Final Report

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05/03/2024

Industry Background

The airline catering industry is very integral to the aviation sector, providing food and beverage services to over four-billion passengers each year on average (Statista, 2024). In 2020, the airline catering industry was valued at over four-billion dollars and is expected to grow significantly within the next decade (Statista, 2023). This growth is majorly driven by factors such as rises in tourism, population, income, business, and investments in transportation infrastructure (Forbes, 2024). Accompanied with the growth in airline passengers, there's growing demand for high-quality and diverse in-flight meals. And a shift towards more sustainable and health-conscious food options. "Airline catering plays a crucial role in enhancing the overall experience for passengers and meeting their specific needs" (Business Airport International, 2023). Because of this, there is an increasing trend towards accommodating various dietary preferences, with options like keto, vegetarian, vegan, and gluten-free becoming increasingly common (WTCE, 2023). However, the industry faces challenges in maintaining food quality and taste, particularly under the unique conditions of air travel that alter the taste perception.

As the industry evolves, there is a clear trend towards more personalized and health-conscious catering options to meet customers' demands (Washington Post, 2017). The challenge lies in the logistical complexity of delivering a large volume of meals across different regions while maintaining consistent quality and meeting diverse cultural and dietary expectations. But on the other hand, these challenges also bring new opportunities for innovation. There is a growing market for premium catering services that provide high-quality, all-natural, and more transparent meals on board. Furthermore, the industry can lead in sustainability by introducing innovations in food sourcing and packaging, setting new standards for environmental sustainability in the airline sector.

The airline catering industry is dominated by a few major players, including Gategroup, LSG Sky Chefs, and SATS (IBIS World, 2023). These companies have large global networks serving airlines worldwide. They compete based on factors such as price, service quality, and their ability to meet the specific dietary needs of airlines and passengers. In conclusion, the airline catering industry faces challenges and opportunities arising from evolving consumer expectations and global health concerns. As it adapts to these new challenges, the industry's ability to innovate will be crucial for its continued success and growth. Along with airline catering partnerships changing and evolving to meet new dietary trends. Helping to provide the best customer experiences, leading to establishing brand loyalty among passengers.

Problem Definition

As mentioned in the Industry Analysis section, the global airline catering industry was valued at over 4 billion U.S. dollars. With projections indicating a potential fivefold increase within the next decade, according to Statista. This significant growth shows the rising increase of importance for in-flight catering within the airline industry. Concurrently, there has been a noticeable recent shift in consumer preferences towards health-conscious eating trends, including keto, vegetarian, and gluten-free diets. This shift is largely driven by Millennials and Gen X/Y demographics, who are now flying more frequently and demanding higher standards in food quality, variety, and transparency (Eureka, 2022). The trend towards "food-consciousness" emphasizes passengers' desire for clarity on the ingredients in their meals, with a preference for all-natural ingredients instead of artificial additives.

Alaska Airlines, as highlighted by Business Travel USA, has been at the forefront of adapting to these evolving customer preferences by implementing changes such as eliminating

plastic straws in favor of more sustainable options. This move is part of a broader industry trend towards environmental sustainability and transparency in catering practices.

Nerveless, there's still a major challenge that airlines face as far as implementing better and tastier dining options. The problem lies within the unique conditions of air travel, including reduced humidity, lower air pressure, and elevated background noise These conditions significantly hamper the passengers' ability to taste food, as reported by Katia Moskvitch for the BBC. Historically, based on these circumstances, airlines have traditionally opted for meals high in sodium, carbohydrates, and fats to compensate for the diminished taste experience. Creating healthy while still flavorful food options that can overcome the taste challenges posed by the in-flight environment presents a significant hurdle for airline caterers.

Therefore, the overarching challenge for the catering sector of the airline industry lies in balancing these demands. By enhancing food offerings to meet the health and dietary trends of a changing passenger demographic, ensuring transparency and sustainability in catering practices, and navigating the physiological limitations to taste experienced by passengers in flight. Additionally, the need to cater to a religiously and culturally diverse passenger base further complicates the catering of in-flight meals. This complex range of factors defines the critical management decision problem facing airlines today: how to innovatively adapt their in-flight food and service offerings to improve overall passenger satisfaction and loyalty, thereby bolstering customer retention and driving profitability in a highly competitive and quickly evolving market landscape.

