

Comparative Catering Strategies: Enhancing Passenger Experience at Delta and American Airlines




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A Delta Air Lines Boeing 777-300ER is shown in flight, banking upwards. The aircraft features the Delta livery with blue and red accents on the tail and engines. The word "DELTA" is visible on the upper fuselage.

Market Research Problem

How do Delta and American Airlines' in-flight catering and service compare, and what improvements can enhance passenger satisfaction, thereby increasing loyalty and profitability?

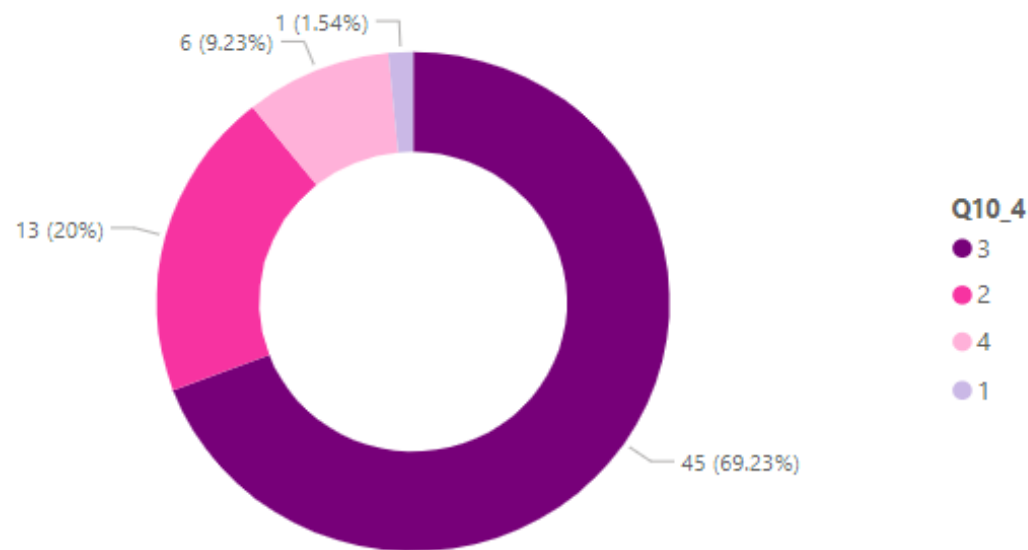
An American Airlines Boeing 777-300ER is shown in flight, banking downwards. The aircraft features the American Airlines livery with red and blue stripes on the tail and engines. The word "American" is visible on the upper fuselage.

Research Questions

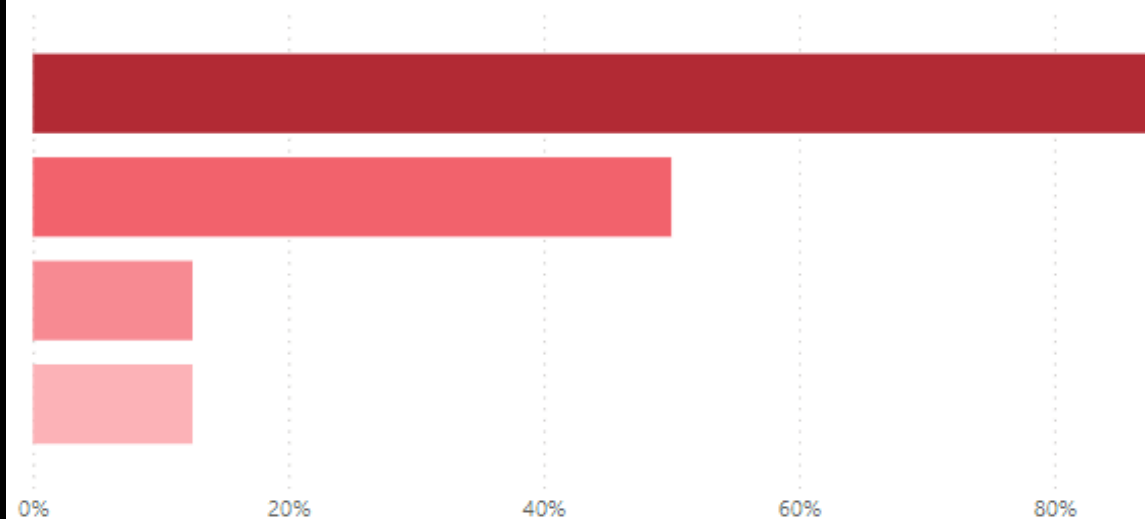
1. What are the current levels of passenger satisfaction with Delta and American Airlines' in-flight food offerings?
2. How do dietary accommodations influence passenger satisfaction with Delta and American Airlines?
3. What specific aspects of customer service during mealtimes are most impactful on passengers' overall flight experience with Delta and American Airlines?



