

Relationship among Brand Image, Service Quality and Customer Satisfaction –Using China Airline as an Example

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Abstract—Despite the fact that the aviation market has been noticeably hit by the recession, there has been a sign of increase in the ratio of tourist coming to Taiwan. Up until now, most researches of brand marketing have been focusing on the relation between brand image and customer perception or customer service. Few have been focusing on the discussion of brand image, service quality, and customer satisfaction. For every aviation company, the question of how to improve the customers' satisfaction and loyalty, and how to gain a broader customer in the existing market by various brand marketing methods, will prove to be a very important one. Thus, in this study, we discuss, in the point of view of the customers, the relation between customers' willingness to take the flight and customer satisfaction, service quality, and the brand image of the aviation company. The research methods conducted in this study include literature review and questionnaire survey, in which experienced passengers in Taiwan were taken as research subjects, while the questions in the questionnaire were designed with the help of sorting through related literatures. Questionnaires were conducted in the way of convenience sampling, and they included three aspects: the brand image of the aviation company, service quality, and customer satisfaction. 310 copies were handed out, and 265 valid copies were recovered.

The result shows that brand image, service quality, and customer satisfaction have a positive impact on brand interest and perceived value, while brand interest has a positive impact on perceived value and brand relationship quality. Brand image has an indirect effect mostly on brand relationship quality. Although the aviation companies are able to bring positive impact on its perceived value with its brand interest, the effect brought by its brand image is more direct and positive.

Keywords—brand image; service quality; customer satisfaction; China airline.

I. INTRODUCTION

Customers select products will be based on the higher brand awareness to purchase; aviation industry is in heaven flight carrying passengers or cargo to industries around, so feel at ease and comfortable in the air service to let passengers, so good service there is a good quality brand image and customer satisfaction. In other words, the customer will be based on brand image or the high-profile corporate companies to purchase consumption.

II. RESEARCH DESIGN

A. Questionnaire and Survey Analysis Methods developed operating variables

Through brainstorming and sink the whole industry, government and expert advice to determine and correct the assessment factor should be whether the brand image, service quality and customer satisfaction, impact factor, and then according to their degree of importance given 1-5 rating, using "Likert-type" scale form, as the way forward for points to 5 indicating "strongly agree", 4 represents "agree", 3 represents "ordinary", 2 represents "do not agree", 1 represents "strongly disagree", "the difference between its high and low scores no good or bad, but the extent of reaction agree with the description of the subject. Projects are all equidistant from each issue of scale, respondents based on their professional background and relevant experience extreme option is checked pole agree not to consent. According to the proposed research framework, hereby will analyze the methods used are: 1 (1) SWOT analysis (2) reliability analysis (3) correlation analysis number (4) single-factor analysis of variance (5) after the analysis, analysis tools to SPSS17.0 statistical analysis software packages will be analyzed questionnaires. This study used simple random sampling, during sampling in order to take over the China Airlines flight passengers for the study. In the sample matrix, each unit is called the same as the probability of the sample units. In the random sampling process, samples have been extracted will not be set back to the parent, it is assumed that the number of sampling architecture 1000, the probability of each person is extracted 1000, while 200 and pumped from not set back the chances of the mother is left to be extracted become 1/800 people.

B. Reliability Analysis

Brand Scale reliability analysis, service quality and customer satisfaction Letter Scale Letter Scale Analysis of reliability of the results of the analysis based on scale Cronbach's α coefficient to determine the internal consistency of the questionnaire. In the overall brand image Cronbach's α coefficient of 0.722, within an acceptable range, as shown in Table 1. The service quality and customer satisfaction overall dimensions Cronbach's α coefficients was 0.968 and 0.93, reliability values were greater than 0.7.

TABLE I. BRAND IMAGE ANALYSIS

Cronbach's $\alpha = 0.722$		
item	Revised item-related	Item deletion of Cronbach's α
1. Airline operations, financial is superb	0.505	0.687
2. High visibility	0.404	0.698
3. Ambitious goals for the future, and actively expand routes	0.558	0.675
4. The use of new aircraft, and regular maintenance	0.559	0.672
5. Flight Technology trustworthy	0.586	0.666
6. It offers comfortable seating, gourmet dining and amenities on the plane	0.180	0.822
7. Excellent staff service quality	0.516	0.685
8. The company's flight voyage arrangements in place and take off and land on time	0.485	0.687

