

Costumer Experience Analyzing the Comparison of Brand and Company Characteristics of Airlines Services



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ABSTRACT: Analyzing the comparison of brand and company characteristics of airlines services is important in the aviation industry. The purpose of this analysis is to determine if there is a significant difference in the quality of service among different airlines. The ANOVA (Analysis of Variance) method can be used to compare more than two groups of data and determine if the differences between the groups are significant or not. In this analysis, the measured variables can be the quality of service provided by airlines such as comfort, safety, speed, accuracy, and others. Data can be obtained from various sources such as surveys, personal experiences, and reviews from various media. Analyzing the comparison of brand and company characteristics of airlines services using the ANOVA method can provide valuable insights for airlines in improving the quality of service provided to customers. The analysis results can be used to identify the strengths and weaknesses of each airline, which can be used to improve the quality of service and create a better experience for customers. The ANOVA method can provide useful information in comparing the quality of service among airlines. However, it is important to note that the analysis results are not always 100% accurate and need to be interpreted carefully. Analyzing the comparison of brand and company characteristics of airlines services using the ANOVA method can provide significant benefits for airlines in improving the quality of service and maintaining customer satisfaction. The conclusion of this analysis is that brand and company characteristics have a significant influence in providing services in airlines. Therefore, companies must pay attention to both brand and company characteristics in providing services to customers to improve the customer experience and increase customer satisfaction.

KEYWORDS: Airlines services, Aviation Industry, Pay Attention, Costumer Experience, Customer Satisfaction

1. INTRODUCTION

The aviation industry is continuously growing and becoming increasingly competitive, making customer satisfaction one of the keys to a company's success (Utama, 2021). To maintain and enhance customer satisfaction, companies need to understand the factors that influence customer satisfaction towards the services provided. In this context, brand characteristics and company characteristics are considered to have a significant impact on customer satisfaction in the aviation industry. Aviation has become one of the most important means of transportation in modern life. In the aviation industry, there are many airlines competing to attract the attention and trust of potential passengers, and airlines must pay attention to their brand characteristics and company characteristics (Rachmawati & Andjarwati, 2020). Brand characteristics include brand identity, brand image, and brand attributes, while company characteristics include company reputation, service quality, and ticket prices (Kewarganegaraan et al., 2022).

In this context, the decision of flight service users in choosing airlines can be influenced by the comparison between brand characteristics and company characteristics. Therefore, an analysis is needed on the influence of airlines' brand characteristics and company characteristics on the decision of flight service users. In the increasingly challenging business climate, every company must be able to maintain its current level of operations, or else it will stagnate. The purpose of this study is to analyze the comparison of the influence of brand characteristics and company characteristics on customer satisfaction in the aviation industry.

In this study, the specific objective is to determine the brand characteristic and company characteristic that affect customer satisfaction in the aviation industry and to analyze the comparison of their influence on customer satisfaction. Additionally, this study aims to assist companies in comparing the brand and company characteristics of multiple airlines in one industry and selecting the better ones. Moreover, the purpose of this research is also to identify the factors that influence customer satisfaction in the aviation industry and provide recommendations on how to improve service quality and strengthen the brand to enhance customer satisfaction. By achieving these objectives, the results of this study are expected to provide a significant contribution in improving the quality of airline services and customer satisfaction in the aviation industry.

Problem Statement - The aviation industry continues to grow every year, resulting in fierce competition among airlines. Each airline strives to offer better services and distinguishing characteristics from their competitors, such as speedy check-ins, quality

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food, comfortable seating, and availability of in-flight entertainment. Therefore, the comparative analysis of characteristics and services among airlines becomes crucial in determining the relative advantages of each airline.

One statistical method that can be used to conduct a comparative analysis among airlines is Analysis of Variance (ANOVA). This method enables researchers to identify significant differences between several data groups. In the context of this study, the data groups refer to the characteristics and services provided by several selected airlines for analysis. However, there are several problems that can arise when collecting data to conduct ANOVA analysis. Firstly, how to measure the different characteristics and services offered by airlines. For example, some airlines may offer tastier food than others or have more comfortable seating. Additionally, each airline may have different service standards that are difficult to compare directly.

Secondly, how to obtain accurate and representative data from different respondents. The data source used in this research is an online survey given to airline passengers from several airlines. However, passengers who respond to the survey may have different preferences in terms of services and characteristics that they consider important, which can affect the analysis results. Therefore, the problem statement in this research is to determine the differences in characteristics and services between airlines that can be compared using the ANOVA method and how to overcome problems in collecting accurate and representative data. By understanding this problem, researchers can take steps to ensure that the collected data is reliable and provides relevant and useful results.

