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By Ejem, E. A, Dike, D. N, Chukwu, O, Igboanusi, C. C, Ezenwa, A
& Erumaka, O

Federal University of Technology

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Evaluation of Airline Service Quality Attributes: The Nigerian Experience

Ejem, E. A ^α, Dike, D. N ^σ, Chukwu, O ^ρ, Igboanusi, C. C ^ω, Ezenwa, A [¥] & Erumaka, O [§]

Abstract- Airlines are suffering from such competition. Service quality is typically defined regarding consumer satisfaction. The purpose of this paper is to provide a better understanding of how satisfaction level among passenger with Arik and Aero Airlines is and how its managers can improve their service quality. To reach to achieve this purpose, we have studied different models of service quality measurement and adopted Gronroos model as a comprehensive model, we developed and adopted it to encompass various aspects of airlines' services. We inclusively inferred that passengers of Arik and Aero are not satisfied with the perceived services and it warns manager to focus on passengers' expectations. Tangibles, assurance, responsiveness, reliability, empathy, image and technical quality are seven features of the model, and in all of them, passengers feel dissatisfied. Managers should treat employees, improve visual facilities and coordinate all people, departments, and organizations involved with the airline. Finally, with airline must measure passengers' satisfaction and service quality seasonally to keep the services corresponded with customers' opinions.

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I. BACKGROUND INFORMATION

There are no doubts the impacts of air transport industry to the socio-economic development of Africa cannot be overemphasized. According to ATAG (2008), the air transport industry generates around 430,000 jobs in Africa and contributes USD 9.2 billion to Africa GDP (direct, indirect and induced impacts). Similarly in its regional air traffic figures and forecast for Africa sees a 5.6 and 4.6%, respectively in the economic induced increase in passengers and freight for the continent (ICAO, 2007). Also, the integration of Africa economies with the global economies has been enhanced through air transport. Moreover, it has buoyed the comparative advantage of most African countries and especially Nigeria on some special economic activities as tourism and allied industry. Tourism developments in Nigeria have been reliably linked to the development of air services to tourism destinations in Nigeria (Ogunkoya, 2008).

Remarkably, airline services are seen as a veritable instrument of globalization and market expansion, political and cultural integration and destination value enhancement (ATAG, 2008). Air

services make possible multinational institutions, corporations and companies to expand rapidly growing distant markets. It facilitates competition among industries leading to efficiency, innovations, entrepreneur development, revenue enhancement and increased productivity. It has changed the global supply chain and helps rapid and realizable movement of goods and services worldwide. Similarly, political and cultural integration of the nations of the world has been greatly improved through open skies treaties among the nations of the world creating political and cultural interference and optimal diplomacy. The values of numerous destinations across the globe have been enhanced due to improvement in the accessibility of destinations. Notably, policy interventions and innovations as deregulation and liberalization, recapitalization, the institutional framework as well as globalization have impacted on the airline services in Nigeria. For instance, the reality of air transport services in Nigeria (Akpoghomeh, 1999; Adeniji, 2000). Similarly, the institutional restructuring and reforms of government's agencies have created a regime of efficiency and effectiveness which have impinged on air services operations in Nigeria (Ogunkoya, 2008). Also, the re-capitalization policy of the federal government on all airlines operating in the country resulted in the consolidation of the investment portfolio of most airlines operations leading to merger and acquisition. The effects led to the acquisition of brand new aircraft, route expansion, and capital base enlargement.

The Nigeria airline industry has gone through a roller-coaster ride for the past few years. Among factors contributing to the situation are increasing fuel prices, escalating security insurance, rapid deregulation of the industry, as well as natural disaster, ranging from the outbreak of diseases, etc. that hinder the growth of air transport. In the past decade, air travel has grown by 7% per year. Many of the Nigerian airlines have made significant investments in aircraft amenities (e.g. Overhead bin space, seating) at the same time that they have sharply reduced the number and the compensation of employees (Armstrong 2001). These actions suggest an alternative view of the service value profit chain for air travel and freight forwarding- that customer satisfaction is more dependent on physical attributes of the service than on employee interactions. I consider this possibility in the context of service operations failure.