III. FREQUENCY TABLE

Gender-wise, the participants consist of 122 “female” and 143 “male”, which respectively take up 46.0% and 54.0% of the total samples. The difference is minimal. Age-wise, the participants consists mostly of “21~30”, which counts 135 individuals and 50.9% of the total samples. It consists second-mostly of “31~40”, which counts 66 individuals and 24.9% of total samples, and third-mostly of “41~50”, which counts 28 individuals and 10.6% of the total samples. As shown above and on Table.2, flight passengers consist mostly of people at the age if

TABLE II. GENDER AND AGE FREQUENCY

Variable	Item	Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	122	46.0	46.0	46.0
	Female	143	54.0	54.0	100.0
	Total	265	100.0	100.0	
Age	20	17	6.4	6.4	6.4
	21-30	135	50.9	50.9	57.4
	31-40	66	24.9	24.9	82.3
	41-50	28	10.6	10.6	92.8
	51-60	16	6.0	6.0	98.9
	60 above	3	1.1	1.1	100.0
	Total	265	100.0	100.0	

“21~30” and “31~40”. Education-wise, it consists mostly of “college and university”, which counts 177 individuals and 64.5% of total samples. It consists second-mostly of “graduate school”, which counts 61 individuals and 23.0% of the total samples, and third-mostly of “high school”, which counts 31 individuals and 11.7% of the total samples. The least of which is “junior high school”, which counts 2 individuals and 0.8% of total samples. As shown above, people who take China Airlines consists mostly of those with college or university education. Occupation-wise, it consists mostly of “service industry”, which counts 69 individuals and 26% of the total samples. It consists second-mostly of “Military, public, and teaching personnel”, which counts 68 individuals and 25.7% of total samples. It otherwise consists of “students”, 57 individuals and 21.5% of the total samples; “others”, 28 individuals and 10.6% of the total samples; “industry and commerce”, 21 individuals and 7.9% of the total samples; “freelance”, 12 individuals and 4.5% of the total samples; “homemaker”, 7 individuals and 2.6% of the total samples; and the least of which, “agriculture”, 3 individuals and 1.1% of the total samples only. As shown above and on Table.3, China Airlines passengers consists mostly of those in the “service industry”, and slightly lesser than which are “military, public, and teaching personnel”, “student”, and “others”, which combine to 57.8% of the total samples, while “others” mostly consists of “manufacturing”.

TABLE III EDUCATION AND OCCUPATION FREQUENCY

Variable	Item	Frequency	Percent	Valid Percent	Cumulative Percent
Education	Junior High School	2	.8	.8	.8
	High School	31	11.7	11.7	12.5
	College/University	171	64.5	64.5	77.0
	Graduate School	61	23.0	23.0	100.0
Occupation	Agriculture	3	1.1	1.1	1.1
	Industry/Commerce	21	7.9	7.9	9.1
	Service Industry	69	26.0	26.0	35.1
	Student	57	21.5	21.5	56.6
	Military/Public/Teaching Personnel	68	25.7	25.7	82.3
	Housekeep	7	2.6	2.6	84.9
	Freelance	12	4.5	4.5	89.4
	Others	28	10.6	10.6	100.0

Customer satisfaction analysis

TABLE IV. GENDER AND CUSTOMER SATISFACTION DIFFERENCE ANALYSIS

Item	Levene's test for equality of variances		T-test for equality of means		
	F	Sig.	Sig.	Mean Difference	Std. Error Difference
I prefer this aviation company when I need to buy a ticket	.617	.433	.041*	.219	.107

TABLE V. BRAND IMAGE FACTOR ANALYSIS

Item	Component	
	1	2
The aviation company arranges schedules properly with no flight delay	.847	.172
The aviation company offers fair prices for its tickets	.763	.070
The aviation company's staff provides fine services	.668	.320
The aviation company is very well known	.072	.838
This is a large, well-financed, and top-notch aviation company	.175	.813
The aviation company expands its air routes actively and holds grand visions for its future	.394	.617

A. Gender and Customer Satisfaction Difference Analysis

The result of the independent t-test analysis shows no statistical significance on the two dimensions of brand image and service quality. However, on the dimension of customer satisfaction, it shows statistical significance in different gender in the item of "I prefer this aviation company when I need to buy a ticket". More males than females agree to this statement. Thus, as shown in Table.4, it can be concluded that men and women hold different opinions on this matter.