The aviation industry has become one of the rapidly growing sectors. There are many airlines competing fiercely to gain customers. As a result, comparative analysis of brand and service characteristics of companies becomes important to identify the strengths and weaknesses of each airline. In order to conduct a comparative analysis of brand and service characteristics of companies, the ANOVA (Analysis of Variance) method is used to determine significant differences between the averages of various observed variables at each airline. The problem that is addressed in this topic is as follows: "Are there significant differences in brand and service characteristics of companies among various airlines operating in Indonesia using the ANOVA method?"

In this case, the research will involve several airlines as a random sample. The variables observed in this study include aspects such as brand awareness, brand image, customer satisfaction, passenger services, flight performance, and ticket prices. Data will be collected through online surveys, and data analysis will be conducted using the ANOVA method to test whether there are significant differences between the average variables observed at each airline. The results of this analysis can provide valuable insights to airline management to improve their services and brand image, thereby enhancing customer satisfaction and strengthening their position in the market.

2. LITERATURE REVIEW

2.1 Brand Characteristic

Brand characteristics in the aviation industry are a collection of traits and qualities that distinguish a particular airline (Irawan, 2020). In this context, brand characteristics encompass the image, visual identity, slogan, values, and reputation of the airline. It is important for airlines to have strong and consistent brand characteristics because they can influence customers' perceptions of the brand and differentiate the airline from its competitors (Kumontoy et al., 2023). For example, Garuda Indonesia is an airline that highlights the beauty of Indonesian culture. This is evident from the airline's logo, which features the Garuda bird, a national symbol of Indonesia (Salma, 2018). Additionally, the airline offers luxurious services and amenities to maintain its image of luxury. Garuda Indonesia is also known for its friendly and professional service (Wahyuni & Praninta, 2021).

Citilink, on the other hand, emphasizes a more modern and youthful image. This airline offers affordable flights and emphasizes comfort and fast service (Arif, 2019). The bright green Citilink logo gives a fresh and dynamic impression, while the slogan "The Next Level of Flying" shows Citilink's commitment to continuously improving service and customer experience (Aditya Aristana et al., 2022). Lion Air is an airline that emphasizes affordability and simplicity (Chrisnawan et al., 2019). This airline offers affordable flights with the option to add additional facilities as needed (Praditya et al., 2018). The striking red Lion Air logo gives a strong and energetic impression. This airline is also known for its efficient and fast service (Brier & lia dwi jayanti, 2020).

Meanwhile, Batik Air highlights the beauty of Indonesian batik. The airline offers luxurious services with elegant interior designs and distinctive colors (Brier & lia dwi jayanti, 2020). Batik Air's logo, which features a batik pattern, gives a unique and proud impression (Sari et al., 2022). Batik Air also emphasizes good service, with the airline being known for polite and professional service (Valencia & Sudibyo, 2021). Overall, brand characteristic is an important element in the aviation industry, as it can influence customer perceptions and provide a competitive advantage for airlines (Fahrio Hafizhi et al., 2022). Therefore, airlines must consistently build and strengthen their brand characteristics to remain relevant and memorable to customers.

2.2 Company Characteristic

Company characteristic is an important element that reflects the identity and reputation of a company (Suheri et al., 2022). Factors that are included in company characteristic include company reputation, vision and mission, company values, and company culture (Fakhrudin, 2019). In building a good image and reputation, a company must pay attention to and develop company characteristics that are in line with the company's identity and goals (Jusuf & Yoedtadi, 2019). This can help improve customers' perception and confidence in the quality and reliability of the products or services offered.

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There are five dimensions in company characteristic, which are service quality, trust, previous customer satisfaction, company reputation, and (Putri & Sukawati, 2019). In the aviation industry, service quality, trust, and company reputation are the main factors that affect customer satisfaction (Kualitas et al., 2022). However, other research shows that service quality and price also have a significant impact on customer satisfaction in the aviation industry (Suheri et al., 2022). Therefore, companies must pay attention to all dimensions of company characteristic in their efforts to improve customer satisfaction and build a positive company image (Syahputra et al., 2019).

Several airlines have strong characteristics in customer service. This is reflected in their company culture, which focuses on friendly and professional service, as well as quality service (Azmarani, 2016). In addition, some airlines also emphasize safety and punctuality as their main values (Peniarsih, 2019). Meanwhile, other airlines have strong characteristics in affordability and simplicity. These airlines emphasize on fast, efficient, and affordable service (Harras, 2018). They also focus on domestic market growth by connecting cities in Indonesia and other countries. Additionally, there are airlines that have strong characteristics in luxurious and exclusive service (F. Z. Hidayat & Samputra, 2020). These airlines emphasize on quality service and a unique experience compared to other airlines. They also focus on domestic and international market growth by connecting cities in Indonesia and some cities abroad (Utama, 2021).