*Author α σ ρ ω ¥ § : Department of Transport Management Technology, Federal University of Technology, Owerri, Imo State, Nigeria.
e-mail: ejemflagospel@yahoo.com*

Nigeria Aviation sector has had its ups and downs and is still growing. Operators have therefore had to deal with the challenges while at the same time reaping the benefits. As cooperation increasingly are attracted to international markets to overcome stagnant domestic market growth and stimulate revenues in various industries, enlightened appreciation of the needs and wants of consumers of other countries are increasingly important for those companies exposing the market concept. Customer satisfaction is determined by customer perceptions of quality, expectations, and preferences (Barsky, 1995) said another way, "satisfaction, or lack of it, is the difference between how a customer expects to be treated and how he or she perceives being treated." Parasuraman et al. 1988, described service quality as: the ability of the organization to meet to exceed customer expectations. Customer expectations may be defined as the "desires and want of consumers," i.e. what they feel a service provider should offer rather than would offer (Parasuraman, 1988). In their empirical findings, Cronin and Taylor specifically explored the relationship between service quality, satisfaction, and purchase intention. Furthermore, the compared SERVQUAL's efficacy with attitude based methods (as applied in consumer satisfaction/dissatisfaction research) of measuring service quality. Attitude-based conceptualization would argue for either an importance-weighted evaluation of specific service attributes or even just an evaluation of performance on specific service attributes.

The service quality models they examined were (1) a performance measure, (2) a performance measure weighted by importance, and (3) SERVQUAL weighted by importance. Their analysis suggests that service quality is an antecedent of customer satisfaction and that satisfaction has a stronger influence than service quality on purchase intentions. Further empirical scrutiny (Parasuraman et al. 1988) resulted in a 22-item scale, called SERVQUAL, which measures service quality based on dimensions, tangibles, reliability, responsiveness, assurance, and empathy. The entire approach was based on the tenet that customers entertain expectations of performances on the service dimensions, observe performance and later form performances perceptions. The authors described service quality as the degree of discrepancy between customer's normative expectations for the service and their perceptions of the service performance. On the other hand, Gronroos believed that service quality is made up of three dimensions, that is the technical quality of the outcome" the "functional quality of the encounter" and the "airline corporate image". Thus, it has been suggested (i.e. Cuningham, et al. 2002) that measuring service quality based only on the perceptions of service performance would suffice, as in the so-called the SERVQUAL model; namely, $SQ=P$.

This paper will help aviation industry practitioners to diagnose the needs and expectations of passengers. It will also play a role in identifying their present situation and future strategies for giving better services to passengers and for better new markets both at international and the domestic markets.

II. METHODOLOGY

Based on the measurement scale for service quality, we further analyzed the differences in perceived quality between Aero and Arik Airlines passengers. Here, respondents were asked to separately evaluate each service attribute, according to the gap between their perceptions and expectations, using a five-point Lickert scale: 'Much better than Expected' Better than expected Equal to Expected', 'Worse than Expected' and 'much worse than Expected. Five different scores were assigned: 5, 4, 3, 2, 1, to represent this five-point scale.

We used the one-sample t-test for our data analysis. The one-sample t-test procedure tests whether the mean of a single variable differs from a specified constant. This test assumes that the data are normally distributed; however, this test is robust to departures from normality. The sample in my paper was more than 30 and biased. On "Central limit Theorem" we were allowed to presume the data are normally distributed approximately. A 95% confidence interval for the difference between the mean, and the hypothesized test value was supposed. Satisfied passengers must have received perceptions equal to or more than expectations. So the hypothesized test value in our paper is 3 and, it can split passengers into satisfied and unsatisfied passengers and we can specify the null and alternative hypotheses as below.

Null hypothesis $H_0: \mu \geq 3$

Alternative hypothesis $H_a: \mu < 3$

As noted earlier, we specify the level of sampling error (0.05). The scores for each attributed are tabulated. As shown in most of the items, there are negative mean differences, and we cannot say that our test value is in 95% confidence interval of the difference. In another word, in most items, the null hypothesis can be rejected because the calculated value is larger than the critical value.

Cronbach's was used as an examination indicator to determine the reliability of the measurement scale. The value of Cronbach's alpha is required to be over 0.7, and the calculated results were over 0.847 and 0.816 in Aero and Arik service quality variables respectively. The figures were representing the output of research survey, it was observed that the reliability of all service quality attributes in the research sample regarding Cronbach's alpha, were more than 0.7. It means that the research measurement scale, applied in this paper, was reliable.

Table 1: Reliability Statistics for Airlines Data

Cronbach's Alpha for Aero	Cronbach's Alpha for Arik	No. of Items
.847	.816	39

III. RESULTS

a) Service Quality and Passengers' Satisfaction for Arik Airline

Prompt response of employees of the airline to your request or complain" was much worse than expected and it also has the least standard deviation and shows most passengers agree that it is the first worst attribute. It is a reliable airline "was much better than expected and it was the first attribute. But in 15 items, the null hypothesis cannot be rejected, and it shows that 95% percent confidence, passengers are satisfied in some parts of the Arik airline performance. They are TAN 1, TAN 2, REL 3, RES 4, RES 5, ASS1,

ASS 2, ASS 3, ASS 4, ASS 8, EMP 2, EMP 5, TEC1, TEC 3, and IMA 2. However, in most items, the null hypothesis is rejected, and this means that the general perception of travelers is that the performance service quality of Arik Airline is worse than expected. The comparison to 7 group items means (i.e., Tangibles, Reliability, Responsiveness, Assurance, Empathy, Technical and Image), the first attribute was "Technical" and "Assurance" was the second. The others in priorities were "Responsiveness," "Tangible" "Empathy" "Reliability" and "Image." So we can conclude that from the passengers' "image" items were the worst expected and "Reliability" items following (see table 2).