TABLE VI. BRAND IMAGE FACTOR DATA ANALYSIS

Sub-Dimensions	Factors and Variables	Factor Loading	Cumulative % of Variance Explained	KMO Measure of Sampling Adequacy
Enterprise Operation	8. The aviation company arranges schedules properly with no flight delay	.847	16.147	.715
	9. The aviation company offers fair prices for its tickets	.763		
	7. The aviation company's staff provides fine services	.668		
Enterprise Scale	2. The aviation company is very well known	.838	63.545	
	1. This is a large, well-financed, and top-notch aviation company	.813		
	3. The aviation company expands its air routes actively and holds grand visions for its future	.617		

B. Brand Image Factor Analysis

9 items were originally designed for the brand image dimension of the questionnaire. 3 items that doesn't meet the factor selection standard were later deleted through factor analysis. Table.5 shows the analysis result of qualified items in the brand image dimension. As shown in Table.6, the brand image dimension in this study is further divided into two sub-dimensions, named "Enterprise Operation" and "Enterprise Scale" respectively. The "Enterprise Operation" sub-dimension consists of three items. Its eigenvalue is 2.769, and cumulative variance

explained 46.147%. The "Enterprise Scale" sub-dimension consists of three items: "2. The aviation company is very well known", "1. This is a large, well-defined, and top-notch aviation company", "3. The aviation Company expands its air routes actively and holds grand visions for its future". Its eigenvalue is 1.050, and cumulative variance explained 63.645%.

C. Service Quality Factor Analysis

In the service quality dimension, 46 items were originally designed. 20 items that did not meet the factor selection standard were later deleted through factor analysis. Table.7 shows the analysis result of qualified items in the service quality dimension. The service quality dimension in this study is further divided into four sub-dimensions, named "Related Information", "Flight Attendants' Serving Attitude", "Baggage Delivery", and "Booking Service" respectively. The "Related Information" sub-dimension consists seven items: "32. Introductions of various travel-related products are provided", "31. Information of various product promotions is provided", "44. Customized information is provided in accordance to my preference", "43. Latest news of member-exclusive discounts is provided", "33. Online purchase of travel-related products is provided", "34. Time-saving searching functionality is provided", and "38. Links to related traveling websites are provided". Its eigenvalue is 9.076, and cumulative variance explained 43.219%. As shown in Table.8, the "Flight Attendants' Serving Attitude" sub-dimension consists of seven items: "9. Flight attendants interact and communicate with passengers well", "8. Flight attendants offer services efficiently", "10. Flight attendants offer services in an amiable, caring, and active manner", "12. Flight attendants handle all problems properly", "11. Flight attendants understand customers' need", "27. My opinion of the company's visual presentation (hardware in the counters, decoration, uniform, vigor, etc)", and "5. Boarding announcements are accurate and clear". Its eigenvalue is 1.954, cumulative variance explained 52.521%, and KMO value 0.912. The "Baggage Delivery" sub-dimension consists of four items: "16. The baggage claiming process is efficient", "17. The information platform for baggage delivery is superb", "15. Staff provides active assistance when checking in baggage", and "14. The check-in staff is kind and cautious". Its eigenvalue is 1.212, and cumulative variance explained 58.295%. The "Booking Service" sub-dimension consists of three items: "39. Online flight booking is available", "40. A wide variety of payment methods are available", and "35. An inquiry system for transaction information is available". Its eigenvalue is 1.066, cumulative variance explained 63.373%, and KMO value 0.912%.

TABLE VII. SERVICE QUALITY FACTOR ANALYSIS

Item	Factor			
	1	2	3	4
Introductions of various travel-related products are provided.	.781	.235	.215	.057
Information of various product promotions is provided.	.754	.141	.223	.057
Customized information is provided in accordance to my preference.	.683	.175	.094	.223
Latest news of member-exclusive discounts is provided.	.668	.217	.113	.292
Online purchase of travel-related products is provided.	.652	.153	.220	.273
Time-saving searching functionality is provided.	.645	.293	.287	.261
Links to related traveling websites are provided.	.520	.120	.198	.465
Flight attendants interact and communicate with passengers well.	.116	.718	.222	.155
Flight attendants offer services efficiently.	.107	.796	.178	.065
Flight attendants offer services in an amiable, caring, and active manner.	.065	.795	.196	.220
Flight attendants handle all problems properly.	.180	.741	.232	.152
Flight attendants understand customers' need.	.291	.722	.199	.119
My opinion of the company's visual presentation (hardware in the counters, decoration, uniform, vigor, etc)	.400	.563	-.053	.137
Boarding announcements are accurate and clear.	.232	.530	.172	.125
The baggage claiming process is efficient.	.296	.195	.776	.177
The information platform for baggage delivery is superb.	.304	.260	.723	.177
Staff provides active assistance when checking in baggage.	.222	.205	.690	.267
The check-in staff is kind and cautious.	.119	.282	.613	.517
Online flight booking is available.	.219	.252	.161	.785
A wide variety of payment methods are available.	.220	.200	.151	.751
An inquiry system for transaction information is available.	.484	.195	.220	.502