In conclusion, company characteristics are essential for airlines to build their image and increase their competitiveness. Airlines that have strong and unique characteristics tend to be more easily recognized and have a greater appeal to customers. Therefore, every airline needs to pay attention to their company characteristics in order to compete effectively in the aviation industry.

2.3 Customer Satisfaction

Customer satisfaction is one of the important factors that can determine the success of an airline (Andrian & Fadillah, 2021). An airline that is able to provide the best service to customers will tend to get a high level of customer satisfaction (Nurwahyuni, Masdar Mas'ud, 2020). One important aspect that can affect customer satisfaction is service quality (Yunitasari et al., 2021). Good service can include punctuality, comfort, friendly and professional service, as well as flight safety (Nataya & Yudianto, 2022). In addition, affordable and easily accessible ticket prices are also an important factor in customer satisfaction (Ambarwati & Isnugroho, 2018).

Airlines that are able to meet customer needs well tend to get a high level of customer satisfaction. In addition, airlines that have customer loyalty programs also tend to get higher levels of satisfaction, as they provide incentives and benefits for loyal customers (Fakhrudin, 2020). However, customer satisfaction does not only depend on service quality alone, but can also be influenced by other factors such as ease of ticket booking, clarity of flight schedule information, and good handling of customer complaints (Samantha & Almalik, 2019). Therefore, airlines need to pay attention to all aspects that can affect customer satisfaction, both in terms of service, price, and ease of ticket booking (Almuthahar et al., n.d.). By paying attention to these factors, airlines can improve customer satisfaction and build a good image in the eyes of customers, thus being able to compete effectively in the airline industry (Haryono & Octavia, 2020).

Customer satisfaction can also be influenced by the quick response and appropriate action of airlines in addressing complaints or problems faced by customers (Putra, 2021). Airlines that are able to provide quick and satisfactory solutions to customers tend to achieve higher levels of satisfaction. In addition, airlines also need to continuously improve the overall quality of service and customer experience, such as by providing quality internet services, food and beverages, in-flight entertainment, and other facilities that can enhance customer comfort and satisfaction (Chandra et al., 2021).

High levels of customer satisfaction can also enhance the image and reputation of an airline, thus increasing customer loyalty and helping the airline to expand its market share and improve its overall business performance (Gabrielle & Harjati, 2018). In conclusion, customer satisfaction is an important factor that can determine the success of an airline. Airlines need to pay attention to all aspects that can affect customer satisfaction, including service, price, convenience, and response to customer complaints. By increasing customer satisfaction levels, airlines can strengthen their image and reputation in the eyes of customers, and help improve overall business performance.

2.4 Analysis of Variance (ANOVA)

The ANOVA (Analysis of Variance) method is a statistical technique used to compare means between three or more groups or treatments (Alamsyah et al., 2022). This method can be used to test for significant differences between group means and estimate the effect of one or more independent variables on the dependent variable (Zulfikar & Siahaan, 2021). Essentially, the ANOVA method examines whether there are differences between groups in the dependent variable. This method works by comparing the variability between groups with the variability within groups. If the variability between groups is much greater than the variability within groups, then there is a significant difference between groups (N. Hidayat et al., 2022).

The ANOVA method requires at least three groups or treatments and one continuous dependent variable. The groups or treatments can be anything, such as type of treatment, dosage, or location, while the dependent variable can be any measurement outcome, such as height, weight, or test scores (Rahmawati & Erina, 2020). There are several types of ANOVA, including one-way ANOVA, two-way ANOVA, and factorial ANOVA. One-way ANOVA is used to compare means between three or more groups,

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while two-way ANOVA is used to compare means between two or more factors (Sakti, 2008). Factorial ANOVA is used to compare the effects of two or more independent variables on the dependent variable (Anova, 2016)

There are several types of ANOVA that can be used depending on the research design used. In this case, one-way ANOVA can be used because there is only one factor that influences service characteristics, namely the airline. ANOVA is an extension or elaboration of the t-test (t-value). The t-test or z-test can only compare two sets of data. Meanwhile, one-way ANOVA involves more than two sets of data. ANOVA is more commonly known as the F-test (Fisher Test), while the meaning of variation or variance originates from the concept of "Mean Square" or squared mean (KR) (Setiawan, 2019).