Overall Customer Satisfaction of Delta and American Airlines

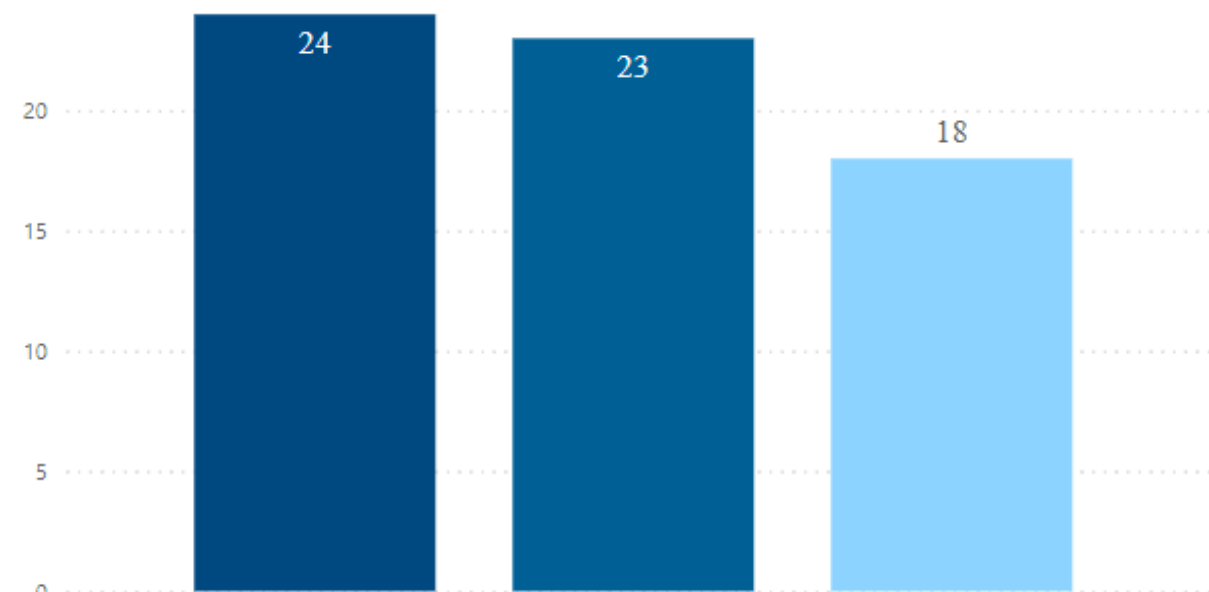


Class of Choice

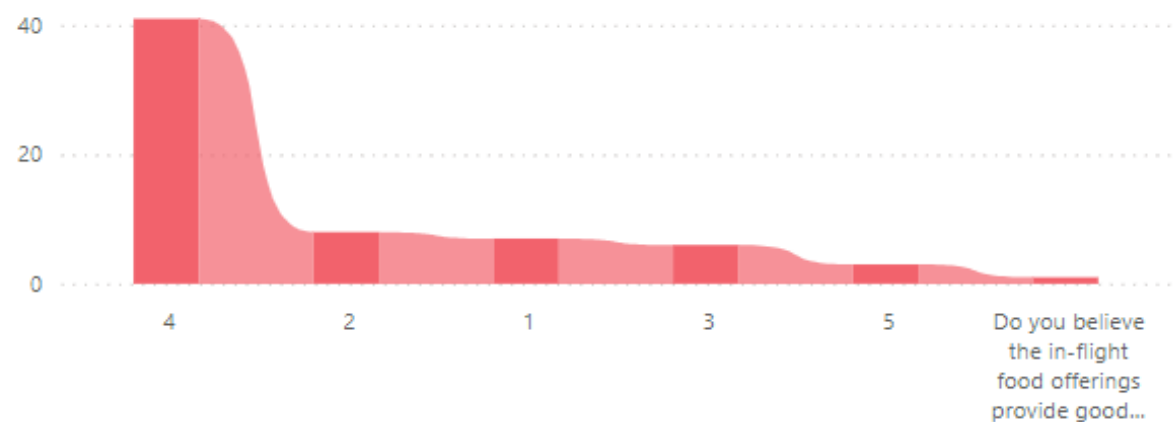


Most preferred Airlines- Delta and American airlines

Most flown Airlines 18 24



Satisfaction of in-flight offerings providing good value for cost



Hypothesis 1

H0: There is no significant difference in the distribution of overall dietary preferences (gluten-free & healthy) between passengers flying Delta and American Airlines.