Motivation

The motivation behind choosing the outlined research is to address the evolving landscape of airline catering and passenger preferences. This industry faces several challenges, including adapting to changing dietary trends, ensuring sustainability and transparency in catering practices, and overcoming the physiological limitations to taste experienced by passengers during flights. Additionally, the need to accommodate diverse religious and cultural dietary requirements further complicates the catering of in-flight meals. Understanding passenger satisfaction with in-flight food offerings and associated customer service is crucial for airlines to enhance overall passenger satisfaction and loyalty. By investigating current levels of satisfaction, perceived value of food offerings, and the impact of customer service during mealtimes, airlines can identify areas for improvement and tailor their offerings to better meet passenger expectations.

Furthermore, assessing the influence of customization options, such as dietary accommodations and meal choices, on passenger satisfaction and loyalty can help airlines determine the importance of catering to individual preferences. This information can inform decision-making regarding menu options and service training to enhance the overall passenger experience. Additionally, examining the correlation between the presentation and quality of in-flight food, passengers' perception of the airline's brand, and their likelihood to recommend the airline to others provides insights into the branding implications of catering practices. Airlines can leverage this information to strengthen their brand image and attract more customers through positive word-of-mouth recommendations.

Overall, addressing these research questions is important for airlines to remain competitive in a rapidly evolving market landscape. By enhancing in-flight food offerings and associated customer service based on passenger feedback and preferences, airlines can improve customer satisfaction, increase loyalty, and ultimately drive profitability.

Theoretical Framework

Providing summary of each theory below:

The theoretical underpinning for understanding passenger satisfaction with in-flight culinary services is based on various complementary views. According to the Perceived Value Theory (Zeithaml, 1988), customers evaluate items and services based on their perceptions of the advantages versus the costs or sacrifices required. In the context of airline catering, this theory proposes that passengers evaluate the value of in-flight meal options by weighing criteria such as quality, variety, dietary concessions, cultural sensitivity, and price against the ticket price or any additional meal service charges. When the perceived benefits outweigh the perceived expenses, passengers are more likely to consider the in-flight catering service beneficial.

Building on this, the SERVQUAL Model (Parasuraman, Zeithaml, & Berry, 1988) offers a framework for assessing service quality across five major dimensions: tangibles, dependability, responsiveness, assurance, and empathy. In aircraft catering, tangibles refer to the physical components of food service, such as meal presentation and look, and serving equipment. Reliability includes the consistency and precision of meal delivery, ensuring that passengers receive the correct orders and that their dietary needs are met. Responsiveness refers to the capacity to provide prompt service and address dietary needs, preferences, or special requests. Assurance refers to cabin crew's knowledge and courtesy, as well as their ability to build confidence in guests about dietary preferences and meal service. Finally, empathy demonstrates individualized attention and understanding of each passenger's needs, such as dietary preferences, cultural sensitivity, and any unique accommodations.

The Perceived Service Quality Model (Grönroos, 1984) further posits that service quality is evaluated based on two components: technical quality, which refers to the outcome of the service, and functional quality, which pertains to the process of service delivery. In the airline catering context, technical quality encompasses the taste, freshness, and overall quality of the meals, as well as the adherence to dietary requirements and cultural preferences. Functional quality, on the other hand, relates to the service provided by cabin crew during meal service, including their attentiveness, professionalism, and ability to accommodate special requests or handle any issues that may arise.

Furthermore, the Cultural Intelligence Theory (Earley & Ang, 2003) and the Cultural Sensitivity Theory in Service (Warden, Liu, Huang, & Lee, 2003) highlight the significance of cultural knowledge and sensitivity in service delivery. Airlines may increase passenger happiness and loyalty by displaying cultural intelligence by offering meal alternatives that appeal to a variety of religious and cultural dietary needs, such as halal, kosher, or vegetarian options. Furthermore, teaching cabin crew to be aware to cultural differences and preferences can help them provide culturally appropriate service while accommodating varied needs. Incorporating cultural features into meal displays and service approaches can demonstrate a deeper understanding and appreciation for many cultural origins.

Finally, the Mere-Exposure Effect (Zajonc, 1968) and the Sensation Transference Theory (Cheskin, 1957) shed light on how sensory experiences shape passenger perceptions and preferences. The Mere-Exposure Effect states that repeated exposure to a stimulus can influence preferences and perceptions, implying that passengers who have had positive experiences with an airline's in-flight catering services may develop a preference for that airline as a result of repeated exposure and familiarity. The Sensation Transference Theory holds that sensory experiences can transfer or influence subsequent judgments or assessments. In the context of airline catering, this

theory proposes that aspects such as meal visual presentation, ambient conditions (e.g., lighting, temperature), and overall sensory experience during meal delivery might influence passengers' judgments of food quality and satisfaction.