TABLE VIII. SERVICE QUALITY FACTOR DARA ANALYSIS

Sub-dimensions	Factors and Variables	Factor Loading	Cumulative % of Variance Explained	KMO Measure of Sampling Adequacy
Related Information	32. Introductions of various travel-related products are provided.	.781	43.219	.912
	31. Information of various product promotions is provided.	.754		
	44. Customized information is provided in accordance to my preference.	.683		
	43. Latest news of member-exclusive discounts is provided.	.668		
	33. Online purchase of travel-related products is provided.	.652		
	34. Time-saving searching functionality is provided.	.645		
	38. Links to related traveling websites are provided.	.520		
Flight Attendants' Serving Attitude	39. Flight attendants interact and communicate with passengers well.	.788	52.521	
	8. Flight attendants offer services efficiently.	.766		
	10. Flight attendants offer services in an amiable, caring, and active manner.	.765		
	12. Flight attendants handle all problems properly.	.741		
Baggage Delivery	11. Flight attendants understand customers' need.	.722	58.295	
	27. My opinion of the company's visual presentation (hardware in the counters, decoration, uniform, vigor, etc)	.563		
	5. Boarding announcements are accurate and clear.	.530		
	16. The baggage claiming process is efficient.	.776		
	17. The information platform for baggage delivery is superb.	.723		
Booking Service	15. Staff provides active assistance when checking in baggage.	.699	63.373	
	14. The check-in staff is kind and cautious.	.673		
	39. Online flight booking is available.	.785		
	40. A wide variety of payment methods are available.	.751		
	35. An inquiry system for transaction information is available.	.502		

TABLE IX. CUSTOMER SATISFACTION FACTOR ANALYSIS

Item	Component	
	1	2
I would recommend this aviation company to my colleagues and others likewise.	.800	.202
I prefer this aviation company when I need to buy a ticket.	.763	.239
This aviation company satisfies me more than any other aviation companies.	.733	.357
I'm satisfied with both the price I paid and the tangible/intangible value I received.	.701	.278
I would buy from this aviation company and accept its service despite the promotional deals from its competitors.	.684	.139
I wish all the other aviation companies were like this one.	.682	.377
I am very satisfied with this aviation company.	.662	.386
Interactions with this aviation company have always been pleasant.	.646	.436
Overall, I am satisfied with this aviation company's performance.	.579	.489
Promises made to the aviation company were fulfilled.	.228	.817
The staff gains the trust of the customers with good performance.	.334	.736
The ground personnel fulfill their service within designated time frame.	.278	.742
Jobs are done right without a second try.	.316	.740
Staff possesses the required expertise for problem solving.	.259	.739

D. Customer Satisfaction Factor Analysis

In the customer satisfaction dimension, 14 questions were originally designed, all items met the factor selection standard, therefore, no item was deleted. The result of the analysis is shown in Table.9.

As shown in Table.10, the "Customer Satisfaction" dimension in this study was further divided into two sub-dimensions, named "Impressions on the Aviation Company" and "Impressions on the Staff". The "Impressions on the Aviation Company" sub-dimension consists of nine items: "8. I would recommend this aviation company to my colleagues and others likewise", "7. I prefer this aviation company when I need to buy a ticket", "4. This aviation company satisfies me more than any other aviation company", "6. I'm satisfied with both the price I paid and the tangible/intangible value I received", "9. I would buy from this aviation company and accept its service despite the promotional deals from its competitors", "3. I wish all the aviation companies were like this one", "I am very satisfied with this aviation company", "Interactions with this aviation company have always been pleasant", and "Overall, I'm satisfied with this aviation company's performance". Its eigenvalue is 7.488, and cumulative variance explained 53.484%. The "Impressions on the Staff" sub-dimension consists of five items: "12. Promises made to this aviation company were fulfilled", "13. The staff gains the trust of the customers with good performance", "11. The ground personnel fulfill their service within designated time frame", and "Jobs are done right without a second try". Its eigenvalue is 1.258, and cumulative variance explained 62.475%.