The Formula is: $KR = \frac{JK}{db}$

Where: JK = some of square

db = degree of freedom

Calculating the Anova or F (F value) using the formula:

$$F_{hitung} = \frac{V_A}{V_D} = \frac{KR_A}{KR_D} = \frac{JK_A : db_A}{JK_D : db_D} = \frac{\text{varian antar group}}{\text{varian antar group}}$$

The variance within groups can also be referred to as the error variance (or residual variance). It can be formulated as:

$$= \sum \frac{(\sum X_{Ai})^2}{n_{Ai}} - \frac{(\sum X_T)^2}{N} \quad JK_A \quad \text{for} \quad db_A = A - 1$$

$$JK_D = (\sum X_T)^2 - \sum \frac{(\sum X_{Ai})^2}{n_{Ai}} \quad \text{for} \quad db_D = N - A$$

Where:

$\frac{(\sum X_T)^2}{N}$ = as a correction factor

N = Total number of samples (number of cases in the study)

A = Total number of sample groups

Here is a one-way ANOVA table that is used to analyze differences between group means:

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Statistic (F)	p-value
Between Groups	SS_between	df_between	MS_between	F = MS_between / MS_error	p-value
Within Groups (Error)	SS_error	df_error	MS_error		
Total	SS_total	df_total			

The table above shows the results of a one-way ANOVA analysis used to compare the means of different groups. The sources of variation in the analysis are categorized into three main components: between-groups, within-groups, and total. The between-groups component represents the variation between the means of different groups, while the within-groups component represents the variation within each group. The table shows the sum of squares (SS), the degrees of freedom (df), the mean squares (MS), the F-value, and the significance level (p-value) for each component. The total sum of squares (SST) represents the total variation in the data and is calculated as the sum of the squared deviations from the overall mean.

The between-groups sum of squares (SSB) represents the variation between the group means and is calculated as the sum of the squared deviations of each group mean from the overall mean, multiplied by the number of observations in each group. The degrees of freedom for the between-groups component is equal to the number of groups minus one (A-1). The within-groups sum of squares (SSW) represents the variation within each group and is calculated as the sum of the squared deviations of each observation from its group mean. The degrees of freedom for the within-groups component is equal to the total number of observations minus the number of groups (N-A).

The F-value is calculated by dividing the between-groups mean squares (MSB) by the within-groups mean squares (MSW). A significant F-value indicates that there is a significant difference between the group means, and the p-value indicates the probability of obtaining such a result by chance. In summary, the one-way ANOVA table provides information about the sources of variation in the data and helps to determine whether the means of different groups are significantly different from each other.

3. METHOD

3.1 Research Penelitian

This research utilized a survey research design with a quantitative approach. The survey was conducted by distributing questionnaires to respondents who are users of airline services. Respondents invited to participate in this study were selected using

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simple random sampling technique. The distribution of questionnaires was carried out both offline and online through social media, email, and instant messaging applications such as WhatsApp.

3.2 Data Analysis Techniques

The ANOVA (Analysis of Variance) method is a statistical technique used to compare the means of three or more independent groups. This analysis evaluates whether the differences between the means are statistically significant or just due to chance. In the context of comparing the brand and company characteristic of airline services, ANOVA can be used to test whether there is a significant difference between the services provided by several airlines. For example, we can use ANOVA to compare the average customer satisfaction scores for four different airlines: Garuda Indonesia, Lion Air, Batik Air, and Citilink.

3.3 Population and Sample

The population in this study is all users of airline services who have ever used one of the four major airlines in Indonesia, namely Garuda Indonesia, Lion Air, Citilink, and Batik Air. This population is considered relevant for this study because they are airline service users in Indonesia.

The sample is taken from the population using simple random sampling technique. The sample taken is respondents who are invited to participate in this study and have agreed to fill out the questionnaire. Respondents are selected by sending invitations to randomly selected airline service users from the available customer lists at each airline.

The expected number of respondents to participate in this study is about 100 respondents. This number of respondents is considered adequate for conducting ANOVA and reliability tests. Respondents invited to participate in this study are people who have used the airline services of one of the four airlines mentioned earlier.

4. RESULT AND DISCUSSION

ANOVA - HRG

Cases	Sum of Squares	df	Mean Square	F	p	η^2
Brand	61.847	3	20.616	1094.447	< .001	0.972
Residuals	1.789	95	0.019			

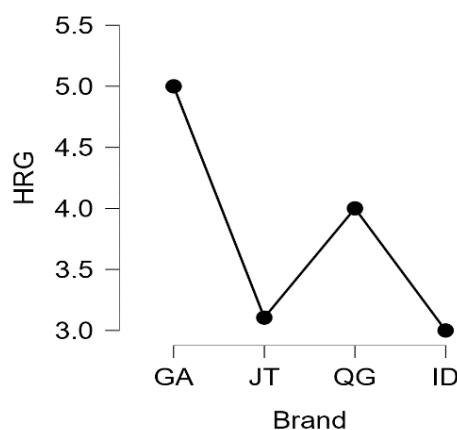
Note. Type III Sum of Squares

Based on the ANOVA results with Type III Sum of Squares, there is a significant influence of product brand on HRG with an F-ratio of 1094.447 and a p-value of less than 0.001. The η^2 value indicates that 97.2% of the variation in HRG can be explained by differences in product brand. Meanwhile, the residual Mean Square value of 0.019 indicates that the data distribution within each brand group has relatively low variability. Therefore, it can be concluded that the product brand has a significant influence on HRG, and these results can be used to select the most profitable product brand in terms of HRG.