Airlines may obtain a better grasp of the many aspects that influence passenger satisfaction with in-flight food services by using this complete theoretical framework, which includes perceived value, service quality, cultural sensitivity, and sensory experiences. This insight can help lead the development of plans and activities that are adapted to the changing requirements and preferences of their broad client base, resulting in increased overall passenger happiness and loyalty.

Research Design, Approach, Variables & Data Requirements

To collect data on airline food, we will be using exploratory research methods. "Exploratory research is a methodological approach that investigates research questions that have not previously been studied in depth" (George, 2023). Our data collection will primarily be in the form of qualitative data, except for questions about income. Additionally, we will be utilizing primary data in our research. Primary research is data collected firsthand. Our specific form of data collection will be surveys, where participants will be asked questions regarding their experience with airline food.

Identifiable variables in this project are demographic, psychographic, and behavioral variables. Demographic variables include factors such as age, gender, and income. This data will be collected in our survey and can be used to segment survey respondents into different categories. Such as segmenting respondents by income and gender across Delta and American Airlines.

Psychographic variables include customers' attitudes, interests, and values. To measure psychographic variables, we will survey participants. "Psychographic data can help marketers create better campaigns driven by consumer attitudes and opinions rather than demographic information." (Mailchimp). Data from a survey with psychographic variables can help airlines to target customers based on food preferences, price, and variety.

Lastly, behavioral variables, which for companies help measure how "how prospects and customers are likely to use the business' products and services and their level of engagement" (HubSpot, 2023), will help to identify different levels of customer loyalty. Through our data collection, we will be able to find customers who exhibit brand loyalty because they flew the same airline more often than any others (either Delta or Amercian Airlines). Based on this data, we can analyze the dietary attributes and catering experiences that may have influenced the customer's brand loyalty.

Based on the different types of variables we will be measuring; we can formulate our hypotheses into testable predictions using independent and dependent variables. Independent variables are the causes, while dependent variables are the effects. In the case of this project, the independent variables are the in-flight food offerings, dietary accommodations, and specific aspects of customer service during mealtimes. The dependent variable, in all cases, is passenger satisfaction with the flight experience. To test if there's a significant difference in passenger satisfaction between airlines based on these factors, we will compare responses from passengers on American Airlines and Delta.

Marketing Research Problem

For this assignment, the marketing research problem we constructed is how do Delta Airlines and American Airlines in-flight catering and service compare, and what improvements

can enhance passenger satisfaction, thereby increasing customer loyalty and profitability? To gather the necessary responses and data, we developed a survey using Qualtrics.

Descriptive Analysis
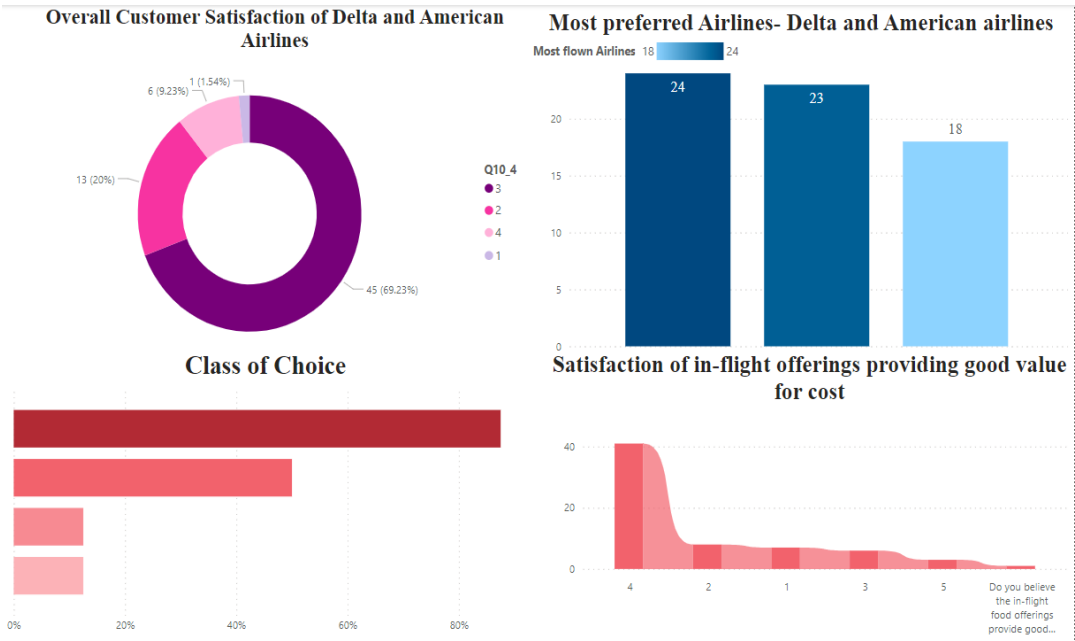
The dashboard above demonstrates various aspects of our dataset. We explored our dataset on the aspects of overall customer satisfaction of passengers with Delta and American Airlines, most preferred airlines: Delta, American and neither, Class of Choice, and satisfaction of in-flight food offerings providing good value for cost.