TABLE X. CUSTOMER SATISFACTION FACTOR DATA ANALYSIS

Sub-dimensions	Factors and Variances	Factor Loading	Cumulative % of Variance Explained	KMO Measure of Sampling Adequacy
Impressions on the Aviation Company	8. I would recommend this aviation company to my colleagues and others likewise.	.800	53.484	.928
	7. I prefer this aviation company when I need to buy a ticket.	.705		
	4. This aviation company satisfies me more than any other aviation companies.	.732		
	6. I'm satisfied with both the price I paid and the baggage/airfare value I received.	.701		
Impressions on the Aviation Company	9. I would buy from this aviation company and accept its service despite the promotional deals from its competitors.	.684	53.484	.928
	3. I wish all the other aviation companies were like this one.	.662		
	1. I am very satisfied with this aviation company.	.662		
	2. Interactions with this aviation company have always been pleasant.	.644		
Impressions on the Staff	5. Overall, I am very satisfied with this aviation company.	.379	62.473	
	12. Promises made to the aviation company were fulfilled.	.817		
	13. The staff gains the trust of the customers with good performance.	.756		
	11. The ground personnel fulfill their service within	.742		

TABLE XI. BRAND IMAGE CORRELATION ANALYSIS

		This is a large, well-financed, and top-notch aviation company.	The aviation company is very well known.	The aviation company expands its air routes actively and holds grand visions for its future.	The aviation company's staff provides fine services, with no flight delay.	The aviation company offers fair prices for its tickets.
This is a large, well-financed, and top-notch aviation company.	Person Correlation	1	.317(**)	.428(**)	.305(**)	.236(**)
The aviation company is very well known.	Person Correlation	.317(**)	1	.343(**)	.274(**)	.189(**)
The aviation company expands its air routes actively and holds grand visions for its future.	Person Correlation	.428(**)	.343(**)	1	.434(**)	.321(**)
The aviation company's staff provides fine services.	Person Correlation	.305(**)	.274(**)	.434(**)	1	.253(**)
The aviation company offers fair prices for its tickets.	Person Correlation	.236(**)	.189(**)	.321(**)	.253(**)	1

TABLE XII. RELATED INFORMATION CORRELATION ANALYSIS

		Information of various product promotions is provided.	Introductions of various travel-related products are provided.	Online purchase of travel-related products is provided.	Time-saving searching functionality is provided.	Links to related traveling websites are provided.	Latest news of member-exclusive discounts is provided.	Customized information is provided in accordance to my preference.
Information of various product promotions is provided.	Person Correlation	1	.755(**)	.478(**)	.522(**)	.450(**)	.508(**)	.404(**)
Introductions of various travel-related products are provided.	Person Correlation	.755(**)	1	.548(**)	.510(**)	.486(**)	.565(**)	.492(**)
Online purchase of travel-related products is provided.	Person Correlation	.478(**)	.548(**)	1	.662(**)	.415(**)	.512(**)	.489(**)
Time-saving searching functionality is provided.	Person Correlation	.522(**)	.510(**)	.662(**)	1	.492(**)	.502(**)	.488(**)
Links to related traveling websites are provided.	Person Correlation	.450(**)	.486(**)	.415(**)	.492(**)	1	.442(**)	.514(**)
Latest news of member-exclusive discounts is provided.	Person Correlation	.508(**)	.565(**)	.512(**)	.502(**)	.442(**)	1	.565(**)
Customized information is provided in accordance to my preference.	Person Correlation	.404(**)	.492(**)	.489(**)	.488(**)	.514(**)	.565(**)	1
Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	
N		265	265	265	265	265	265	265

E. Brand Image and Service Quality Correlation Analysis

As shown in Table.11, the result of the brand image dimension's correlation analysis shows evident significance, which means that the following items "This is a large, well-financed, and top-notch aviation company", "The aviation company is very well known", "The aviation