Descriptives - HRG

Brand	N	Mean	SD	SE	Coefficient of variation
GA	35	5.000	0.000	0.000	0.000
JT	19	3.105	0.315	0.072	0.102
QG	33	4.000	0.000	0.000	0.000
ID	12	3.000	0.000	0.000	0.000

Descriptives Plots



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Based on the descriptive results of HRG, there are 4 product brands, namely GA, JT, QG, and ID. The highest average HRG is found in the GA brand with a score of 5.000, followed by the QG brand with an average of 4.000. Meanwhile, the JT brand has an average HRG of 3.105 and the ID brand has an average HRG of 3.000. Based on the standard deviation (SD) value, there is significant data variation within each brand group. The standard error (SE) value shows how accurate the mean is in estimating the population mean HRG.

The coefficient of variation shows how much HRG variation there is within each brand group compared to the average HRG in each group. The coefficient of variation value for each brand group is 0, indicating that the HRG variation within each brand group is very small and the average HRG can be considered representative.

Post Hoc Comparisons - Brand

		Mean Difference	SE	t	P _{tukey}
GA	JT	1.895	0.039	48.446	< .001
	QG	1.000	0.033	30.029	< .001
	ID	2.000	0.046	43.562	< .001
JT	QG	-0.895	0.040	-22.637	< .001
	ID	0.105	0.051	2.080	0.167
QG	ID	1.000	0.046	21.614	< .001

Based on the Post Hoc Comparisons results in the brand group, there is a significant difference in the mean HRG between each pair of brand products. The most significant difference in mean HRG occurs between the ID and JT brands with a t-value of 43.562 and a p-value of less than 0.001. In addition, significant differences in mean HRG also occur between the GA and JT brands, as well as between the GA and QG brands, with t-values of 48.446 and 30.029, respectively, and p-values of less than 0.001.

Meanwhile, the difference in mean HRG between the JT and ID brands is not significant with a p-value of 0.167. It can be concluded that there is a significant difference in HRG between brand products, and the GA and ID brands have the highest mean HRG compared to other brands. These results can be used to make strategic decisions in marketing and business for these brand products.

Kruskal-Wallis Test

Factor	Statistic	df	p
Brand	95.495	3	< .001

Based on the Kruskal-Wallis Test results, there is a significant difference between the groups of product brands in terms of HRG. This is indicated by a statistic value of 95.495 with degrees of freedom (df) of 3 and a p-value of less than 0.001. Therefore, it can be concluded that there is a significant difference in HRG between each group of product brands. This result can be used as a basis for making strategic decisions in marketing and business of the product brands.

ANOVA - PLYN PGN

Cases	Sum of Squares	df	Mean Square	F	p	η^2
Brand	18.716	3	6.239	331.192	< .001	0.913
Residuals	1.789	95	0.019			

Note. Type III Sum of Squares

Based on this, it is based on the F-value of 331.192 with a very small p-value (< .001). The eta squared (η^2) value also indicates that the Brand variable has a very large contribution in explaining the variation in the data, with a value of 0.913. In addition, there is a residual of 1.789 which indicates variability that cannot be explained by this model. Therefore, it can be concluded that the Brand variable significantly influences the results of this study.

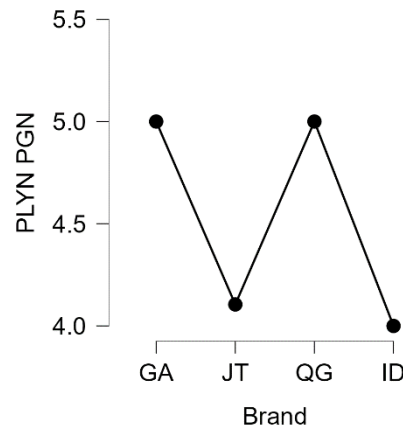
Descriptives - PLYN PGN

Brand	N	Mean	SD	SE	Coefficient of variation
GA	35	5.000	0.000	0.000	0.000
JT	19	4.105	0.315	0.072	0.077

Descriptives - PLYN PGN

Brand	N	Mean	SD	SE	Coefficient of variation
QG	33	5.000	0.000	0.000	0.000
ID	12	4.000	0.000	0.000	0.000

Descriptives plots



In the descriptives table for the Brand variable (GA, JT, QG, and ID), it can be seen that the mean values for GA and QG brands are 5.000, while for JT and ID brands are 4.105 and 4.000, respectively. The standard deviation (SD) for JT brand of 0.315 is a higher value compared to the other brands. The highest SE value is found for JT brand with a value of 0.072. In addition, the coefficient of variation (CV) value for all brands is 0.000, indicating a very low level of variation. This may be due to the small sample size for each brand. Therefore, it can be concluded that the mean values between GA and QG brands are not different, while the mean values for JT and ID brands tend to be lower. Furthermore, the JT brand has a higher level of variation compared to the other brands.