1. Overall Customer Satisfaction: On a scale of 1-5 most passengers have selected 3 (neither satisfied nor dissatisfied) as customer satisfaction score, which is about 69%. After that, about 20% of passengers of both the airlines have chosen 2 (dissatisfied) on a scale of 5. Very few passengers, about 9.23%, were satisfied with the overall customer service here.

2. Most preferred Airlines: Delta, American Airlines, and neither: We can see in our dataset that their no significant difference in the choice between Delta and American Airlines. 24 passengers of our dataset prefer Delta airlines, whereas 23 passengers prefer American airlines. About 18 passengers have responded that they do not prefer either of the airlines.

3. Class of Choice: This section likely refers to the type of service class preferred by flyers. The chart indicates a higher preference for both airlines is Economy class, followed by premium economy class, business class, and lastly first class.

4. Satisfaction of In-Flight Offerings: This section focuses on how flyers rate the value they receive for the cost of in-flight offerings. On a scale of 1-5, most of our passengers have chosen 4 (satisfied) for both airlines. That means our passengers seem to be satisfied with the value of the cost they are paying for the ticket.

Research Questions

The following questions are the research questions developed by our group regarding our marketing research problem:

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 the most impactful on passengers' overall flight experience with Delta and American Airlines?

Hypotheses

Hypotheses 1

Dietary preference distributions may not solely depend on generalized national trends but could vary between airlines. We aim to test the distributions of dietary preferences among passengers flying with Delta and American Airlines. This will also help us answer Research Question 1 by giving us insight into the dietary satisfaction levels between American Airlines and Delta passenger. The hypothesis is as follows:

a. H0: There is no significant difference in the distribution of dietary preferences (prefer only gluten free meals, prefer only healthy meals) between passengers flying Delta and American Airlines.

b. H1: There is a significant difference in the distribution of dietary preferences (prefer only gluten free meals, prefer only healthy meals) between passengers flying Delta and American Airlines.

Justification: Our goal is to determine whether there are significant differences in dietary preferences (prefer only gluten free meals, prefer only healthy meals) between Delta and American Airlines. Understanding these variations can help both airlines optimize their meal service offerings to better cater to and satisfy the unique preferences of their respective customers.

Hypothesis 2

What are the current levels of passenger satisfaction with in-flight food offerings between passengers of Delta and American Airlines?

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

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

Justification: Our goal is to determine whether there is a significant difference in customer satisfaction with in-flight food offering between passengers of Delta and American Airlines. Understanding these varying levels of satisfaction can show what airlines are top performing when it comes to mealtime service as well as which airlines are lacking.

Hypothesis 3

What specific aspects of customer service during mealtimes are most impactful on passengers' overall flight experience with Delta and American Airlines?

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

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

Justification: Our goal is to measure which specific aspects of customer service during mealtimes are most impactful on a passenger's overall flight experience. This will help determine areas of focus where airlines need to pick up the slack and where they are succeeding during mealtimes.

Hypothesis 4

a. H0: There is no correlation between satisfaction with in-flight food offerings of passengers, and customization, gluten-free, and vegetarian meals offered.

b. H1: There is at least one statistically significant correlation between satisfaction with in-flight food offerings of passengers, and customization, gluten-free, and vegetarian meals offered.

Data Analyses

Hypothesis 1

For our initial analysis, we explored 'Hypothesis 1,' which aimed to determine whether there was homogeneity in dietary preference distributions between passengers of American Airlines and Delta. This hypothesis was tested to ascertain if differences existed in the choice of dietary options — which were "prefer only gluten-free meals" and "prefer only healthy meals" — among customers based on their more frequently used airline, either Delta or American Airlines. To assess this, we used a Chi-square Test for Homogeneity because we are comparing distributions of binary categorical variables based on food preferences (gluten-free and healthy meal preferences) across two groups (Delta and American Airlines). This statistical test helped us analyze the contingency table of dietary preferences against the airlines, thereby providing a clear view of how these preferences are distributed across the two major carriers. The goal was to understand if any specific dietary trends were associated predominantly with one airline over the other, potentially reflecting the unique demographic or customer service strategies of each airline.