company expands its air routes actively and holds grand visions for its future", "The aviation company's staff provides fine services", "The aviation company arranges schedules properly with no flight delay", and "The aviation company offers fair prices for its tickets" have an impact on China Airline's brand image. As shown in Table.12, the service quality correlation analysis shows evident significance for all related information. The two items "Introductions of various travel-related products are provided", and "Information of various product promotions is provided" shows high significance in the correlation analysis, which means that the two items share more relevance between each other than other items in the related information analysis. Table.13 shows evident significance in all the flight attendants' attitude correlation analysis. Two particular items "Flight attendants offer services in an amiable, caring, and active manner", and "Flight attendants interact and communicate with passengers well" show high significance in the correlation analysis, which means that the two items share more relevance than other items in the flight attendants' attitude correlation analysis. Table.14 shows evident significance in all the baggage delivery correlation analysis. Two particular items "The information platform for baggage delivery is superb", and "The baggage claiming process is efficient" show high significance in the correlation analysis, which means that the two items share more relevance than other items in the baggage delivery correlation analysis. Table.15 shows evident significance in all the booking service correlation analysis. Two particular items "A wide variety of payment methods are available", and "Online flight booking is available" show high significance in the correlation analysis, which means that the two items share more relevance than other items in the booking service correlation analysis. As shown in Table.16, the combined correlation analysis of the service quality sub-dimension shows evident significance, with particularly high significance on "Related Information", "Baggage Delivery", and "Booking Service". It can be concluded that some information about baggage delivery and booking service could be previously obtained on related information, and related information is correlated with baggage delivery and booking service, which poses an impact to service quality.

TABLE XIII. RELATED INFORMATION CORRELATION ANALYSIS

		Boarding announcements are accurate and clear.	Flight attendants offer services efficiently.	Flight attendants interact and communicate with passengers well.	Flight attendants offer services in an amiable, caring, and active manner.	Flight attendants understand customers' need.	Flight attendants handle all problems properly.	My opinion of the company's visual presentation. (hardware in the counter, uniforms, vigor, etc.)
Boarding announcements are accurate and clear.	Person Correlation	1	.377(**)	.391(**)	.395(**)	.406(**)	.095	.445(**)
Flight attendants offer services efficiently.	Person Correlation	.377(**)	1	.618(**)	.552(**)	.536(**)	.246(**)	.360(**)
Flight attendants interact and communicate with passengers well.	Person Correlation	.391(**)	.618(**)	1	.705(**)	.608(**)	.295(**)	.430(**)
Flight attendants offer services in an amiable, caring, and active manner.	Person Correlation	.395(**)	.552(**)	.705(**)	1	.695(**)	.219(**)	.387(**)
Flight attendants understand customers' need.	Person Correlation	.406(**)	.536(**)	.608(**)	.695(**)	1	.687(**)	.438(**)
Flight attendants handle all problems properly.	Person Correlation Sig. (2-tailed)	.095	.246(**)	.295(**)	.219(**)	.687(**)	1	.109
My opinion of the company's visual presentation. (hardware in the counter, uniforms, vigor, etc.)	Person Correlation	.445(**)	.360(**)	.430(**)	.387(**)	.438(**)	.109	1
Sig. (2-tailed)		.000	.000	.000	.000	.000	.076	
N		264	265	265	265	264	264	264

TABLE XIV. BAGGAGE DELIVERY CORRELATION ANALYSIS

		The check-in staff is kind and cautious.	Staff provides active assistance when checking in baggage.	The baggage claiming process is efficient.	An inquiry system for transaction information is available.
The check-in staff is kind and cautious.	Pearson Correlation Sig. (2-tailed)	1	.681(**)	.504(**)	.536(**)
Staff provides active assistance when checking in baggage.	Pearson Correlation Sig. (2-tailed)	.681(**)	1	.526(**)	.587(**)
The baggage claiming process is efficient.	Pearson Correlation Sig. (2-tailed)	.504(**)	.526(**)	1	.660(**)
An inquiry system for transaction information is available.	Pearson Correlation Sig. (2-tailed)	.536(**)	.587(**)	.660(**)	1
	N	265	265	265	265

TABLE XV. BOOKING SERVICE CORRELATION ANALYSIS

		An inquiry system for transaction information is available.	Online flight booking is available.	A wide variety of payment methods are available.
An inquiry system for transaction information is available.	Pearson Correlation Sig. (2-tailed)	1	.464(**)	.514(**)
Online flight booking is available.	Pearson Correlation Sig. (2-tailed)	.464(**)	1	.606(**)
A wide variety of payment methods are available.	Pearson Correlation Sig. (2-tailed)	.514(**)	.606(**)	1
	N	265	265	265

F. Customer Satisfaction Correlation Analysis

As shown in Table.17, the impressions on the aviation company correlation analysis shows evident significance in all items, which implies the possibility of the impressions on the aviation company having an impact on customer satisfaction. As shown in Table.18, the impressions on the staff correlation analysis shows evident significance in all items, which means that impressions on the staff and customers' satisfaction are correlated. It also shows the possibility of impressions on the staff having an impact on customers' satisfaction. As shown in Table.19, the combined correlation analysis of the customer satisfaction sub-dimension shows evident significance in all items, which means that "Impressions on the Aviation Company" and "Impressions on the Staff" are correlated. It also shows the possibility of it having an impact on customer satisfaction.