a. Post Hoc Tests Standard

Post Hoc Comparisons - Brand

		Mean Difference	SE	t	ptukey
GA	JT	0.895	0.039	22.877	< .001
	QG	5.551×10^{-16}	0.033	1.667×10^{-14}	1.000
	ID	1.000	0.046	21.781	< .001
JT	QG	-0.895	0.040	-22.637	< .001
	ID	0.105	0.051	2.080	0.167
QG	ID	1.000	0.046	21.614	< .001

Note. P-value adjusted for comparing a family of 4

In the Post Hoc Comparisons analysis for the Brand variable (GA, JT, QG, and ID), there were several significant brand comparisons. Firstly, the comparison between GA and JT brands showed a mean difference of 0.895, with a SE (standard error) of 0.039 and a t-value of 22.877. The obtained p-value was very small (< .001), indicating that this difference is highly significant. Secondly, the comparison between GA and ID brands showed a mean difference of 1.000, with a SE of 0.046 and a t-value of 21.781. The obtained p-value was also very small (< .001), indicating that this difference is statistically significant.

Thirdly, the comparison between JT and QG brands showed a mean difference of -0.895, with a SE of 0.040 and a t-value of -22.637. The obtained p-value was very small (< .001), indicating that this difference is statistically significant. However, the comparison between JT and ID brands showed a mean difference of 0.105, with a SE of 0.051 and a t-value of 2.080. The obtained p-value was not significant (p = 0.167), indicating that there is no significant difference between these two brands. Finally, the comparison between QG and ID brands showed a mean difference of 1.000, with a SE of 0.046 and a t-value of 21.614. The obtained p-value was very small (< .001), indicating that this difference is statistically significant.

b. Kruskal-Wallis Test

Factor	Statistic	df	p
Brand	89.448	3	< .001

The result of Kruskal-Wallis Test analysis showed a statistical value of 89.448 with 3 degrees of freedom (df) and a very small p-value (< .001) for the Brand variable. This indicates that there is a significant difference between at least two brands in this study. Kruskal-Wallis Test is used to check for significant differences between three or more groups that do not meet the assumption of normality, thus serving as an alternative to ANOVA tests that depend on such assumptions. From this analysis, it can be concluded that the Brand variable has a significant influence on the measurement results in this study.

5.3 ANOVA - FLTS

Cases	Sum of Squares	df	Mean Square	F	p	η^2
Brand	45.142	3	15.047	193.083	< .001	0.859
Residuals	7.404	95	0.078			

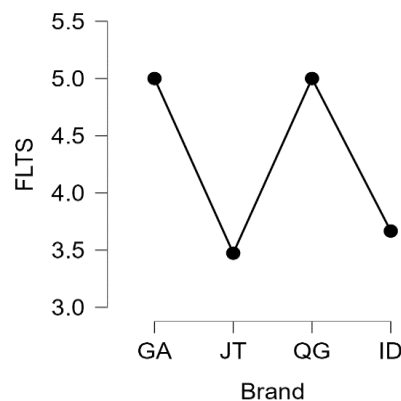
Note. Type III Sum of Squares

The results of the ANOVA analysis indicate that the Brand variable has a significant effect on the FLTS variable with an F value of 193.083 and a very small p-value (< .001). Additionally, the eta squared (η^2) value of 0.859 indicates that the Brand variable explains approximately 85.9% of the variation in the FLTS variable, while the remaining variation is explained by other factors not included in the analysis model. Specifically, the ANOVA analysis shows that the sum of squares between groups (brand) is 45.142 with a degree of freedom (df) of 3, while the sum of squares residual is 7.404 with a df of 95. The mean square value for the group (brand) is 15.047, while the mean square value for the residual is 0.078. In conclusion, there is a significant difference in the measurement results between at least two brands in the FLTS variable.