- *Q18 (Gluten-Free Meals):*
  - Yes: Indicates preference for airlines offering only gluten-free meals.
  - No: Indicates no preference for airlines offering only gluten-free meals.

- *Q20 (Healthy Meals):*

  - Yes: Indicates preference for airlines offering only healthy meals.

  - No: Indicates no preference for airlines offering only healthy meals.

After the data transformation we ran our Chi-Square Test and the results showed:

Chi-Square Statistic	1.845814479638009
P-value	0.6050162975373494
Degrees of Freedom	3

American Airlines Expected Frequencies

5.97297297	4.13513514	0.45945946	6.43243243

Delta Expected Frequencies

7.02702703	4.86486486	0.54054054	7.56756757

Given that the p-value of 0.61 is greater than the level of significance at 0.05, we DO NOT REJECT the null hypothesis and conclude that "There is no significant difference in the distribution of dietary preferences (prefer only gluten free meals, prefer only healthy meals) between passengers flying Delta and American Airlines.".

Additionally, we created a contingency plot to show the distributions between Delta and American Airlines. The distributions showed close similarity across all categories. Except for the outlier "No-Yes" (NO for preferring gluten free meals and YES for preferring only healthy meals)

category in the second column, which showed that Delta had an increase of 1.17 occurrences for every 1 occurrence for American Airlines.
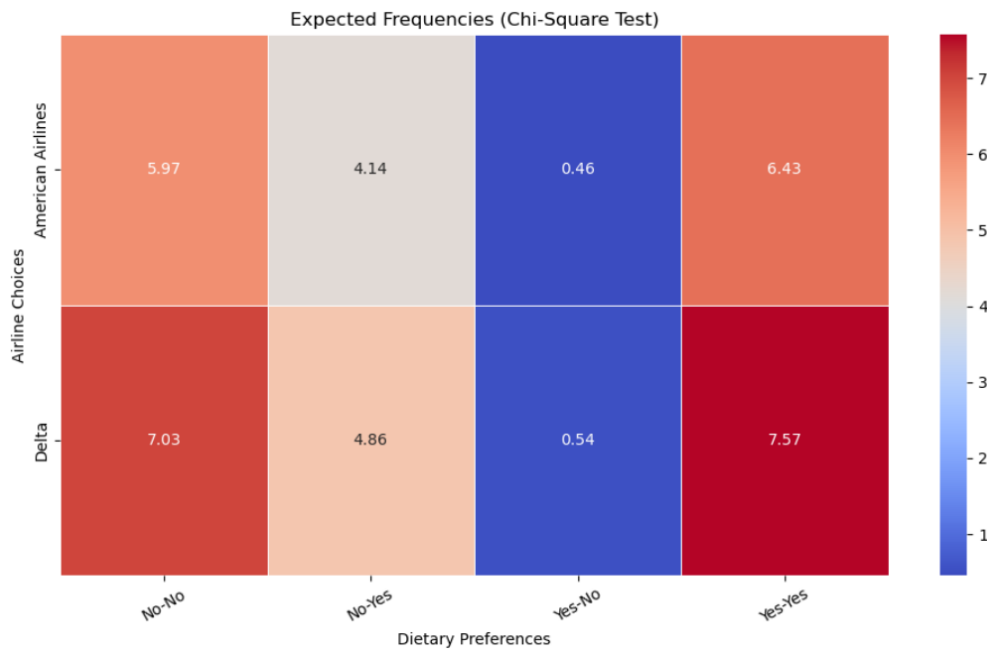
X-Axis Key: (Wants Only Gluten Free Meals) - (Wants Only Healthy Meals)

Hypotheses 2

Research Question: What are the current levels of passenger satisfaction with in-flight food offerings between passengers of Delta and American Airlines?

Hypotheses:

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

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

Justification of the Test: To explore the research question, we utilized an independent samples t-test to analyze potential differences in satisfaction levels regarding in-flight food offerings between passengers flying with Delta and American Airlines. This statistical test is particularly suited for this analysis as it is designed to compare the means of a continuous outcome variables, the satisfaction with in-flight food across two independent groups defined by their choice of airline.