TABLE XVI. THE COMBINED CORRELATION ANALYSIS OF THE SERVICES

QUALITY SUB-DIMENSION					
		Related information	Flight attendants' attitude	Baggage delivery	Booking service
Related information	Pearson Correlation Sig. (2-tailed)	1	.555(**) .000	.632(**) .000	.654(**) .000
Flight attendants' attitude	Pearson Correlation Sig. (2-tailed)	.555(**) .000	1	.596(**) .000	.534(**) .000
Baggage delivery	Pearson Correlation Sig. (2-tailed)	.632(**) .000	.596(**) .000	1	.548(**) .000
Booking service	Pearson Correlation Sig. (2-tailed)	.654(**) .000	.534(**) .000	.548(**) .000	1
N		265	263	265	265

TABLE XVII. BRAND IMAGE CORRELATION ANALYSIS OF THE AVIATION COMPANY

	I am very satisfied with this aviation company.	Interactions with this aviation company have always been pleasant.	I wish all the other aviation companies were like this one.	This aviation company satisfies me more than any other aviation companies.	Overall, I am satisfied with this aviation company's performance.	I am satisfied with both the price I paid and the tangible value I received.	I prefer this aviation company when I need to buy a ticket.	I would recommend this aviation company to my colleagues and others likewise.	I would buy from this aviation company and accept its service despite the promotional deals from its competitors.
I am very satisfied with this aviation company.	1	.616(**)	.616(**)	.590(**)	.548(**)	.534(**)	.505(**)	.551(**)	.351(**)
Interactions with this aviation company have always been pleasant.	.616(**)	1	.615(**)	.641(**)	.578(**)	.536(**)	.550(**)	.530(**)	.371(**)
I wish all the other aviation companies were like this one.	.616(**)	.615(**)	1	.636(**)	.534(**)	.513(**)	.525(**)	.574(**)	.401(**)
This aviation company satisfies me more than any other aviation companies.	.590(**)	.641(**)	.636(**)	1	.608(**)	.472(**)	.643(**)	.605(**)	.434(**)
Overall, I am satisfied with this aviation company's performance.	.548(**)	.615(**)	.534(**)	.608(**)	1	.593(**)	.519(**)	.444(**)	.187(**)
Pearson Correlation Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000
Pearson Correlation	.514(**)	.516(**)	.513(**)	.473(**)	.503(**)	1	.576(**)	.543(**)	.459(**)
Pearson Correlations	.505(**)	.557(**)	.525(**)	.643(**)	.535(**)	.570(**)	1	.617(**)	.556(**)
Pearson Correlation	.551(**)	.530(**)	.514(**)	.605(**)	.444(**)	.542(**)	.611(**)	1	.609(**)
N	265	265	265	265	265	265	265	265	264
Pearson Correlation	.357(**)	.371(**)	.401(**)	.434(**)	.387(**)	.450(**)	.556(**)	.609(**)	1
N	261	261	261	261	261	261	261	261	261

TABLE XVIII. IMPRESSIONS ON THE STAFF CORRELATION ANALYSIS

		Jobs are done right without a second try.	Ground personnel fulfill their service within designated time frame.	Promises made to the aviation company were fulfilled.	Staff gains the trust of the customers with good performance.	Staff possess the required expertise for problem solving.
Jobs are done right without a second try.	Pearson Correlation Sig. (2-tailed)	1	.623(**)	.627(**)	.536(**)	.557(**)
Ground personnel fulfill their service within designated time frame.	Pearson Correlation Sig. (2-tailed)	.623(**)	1	.612(**)	.550(**)	.456(**)
Promises made to the aviation company were fulfilled.	Pearson Correlation Sig. (2-tailed)	.627(**)	.612(**)	1	.613(**)	.536(**)
Staff gains the trust of the customers with good performance.	Pearson Correlation Sig. (2-tailed)	.536(**)	.550(**)	.613(**)	1	.680(**)
Staff possesses the required expertise for problem solving.	Pearson Correlation Sig. (2-tailed)	.557(**)	.456(**)	.536(**)	.680(**)	1
	N	265	265	265	265	265