Table 2: Service Quality Group Items Means

Service Quality Group	Group itemmean for Arik	Group item mean	Rank for Arik	Rank for Arik
Tangibles	2.88	2.81	4 th	5 th
Reliability	2.71	2.66	6 th	6 th
Responsiveness	2.92	3.30	3 rd	2 nd
Assurance	3.11	3.11	2 nd	4 th
Empathy	2.74	2.21	5 th	7 th
Technical	3.60	3.68	1 st	1 st
Image	2.68	3.19	7 th	3 rd

b) Service Quality and Passengers Satisfaction for Aero Airline

Prompt respond of employees of the airline to your request or complaint" was much worse than expected and to also have the least standard deviation. "Probability of flight breakdowns" was much better than expected and it was at the first attribute. But in 17 items, the null hypothesis cannot be rejected, and it shows that 96 percent confidence, passengers are satisfied in some parts of aero airline performances. They are TAN 1, TAN 2, RES 4, RES 5, ASS1, ASS 2, ASS 3, ASS 4, EMP 1, EMP 2, TEC 1, TEC 2, TEC 3, IMA 1, IMA 2, and IMA 3, IMA 4. However in 22 items, the null hypothesis is rejected and this means that the general perception of travelers is that the performance service quality of Aero Airline is worse than expected. The comparison to 7 group items means; the first attribute was "Technical" and "Responsiveness" was the second. The others in

priorities were "Image," "Assurance," "Tangible," "Reliability and "Empathy". So from the passengers "empathy" items were the worst expected and "Reliability items following (see table 2).

c) Friedman Analysis of Service Quality Attributes of Aero and Arik Airlines

Because the chi-square of 448.794 and 422.115 for Aero and Arik airlines respectively with 39 degree of freedom are unlikely to have arisen by chance, the 100 passengers of the of each airline interviewed do not have equal preference for their services. The asymptotic significance is the approximate probability of obtaining a chi-square statistics as extreme as 448.794 and 422.115 for Aero and Arik airlines respectively with 39 degrees of freedom in repeated samples if the rankings of each airline's service quality attributes are not different. Hence, this is satisfied between the airlines.

Table 3: Test Statistics For The Airlines

	Aero	Arik
N	100	100
Chi-Square	448.794	422.115
Df	39	39
Asymp. Sig.	.000	.000

Table 4: Ranks for Aero and Arik Airlines

Service Attributes	Mean Rank for Aero	Remarks	Mean Rank for Arik	Remarks
TAN 1	22.14		22.75	
TAN 2	21.90		23.65	
TAN 3	14.51	Ranked highly among Tangibles	15.19	Ranked highly among Tangibles
TAN 4	16.60		19.26	
TAN 5	18.55		17.96	
REL 1	19.13		17.23	Ranked highly among Reliability
REL 2	17.00		17.70	
REL 3	17.65		20.79	
REL 4	14.88	Ranked highly among Reliability	17.25	
REL 5	16.72		17.60	
REL 6	19.14		19.53	
RES 1	18.57		20.08	
RES 2	19.08		19.50	
RES 3	19.25		19.31	
RES 4	23.27		22.76	
RES 5	24.44		24.23	
RES 6	15.33	Ranked highly among Responsiveness	16.24	Ranked highly among Responsiveness
ASS 1	21.23		21.45	
ASS 2	26.15		25.79	
ASS 3	25.52		25.16	
ASS 4	22.71		22.66	
ASS 5	19.18	Ranked highly among Assurance	19.68	
ASS 6	20.25		20.43	
ASS 7	20.40		18.82	Ranked highly among Assurance
ASS 8	21.10		22.27	
EMP 1	21.77		20.15	
EMP 2	21.81		21.67	
EMP 3	18.57		17.70	
EMP 4	17.08		13.84	Ranked highly among Empathy
EMP 5	19.58		21.51	
EMP 6	17.17		19.02	
EMP 7	14.17	Ranked highly among Empathy	15.78	
TEC 1	23.36	Ranked highly among Technical	21.71	Ranked highly among Technical
TEC 2	33.91		32.76	
TEC 3	23.51		23.10	
IMA 1	21.98		15.13	Ranked highly among Image
IMA 2	23.37		22.80	
IMA 3	23.03		19.73	
IMA 4	21.78	Ranked highly among Image	19.32	

In summary, from Friedman test analysis, the following service attributes were highly rated among the dimensions of service quality

Table 5: Comparison of Service Attribute Ratings

Service Quality Group	Highest Rating for Aero	Highest Rating for Arik
Tangibles	TAN 3	TAN 3
Reliability	REL 4	REL 1
Responsiveness	RES 6	RES 6
Assurance	ASS 5	ASS 7
Empathy	EMP 7	EMP 4
Technical	TEC 1	TEC 1
Image	IMA 4	IMA 1

The two airlines shared similar rankings in tangibles, responsiveness and technical attributes among their passengers.