H1: There is a significant difference in the distribution of overall dietary preferences (gluten-free & healthy) between passengers flying Delta and American Airlines.



Justification

Our aim is to identify significant variations in overall dietary meal preferences (prefer gluten free and/or prefer healthy) between Delta and American Airlines. Insights will help better tailor airline meal services to their respective customer bases.

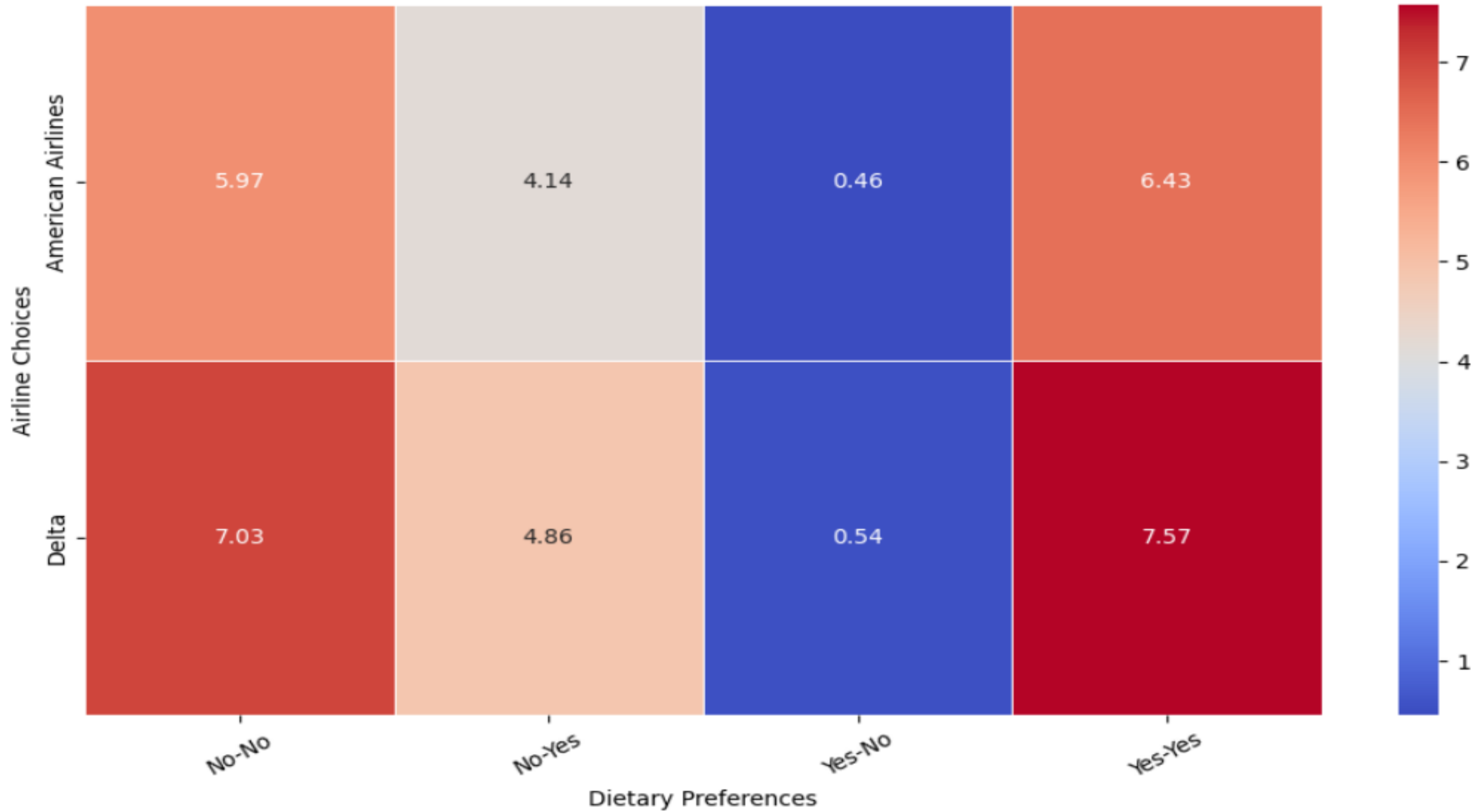
Prediction: Dietary preferences will be similar for comparative airlines