TABLE XIX. CUSTOMER SATISFACTION SUB-DIMENSION CORRELATION ANALYSIS

		Impressions on the aviation company	Impressions on the staff
Impressions on the aviation company	Pearson Correlation Sig. (2-tailed)	1	.730(**)
Impressions on the staff	Pearson Correlation Sig. (2-tailed)	.730(**)	1
	N	264	265

G. One-way ANOVA and Multiple Comparison Analysis

1) ANOVA of age, marriage, and occupation on each dimension of factor

As shown in Table.20, the ANOVA of age shows significance in “Related Information” and “Booking Service”, indicating that individuals in different ranges of age hold different opinions, as people from different generations think and feel differently. The ANOVA of marriage shows significance in “Baggage Delivery”, “Booking Service”, and “Impressions on the Staff”. Individuals of different marriage status hold slightly different opinions on the safety and integrity of the valuables in their baggage, the accessibility of the booking service, and their impressions on the staff. The ANOVA of occupation shows significance in “Related Information”, “Flight Attendants’ Attitude”, “Baggage Delivery”, “Booking Service”, and “Impressions on the Staff”. Individuals of different occupations hold different opinions on flight attendants’ attitude, related information, booking services, and their impressions on the staff, as each individual experiences the service provided by China Airline with the perspective of his/her own career.

TABLE XX. THE ANOVA OF AGE OCCUPATION ON EACH DIMENSION OF FACTOR

Dimension of Factor	Age		Marriage		Occupation	
	F	Sig.	F	Sig.	F	Sig.
Enterprise Operation	.666	.650	1.122	.290	1.098	.365
Enterprise Scale	.939	.456	.704	.402	1.033	.409
Related Information	3.250	.007	1.607	.206	3.885	.000
Attendants' Attitude	1.638	.150	3.257	.072	2.174	.037
Baggage Delivery	1.764	.121	4.533	.034	3.655	.001
Booking Service	4.142	.001	7.545	.006	2.110	.043
Impressions on the Aviation Company	1.279	.273	3.556	.060	1.884	.072
Impressions on the Staff	1.786	.116	4.322	.039	2.091	.045

TABLE XXI. THE MULTIPLE COMPARISON ANALYSIS OF AGE AND SERVICE QUALITY

Dimension of Evaluating Factor	Age	F	T	Multiple comparison
Related Information	(1)20 and under(2)21-30	3.250	.007*	(2)>(6)
	(3)31-40 (4)41-50			(3)>(6)
	(5)51-60 (6)61 and above			
Booking Service	(1)20 and under(2)21-30	4.142	.001*	(2)>(6)
	(3)31-40 (4)41-50			(3)>(6)
	(5)51-60 (6)61 and above			

2) The multiple comparison analysis of age and service quality

As shown in Table.21, the result of the multiple comparison analysis shows statistical significance between age and two factors of service quality, “Related Information”, and “Booking Service”. Regarding the related information, individuals in the age of 21~30 and 31~40 give better results than those in the age of 51~60. Regarding the booking service, individuals in the age of 21~30 and 31~40 give better results than those in the age of 51~60. The mean is 11.698 and 11.698 respectively. There shows no statistical

significance between the factors of age, attendants’ attitude, and baggage delivery, therefore, no comparison is needed. As shown in Table.22, the result of the multiple comparison analysis result than military, public, and teaching personnel. The mean is 11.601. There shows no statistical significance between occupation and related information, flight attendants’ attitude, and booking service, thus no comparison is needed.

TABLE XXII. THE MULTIPLE COMPARISON ANALYSIS OF OCCUPATION QUALITY

Dimension of Evaluating Factor	Occupation	F	T	Multiple comparison
Baggage Delivery	(1)Agriculture (2)Industry/Commerce (3)Service industry (4)Student (5)Military, public, and teaching personnel (6)Housekeeper (7)Freelance(8)Others	3.655	.001*	(3)>(5)

IV. CONCLUSION

1. Customers in the age of 21~30 should be the primary targets in the aviation company’s marketing strategy, as they take up to 50.9% of the aviation company’s total customers.

2. The subjects of this questionnaire consist mostly of individuals in the service industry, hence the high proportion of individuals with college and university educations and the overall result of above than average educations.

3. The main customer base is those in the service industry who take part in incentive travels. objective perspective, China Airline should reinforce its strategic promotions on customers in the service industry.

4. From the objective perspective, China Airline should reinforce its strategic promotions on customers in the service industry

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