Results of the Test - Levene's and p-value:

- *Levene's Test for Equality of Variances:* F = 0.005, P-value = 0.943, suggesting that the variance in satisfaction scores is similar across the two groups.

- *T-Test for Equality of Means*: T-statistic(39) = 0.359, P-value = 0.721 (two-tailed), indicating no statistically significant difference in mean satisfaction scores between the groups.

	F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference
Equal variances assumed	0.005	0.943	0.359	39	0.361	0.721	0.157	0.437
Equal variances not assumed			0.363	37.972	0.359	0.719	0.157	0.432

Table: Independent Samples T-test

The analysis did not reveal any significant difference in passengers' satisfaction with in-flight food offerings between Delta and American Airlines. Based on the sample surveyed, the

data suggests that passengers of both airlines report similar satisfaction levels regarding their in-flight food experience.

Hypotheses 3

1. H0: There is no significant difference between Delta and American Airlines in how providing exclusively gluten-free snacks onboard affects the broader passenger segment's preferences, not just those with gluten intolerances.
2. H1: There is a significant difference between Delta and American Airlines in how providing exclusively gluten-free snacks onboard enhances the preferences of a broader passenger segment, not just those with gluten intolerances

Test Justification:

1. Purpose of the Hypothesis: The hypothesis aims to investigate whether offering exclusively gluten free snack options can positively influence passenger perceptions of Delta and American Airlines, potentially leading to increased sales. This hypothesis assumes that dietary considerations and progressive offerings can impact passenger preferences and purchasing decisions.

2. Selection of ANOVA Test: ANOVA (Analysis of Variance) is the proper statistical test for this hypothesis as it assesses the impact of categorical independent factors (such as selling gluten-free snacks) on a continuous dependent variable (passenger preferences).

The hypothesis entails comparing the means of the dependent variable (Q8 passenger preferences) at different levels of the independent variable (Q18 gluten-free snacks).

Assumptions of ANOVA Test:

Independence of Observations: It is assumed that each respondent's preference is independent of the others.

Variation homogeneity: The variation of preferences is similar across levels of the independent variable.

Normality of Residuals: The residuals (the difference between observed and anticipated values) are believed to be regularly distributed.

Interpretation of ANOVA Results:

1. Significant Effect of Independent Variable ('Q18'): The ANOVA results show that providing just gluten-free snack alternatives ('Q18') has a statistically significant effect on passenger preferences ('Q8') between Delta and American Airlines.

    The p-value of 0.003 (less than the 0.05 significance level) indicates that the link is unlikely to be due to chance.

2. impact Size (Partial Eta Squared): With an impact size of 0.129 (or 12.9%), offering gluten-free food has a moderate to substantial influence on passenger preferences.

    This shows that variations in the availability of gluten-free food ('Q18') account for around 13% of the variation in passenger preferences ('Q8').

When gluten-free snacks are not supplied (Q18 = 1), the average preference score is 1.53.

When gluten-free foods are supplied (Q18 = 2), the average preference score rises to 2.64.

The ANOVA results corroborate the hypothesis, showing that gluten-free snack selections had a substantial effect on passenger preferences (F = 9.346, p =.003, partial eta squared =.129). This result reveals that travelers prefer Delta and American Airlines when gluten-free snack options are provided.

In conclusion, the study found a significant link between providing gluten-free snacks and enhanced passenger preference, emphasizing the importance of in-flight amenities in shaping airline views and consumer choices. The statistical significance of the ANOVA result (p =.003) supports the validity of this association.

Tests of Between-Subjects Effects

Q8 Variable: Dependent

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	14.131[a]	1	14.131	9.346	.003	.129
Intercept	200.962	1	200.962	132.915	<. 001	.678
Q18	14.131	1	14.131	9.346	.003	.129
Error	95.253	.63	1.512			
Total	479.000	65				
Corrected Total	109.385	64				

a. R Squared= 129 (Adjusted R Squared =. 115)