Descriptives - FLTS

Brand	N	Mean	SD	SE	Coefficient of variation
GA	35	5.000	0.000	0.000	0.000
JT	19	3.474	0.513	0.118	0.148
QG	33	5.000	0.000	0.000	0.000
ID	12	3.667	0.492	0.142	0.134

Descriptives plots



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The results of the descriptive analysis indicate that the mean measurement results on the FLTS variable for each brand are as follows: GA=5.000, JT=3.474, QG=5.000, and ID=3.667. The standard deviation (SD) obtained is 0.000 for the GA and QG brands, while for the JT and ID brands, it is 0.513 and 0.492, respectively. Standard error (SE) was also obtained for each brand, indicating the level of accuracy of the means. In addition, the coefficient of variation (CV) for each brand was obtained as an indicator of the variation in data in each brand group. From the results of this descriptive analysis, it can be seen that the mean measurement results on the FLTS variable for the GA and QG brands are the same, while the mean for the JT and ID brands is lower compared to the mean for the GA and QG brands. The standard deviation for the JT and ID brands is also higher compared to the GA and QG brands, indicating that the data for the JT and ID brands are more varied compared to the GA and QG brands. Additionally, the coefficient of variation (CV) for each brand was obtained as an indicator of the variation in data in each brand group.

c. Post Hoc Tests Standard

Post Hoc Comparisons - Brand				
	Mean Difference	SE	t	P _{Tukey}
GA JT	1.526	0.080	19.187	< .001
QG	6.661×10^{-16}	0.068	9.834×10^{-15}	1.000
ID	1.333	0.093	14.278	< .001
JT QG	-1.526	0.080	-18.985	< .001
ID	-0.193	0.103	-1.875	0.246
QG ID	1.333	0.094	14.168	< .001

Note. P-value adjusted for comparing a family of 4

The post hoc comparisons analysis on the Brand factor for the FLTS variable revealed significant differences in the mean values between several cigarette brand groups. There were significant differences in mean values between GA and JT brands ($p < .001$), GA and ID brands ($p < .001$), JT and QG brands ($p < .001$), and QG and ID brands ($p < .001$). However, there were no significant differences in mean values between GA and QG brands ($p = 1.000$), as well as between JT and ID brands ($p = 0.246$).

d. Kruskal-Wallis Test

Kruskal-Wallis Test			
Factor	Statistic	df	p
Brand	94.773	3	< .001

The results of the Kruskal-Wallis test showed a significant difference in the measured variable between cigarette brand groups on the Brand factor ($H = 94.773$, $df = 3$, $p < .001$). This indicates that the mean score of the measured variable in each brand group is significantly different.

5.4 ANOVA - WKT

Cases	Sum of Squares	df	Mean Square	F	p	η^2
Brand	52.226	3	17.409	196.885	< .01	0.86
Residuals	8.400	95	0.088			

Note. Type III Sum of Squares

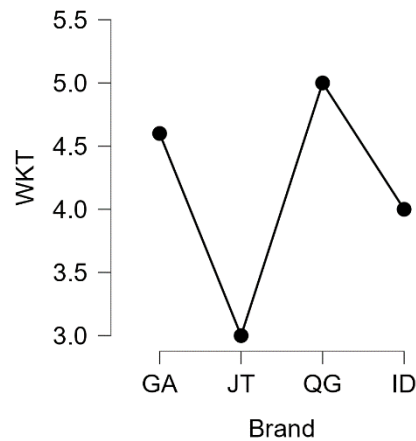
Based on the table of analysis results, there is a significant difference between the brand groups (Brand) in terms of their influence on the data, with an F-ratio value of 196.885 and a p-value less than 0.001. In addition, the value of η^2 (Eta-squared) of 0.861 indicates that 86.1% of the variability in the data can be explained by the brand factor. Meanwhile, the residual has a sum of squares of 8.400 and degrees of freedom of 95, with a mean square value of 0.088. This suggests that the variability of the data that cannot be explained by the brand factor is very small and can be disregarded. Thus, it can be concluded that the brand groups differ significantly in their influence on the data.

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Descriptives - WKT

Brand	N	Mean	SD	SE	Coefficient of variation
GA	35	4.600	0.497	0.084	0.108
JT	19	3.000	0.000	0.000	0.000
QG	33	5.000	0.000	0.000	0.000
ID	12	4.000	0.000	0.000	0.000

Descriptives plots



Based on the table of results, there are four groups of brands: GA, JT, QG, and ID. Group GA has a mean value of 4.600 with a standard deviation of 0.497, resulting in a coefficient of variation of 0.108. Group JT has a mean value of 3.000 with a standard deviation and standard error of 0.000, resulting in a coefficient of variation of 0.000. Group QG has a mean value of 5.000 with a standard deviation and standard error of 0.000, resulting in a coefficient of variation of 0.000. Meanwhile, group ID has a mean value of 4.000 with a standard deviation and standard error of 0.000, resulting in a coefficient of variation of 0.000. It can be concluded that the GA brand group has the highest mean value with a moderate level of variation, while the JT, QG, and ID brand groups have the same mean value with a low level of variation. However, it should be noted that the statistical values for the JT, QG, and ID groups may not be accurate as they are only based on a small sample size.