Test & Results

- **Test Used: Chi-Square**
 - Evaluate Binary Categorical Distribution
- **Results:**
 - **P-Value: $0.61 > 0.05$**
 - **Chi-Square Stat: $1.85 < 16.92$**
 - **Conclusion: Do Not Reject Null Hypothesis**



Expected Frequencies (Chi-Square Test)



Hypothesis 2

H0: There is no significant difference in satisfaction with in-flight food offerings between Delta and American Airlines passengers.

H1: There is a significant difference in satisfaction with in-flight food offerings between Delta and American Airlines passengers.



Why T-test?

- To analyze the difference in satisfaction levels between two independent groups: Delta and American Airlines passengers.
- A T-test is appropriate when comparing the means of a continuous outcome variable (in-flight food satisfaction) across two independent groups (airlines).

Survey Question - How satisfied were you with the in-flight food offerings on your most recent flight?

	F	Sig.	t	df	Sig. One-Sided p	Sig. Two-Sided p
Equal Variances assumed	0.005	0.943	0.359	39	0.361	0.721
Equal Variances not assumed			0.363	37.972	0.359	0.719

Table: Independent Sample T-tests

Test Results

- Levene's Test for Equality of Variances: $F = 0.005$, $p = 0.943$.

The p-value greater than Alpha(0.05) indicates we **fail to reject Null Hypotheses**. Hence, The variance in satisfaction scores is similar across the two groups.

- T-Test for Equal of Means: $t = 0.359$, $p = 0.721$ (two-tailed).

The p-value greater than Alpha(0.05) indicates we **fail to reject Null Hypotheses**, indicating no statistically significant difference scores between the groups(Delta and American)

“Based on the sample surveyed, we conclude that passengers of both airlines report similar satisfaction levels regarding their in-flight food experience”



Hypothesis : 3

H0: No significant difference between Delta & American Airlines in passenger preferences for exclusively gluten-free snacks (beyond gluten-intolerant passengers).