Descriptive Statistics

Dependent Variable: Q8

18	Mean	Std. Deviation	N
1	1.53	0.516	15
2	2.64	1.367	50
Total	2.38	1.307	65

Correlation Heatmap
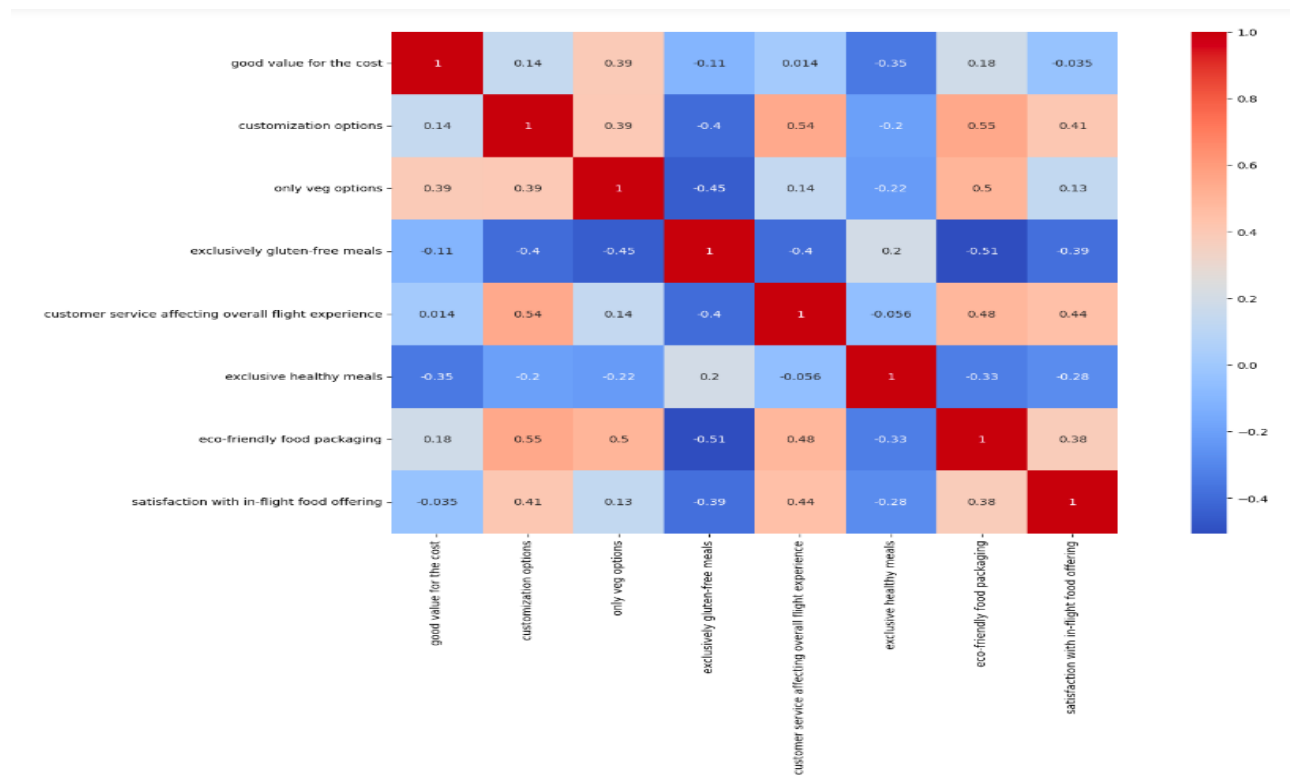
The heatmap shows the correlation between overall satisfaction of passengers with in-flight food offerings and different aspects of in-flight food offerings; only veg options, exclusively gluten-free meals, exclusive healthy meals, eco-friendly food packaging. A red color indicates a positive correlation, that is, towards positive 1. While a blue color indicates a negative correlation, that is, towards negative 1. For instance, there is a strong positive correlation between good value for the cost and customer service affecting overall flight experience.

Strong Positive Correlations:

Good value for cost and customer service affecting overall flight experience: This suggests that when passengers feel they get good value for their money on in-flight meals, it positively impacts their overall perception of the flight. Similarly, good customer service likely contributes to a more enjoyable experience.

Potential Negative Correlations:

Expensive meals and overall flight experience: Passengers might have a negative perception of their overall flight experience if they feel the in-flight meals are overpriced.

Hypothesis 4

Null Hypothesis (H0): There is no correlation between satisfaction with in-flight food offerings of passengers, and customization, gluten-free, and vegetarian meals offered.

Alternative hypothesis (H1): There is at least one statistically significant correlation between satisfaction with in-flight food offerings of passengers, 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	t	p-value	Std. Error

Good value for the cost	0.006	0.995	0.136
Customization options	1.017	0.313	0.301
Only veg options	1.001	0.321	0.259
Exclusively gluten-free meals	2.597	0.015	0.269
Exclusively healthy meals	-0.172	0.864	0.341
Eco-friendly food packaging	1.248	0.217	0.208

Individual variable significance:

The variable "exclusively gluten-free meals" is the only coefficient with a statistically significant effect (p-value = 0.015) at a 0.05 level of test significance. This indicates a statistically significant relationship between this factor and overall satisfaction with the in-flight food offerings.

