrics to consider. Airlines may use this information to determine which aircraft types of itineraries generate the most income and alter their operations appropriately. This research can also assist in identifying potential for pricing optimization and allocating resources to more profitable routes. The below tables show the total revenue, total tickets and average revenue made per ticket for each aircraft. The aircraft with the highest total revenue is SU9 & it can be seen that the price of the business class & economy class is the lowest in this aircraft. This can be the reason that most of the people bought this aircraft ticket as its cost is less compared to others. The aircraft with least total revenue is CN1 and the possible reason behind this is it only offers economy class with very least price and it might be because of its poor conditions or less facilities.

	aircraft_code	ticket_count	total_revenue	avg_revenue_per_tkt
0	319	52853	2706163100	51201
1	321	107129	1638164100	15291
2	733	86102	1426552100	16568
3	763	124774	4371277100	35033
4	773	144376	3431205500	23765
5	CN1	14672	96373800	6568
6	CR2	150122	1982760500	13207
7	SU9	365698	5114484700	13985

The average occupancy per aircraft is another critical number to consider. Airlines may measure how successfully they fill their seats and discover chances to boost occupancy rates by using this metric. High occupancy rate can help airlines increase & profitability while lowering operational expenses associated with vacant seats. Pricing strategy, airlines schedules, and customer satisfaction are all factors that might influence occupancy rates. The below table shows the average booked seats from the total number of seats for each

aircraft_code	booked_seats	num_seats	occupancy_rate
319	53.583181	116	0.461924
321	88.809231	170	0.522407
733	80.255462	130	0.617350
763	113.937294	222	0.513231
773	264.925806	402	0.659019
CN1	6.004431	12	0.500369
CR2	21.482847	50	0.429657
SU9	56.812113	97	0.585692

aircraft. The occupancy rate is calculated by dividing the booked seats by the total number of seats. Higher occupancy rate means the aircraft seats are more booked and only few are unbooked.

The Airline can assess how much their total yearly turnover could improve by providing all aircraft a 10% higher occupancy rate to further examine the possible benefits of raising occupancy rates. This research can assist airlines in determining the financial impact of boosting occupancy rates and if it is a realistic strategy.The Airline may enhance occupancy rates and revenue while delivering greater value and service to customers by optimizing pricing tactics and other operational considerations. The below table shows how the total revenue increased after increasing the occupancy rate by 10% and it gives the result that it will increase gradually so airlines should be more focused on the pricing strategy.

aircraft_code	booked_seats	num_seats	occupancy_rate	Inc Occupancy Rate	Inc Total Turnover
319	53.58318098720292	116	0.46192397402761143	0.5081163714303726	2976779410.0
321	88.80923076923077	170	0.5224072398190045	0.574647963800905	1801980510.0
733	80.25546218487395	130	0.617349709114415	0.6790846800258565	1569207310.0000002
763	113.93729372937294	222	0.5132310528350132	0.5645541581185146	4808404810.0
773	264.9258064516129	402	0.659019419033863	0.7249213609372492	3774326050.0
CN1	6.004431314623338	12	0.5003692762186115	0.5504062038404727	106011180.00000001
CR2	21.48284690220174	50	0.42965693804403476	0.4726226318484382	2181036550.0
SU9	56.81211267605634	97	0.5856918832583128	0.644261071584144	5625933169.999999

Conclusion

To summarize, analyzing revenue data such as total revenue per year, average revenue per ticket, and average occupancy per aircraft is critical for airlines seeking to maximize profitability. Airlines can find areas for improvement and modify their pricing and route plans as a result of assessing these indicators. A greater occupancy rate is one important feature that can enhance profitability since it allows airlines to maximize revenue while minimizing costs associated with vacant seats. The airline should revise the price for each aircraft as the lower price and high price is also the factor that people are not buying tickets from those aircrafts. They should decide the reasonable price according to the condition and facility of the aircraft and it should not be very cheap or high.

Furthermore, boosting occupancy rates should not come at the price of consumer happiness or safety. Airlines must strike a balance between the necessity for profit and the significance of delivering high-quality service and upholding safety regulations. Airlines may achieve long-term success in a highly competitive business by adopting a data-driven strategy to revenue analysis and optimisation.