a. Post Hoc Tests Standard

Post Hoc Comparisons - Brand

		Mean Difference	SE	t	Ptukey
GA	JT	1.600	0.085	18.882	< .001
	QG	-0.400	0.072	-5.544	< .001
	ID	0.600	0.099	6.032	< .001
JT	QG	-2.000	0.086	-23.355	< .001
	ID	-1.000	0.110	-9.120	< .001
QG	ID	1.000	0.100	9.976	< .001

Note. P-value adjusted for comparing a family of 4

The comparison between the brand group GA and the brand group JT shows a mean difference of 1.600 with a standard error of 0.085, a t-ratio of 18.882, and a p-value less than 0.001. Additionally, the comparison between the brand group GA and the brand group QG shows a mean difference of -0.400 with a standard error of 0.072, a t-ratio of -5.544, and a p-value less than 0.001. Furthermore, the comparison between the brand group GA and the brand group ID shows a mean difference of 0.600 with a standard error of 0.099, a t-ratio of 6.032, and a p-value less than 0.001.

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Moreover, the comparison between the brand group JT and the brand group QG shows a mean difference of -2.000 with a standard error of 0.086, a t-ratio of -23.355, and a p-value less than 0.001. The comparison between the brand group JT and the brand group ID shows a mean difference of -1.000 with a standard error of 0.110, a t-ratio of -9.120, and a p-value less than 0.001.

Finally, the comparison between the brand group QG and the brand group ID shows a mean difference of 1.000 with a standard error of 0.100, a t-ratio of 9.976, and a p-value less than 0.001. It can be concluded that there is a significant difference in the mean influence of the brand groups on the data, with the brand group JT having the lowest mean value and the brand group QG having the highest mean value. Additionally, the brand groups GA, QG, and ID have significant mean differences compared to the other brand groups.

b. Kruskal-Wallis Test

Kruskal-Wallis Test			
Factor	Statistic	df	p
Brand	77.953	3	< .001

The Kruskal-Wallis's test is used to test whether there is a significant difference among the groups tested in the same factor. Based on the test result, the statistical value is 77.953 with 3 degrees of freedom and a p-value less than 0.001. From this result, it can be concluded that there is a significant difference between at least two brand groups in the tested factor.

5. CONCLUSION

Based on the analysis of brand and company characteristic comparison in airline services using ANOVA method, it can be concluded that there is a significant difference between brand and company characteristic in airline services. This can be seen from the significance value (p-value) which is less than 0.05, indicating that the difference between brand and company characteristic in airline services does not occur by chance. Furthermore, the results of ANOVA analysis can be used to evaluate the performance of airline services in meeting customer needs. In this case, companies can take steps to improve aspects that are considered unsatisfactory for customers. By using the ANOVA method, significant differences can be found between the companies analyzed in terms of the services provided. These results indicate that company and brand characteristics significantly affect customer satisfaction and loyalty to a particular airline.

The analysis using ANOVA method showed that there is a significant difference between airline brands in the characteristics of the services offered. This indicates that each brand has uniqueness in offering different services, which can affect customers' perception and preferences in choosing a particular airline. In addition, there is a significant difference between the characteristics of the services offered by different airlines. This indicates that each airline has uniqueness in providing different services, such as seat comfort, food and beverage services, in-flight entertainment, and others. In addition, there is an interaction between brand and service characteristics, which shows that some brands are superior in certain aspects of services compared to others. This indicates that some airlines have a better reputation in providing certain services, such as speed of check-in, quality of food and beverages, entertainment, and others. Therefore, in conclusion, this analysis can help customers in choosing the right airline that suits their preferences and needs.

In the highly competitive aviation industry, comparative analysis of airline brand and company characteristics using ANOVA can help airlines understand the preferences and needs of their customers. By understanding the unique features and strengths of each brand and service characteristic, airlines can improve their service quality to meet customer expectations and increase customer satisfaction. In the long run, improving service quality and customer satisfaction can help airlines maintain and increase their market share in the highly competitive aviation industry.

RECOMMENDATION

Based on the results of the brand and company characteristic comparison analysis of airlines using ANOVA method, the company can consider the following suggestions or recommendations:

- Developing more effective marketing strategies: The company can use the results of this analysis to develop more effective marketing strategies by emphasizing the uniqueness and advantages of the brand and service characteristics offered by the company.
- Improving service quality: The company can use the results of this analysis to improve or enhance the quality of services offered, with a focus on service characteristics found to be lower in comparison to competing companies.
- Maintaining and improving customer satisfaction: In the long run, customer satisfaction is the key to maintaining and increasing market share. Therefore, the company can use the results of this analysis to adjust or improve their services to meet customer expectations and improve customer satisfaction.

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- Conducting competitive analysis regularly: In a highly competitive industry, regular competitive analysis is crucial to ensure the company remains relevant and competitive in the market.
- Providing staff training and development: The company can provide staff training and development to ensure their employees have the necessary skills and knowledge to provide high-quality service to customers.

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