All other variables (good value for the cost, customization options, only veg options, exclusively healthy meals, eco-friendly food packaging) do not have a statistically significant relationships with the dependent variable at a 0.05 level of test significance.

Magnitude and direction of effects:

The coefficients of all significant variables are positive. This indicates a positive correlation, meaning as one variable (either the dependent or independent variable) increases, the other is expected to increase too.

Open Ended Questions Analysis

In our survey the two most pressing open-ended questions were:

1) What specific aspects of customer service during mealtimes are most impactful to overall satisfaction of your flight experience?
2) Please share any specific experiences or suggestions you have regarding in-flight dining that could improve your satisfaction.

From these questions, we gained a lot of knowledge on overall customer satisfaction regarding in-flight food offerings as well as their prior experience with meals during flights. As for specific aspects of customer service during mealtimes that are most impactful to their overall satisfaction with their flight experience, customers noted that the speed of the delivery, quality of the food, and having a variety of options to choose from greatly impact their satisfaction.

When asked to share specific experiences respondents had regarding in-flight dining that could improve their satisfaction, suggestions ranged from grand ideas to small improvements. One respondent suggested an app that will allow customers to show what food their flight is offering and order ahead from the app. Others suggested that the meals have more spices so that they are not as bland, improve portion sizes, and bigger packages for complimentary snack options as they are not substantial enough.

Below are two-word clouds associated with the open-ended questions listed above. Word clouds are a visual representation that show keywords or words used most often in responses. The larger the word appears, the more frequently it's been used.

WORD CLOUD 1: "What specific aspects of customer service during mealtimes are most impactful to overall satisfaction of your flight experience?"

Based off the word cloud above, when it comes to what is most impactful to customer satisfaction during mealtimes, the respondents wrote that food, flight attendants, mealtimes, and the dietary options were most impactful.

WORD CLOUD 2: "Please share any specific experiences or suggestions you have regarding in-flight dining that could improve your satisfaction."

Based on the word cloud above, common areas of suggestion for improving the in-flight experience from the respondents were; tickets, dietary meal options, premium meal options, snacks, and meat options.

Managerial Recommendations

From our research into passenger preferences and satisfaction with in-flight catering services between major airlines such as Delta and American Airlines, we offer targeted recommendations that managers can use to align their services with passenger expectations and market trends:

1. Align Menu Offerings with Broad Market Trends

Our research indicates that passenger preferences are consistent across different airlines, showing a preference for established market trends over unique, airline-specific offerings. Given this trend, airlines should align their in-flight menus with broad industry trends such as health-conscious and environmentally sustainable options. This alignment will meet widespread passenger expectations and enhance the efficiency of catering operations, ensuring that the offers are both appealing and operationally feasible. To achieve this, instead of differentiating their entire menus overall, both airlines should concentrate resources on catering to specific dietary needs where significant differences were observed, such as providing more diverse gluten-free options. This targeted strategy not only ensures efficient resource allocation but also offers a potential competitive advantage by addressing niche customer dietary preferences between airlines more effectively.

2. Invest in Comprehensive Customer Experience Improvements

Satisfaction among passengers between Delta and American Airlines over in-flight food offerings remained largely similar overall. For airlines to better enhance and differentiate customer experience. We suggest that airlines should extend their focus beyond just food to improve other significant aspects of the travel experience, including seat comfort, in-flight entertainment, and customer service. Enhancing these areas will provide a more holistic and satisfying travel experience, which can significantly boost passenger satisfaction and loyalty.

3. Expand and Market Specialized Dietary Options

The importance of catering to specific dietary preferences, particularly gluten-free options, is increasing among passengers. Airlines should actively expand and market their gluten-free options to address this need. Collaborations with specialized food providers, robust cross-contamination measures, and comprehensive staff training on these offerings are essential. Effectively marketing these options both before the flight and onboard will keep passengers well-

informed and enable them to make suitable dining choices, thus enhancing their in-flight experience.

4. Implement Regular Passenger Feedback Mechanisms

Regular passenger feedback is crucial for understanding and adapting to evolving passenger needs and preferences. Establishing and maintaining mechanisms for collecting and analyzing this feedback is essential. Airlines should implement digital surveys post-flight and introduce real-time feedback options during flights to gather valuable insights. These insights should be routinely reviewed to make informed adjustments to services, ensuring that the airline remains responsive to passenger needs and market dynamic.

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