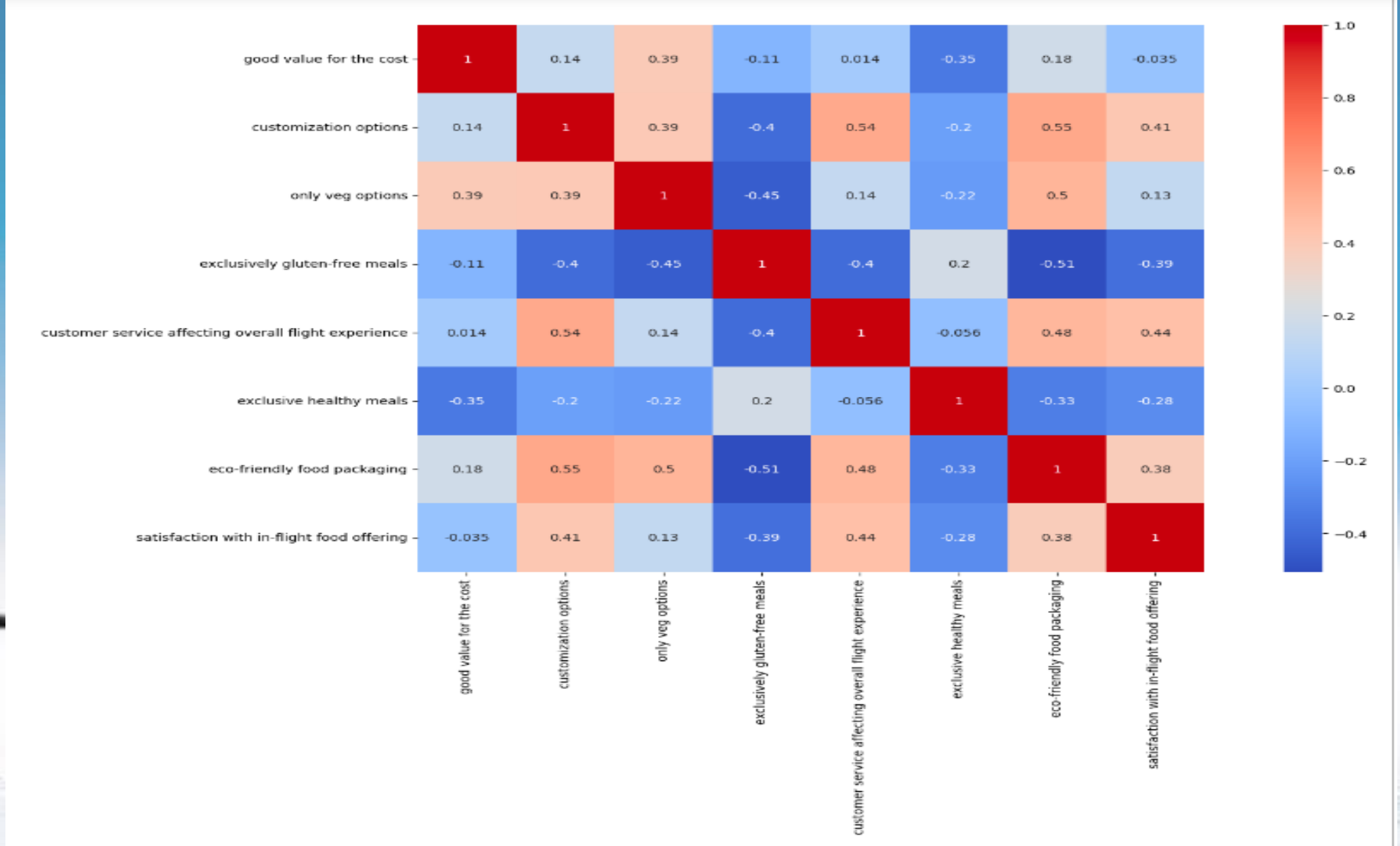
H1: Significant difference between Delta & American Airlines in enhancing broader passenger preferences with exclusively gluten-free snacks.



- **Purpose:** To assess the impact of providing gluten-free snack options on passenger preferences between Delta and American Airlines.
- **Test Used:** Analysis of Variance (ANOVA)
- **Results:** The ANOVA results show a statistically significant effect of providing exclusively gluten-free snacks on passenger preferences between Delta and American Airlines.
- **P-Value:** 0.003 (less than the 0.05 significance level)
- **Stat:** $F = 9.346$, partial eta squared = 0.129 (moderate to large effect size)
- **Conclusion:** Hence, we reject the Null hypothesis



Correlation Matrix



Hypothesis 4

Null hypothesis (H_0): There is no correlation between satisfaction with in-flight food offering of passengers and customization, gluten-free and vegetarian meals offered.

Alternative hypothesis (H_a): There is at least one statistically significant correlation between satisfaction with in-flight food offering and customization, gluten-free and vegetarian meals offered.



OLS Regression

Survey Question - How satisfied were you with the in-flight food offerings based on various aspects

Various aspects	P-value
Good value for the cost	0.995
Customization Options	0.313
Only Veg Options	0.321
Exclusively Gluten-free meals	0.015
Exclusively healthy meals	0.864

Managerial Recommendations

- National airline food trends suggest consistent passenger preferences among comparable airlines (i.e., Delta & American Airlines)
 - Focus more on general industry trends versus individual airline trends
- Investment in other Areas of the Customer Experience
- Continuous Improvement and Innovation in Food Services
- Expand and actively promote gluten-free snack options by partnering with manufacturers, employee's marketing gluten-free options, and regularly assessing passenger feedback

A large commercial airplane is seen from a low angle, flying directly towards the viewer over a runway. The sky is filled with dramatic, colorful clouds in shades of orange, yellow, and blue, suggesting a sunset or sunrise. The runway is visible in the foreground, with white dashed lines leading towards the plane. The text "Thank You !" is overlaid in a large, white, sans-serif font, centered horizontally and partially obscuring the plane.

Thank You !