IV. DISCUSSION

Managers should pay more attention to reliability items and prepare short-term plan to create critical changes. Probability, passengers, suffer most from consistent courtesy to employees while it seems they are satisfied most the probability of flight breakdown. Also the second most important factor for aero airline is Responsiveness items. Passengers show more satisfaction in the prompt response of employees of the aero airline to request or complaint. The third feature in order of importance was Responsiveness items that Image for the Aero airline. The responsiveness items that exhibited the highest satisfaction by passengers were the prompt response of employees of the Arik airline to request or complaint. However, the image item 3 (good reputation) received the highest satisfaction to Aero airline passengers. The fourth feature was tangible for Arik Airline and Assurance for Aero Airlines. It appears that Arik airlines has a lot of weak points in the tangibles that cause dissatisfied passengers. Passengers of Aero airlines perceived half their expectation in assurance items. The Aero airline was not sincere and responsive to passenger complaint about services which they paid for.

However, the Aero airlines should put it their policies and promote it steadily to keep their customers for a long time. The fifth feature was Empathy (caring, individualized attention) for Arik airline and tangibles for the Aero. So Arik airline should change their mind about delivering services to customers. Warmth and supportiveness in behaving with passengers can create impressive results. Managers of Arik airline may want to offer some services to their passengers in hiring cars and reserving hotels. However, the Aero airline should have verity ad quality in-flight meals, entertainment facilities and visually appealing equipment. The sixth feature was reliability for both airlines passengers showed dissatisfied faction in almost all the reliability

factors except in the on-time performance of scheduled flights in which Arik airline passengers were satisfied.

Hence, the airline should consider these factors and try to improve and develop services dependably and accurately. The last feature was Image for Arik airline and Empathy for Aero airline. Passenger contends that empathy has the least mean in Aero performance. While image (the public perception about Arik airline) has the critical effect on the perceived services quality. Travelers did not make a good judgment about the reputation and image, placed in evaluating Arik performance.

V. CONCLUSION

The seven Dimension of Gronroos model has been ranked in this case paper. 39 attributes have been derived and found by interview and questionnaire. The model was used for the airline industry in Nigeria. In addition to 22 factors of SERVQUAL model, the image and technical quality supplemented, and all factors changed to cover aspects of these services of the airlines. Arik and Aero chosen as our case studies.

Customer's expectations and perceptions of service quality in the two airlines were examined by Gronroos model in this paper. The result can be used by airline managers and other airlines managers to plan for increasing their market share. Managers of both airlines have identified passengers' attitudes and opinions about their provided services, and in result, they can create modifications and strengthen their weak points to increase satisfaction level among their consumers.

Also, other airlines' managers can use these results to measure and compare with their passengers' satisfaction. But in 15 attributes out of 39 attributes, we saw satisfaction of passengers for Arik Airline. Technical quality in passengers' view was the first choice as the most important aspect and gained the highest mean in Arik and Aero performance. It shows that the airlines often instrumental in bringing about the desired outcome. Pilot's technical knowledge and skills is a strong point for Arik and Aero Airlines. The second in the most important factors for Arik Airline was Assurance items (sincerity and patience in resolving passenger's

problems, the probability of flight breakdown, the safety performance of airline and knowledgeable, skillful provision of services). However, Assurance items means was second in position, it appears that Arik airline has weak points in three Assurance items that cause dissatisfied passengers.

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Appendix: Service Attributes Codes and Meaning

TAN1 Appearance, attitudes and uniforms of employees.
TAN2 In-flight modern and clean facilities.
TAN3 Variety and quality of in-flight meals.
TAN4 Variety and choices of in-flight entertainment facilities.
TAN5 Providing visually appealing equipment
REL1 Efficiency of the check-in process
REL2 Transfer service and efficiency at departure airport
REL3 On-time performance of scheduled flights.
REL4 Remedial procedures for delayed or missing baggage
REL5 Providing ground / in-flight services consistently
REL6 Performing the services right the first time
RES1 Capable to response to emergency situations.
RES2 Prompt attention to passengers 'specific needs.
RES3 Understanding the specific needs of passengers.
RES4 Keeping customers informed about when services will be performed
RES5 Prompt respond of employees of the airline to your request or complaint
RES6 Capacity to respond to cancelled or delayed flights.
ASS1 Sincerity and patience in resolving passengers 'problems.
ASS2 Probability of flight breakdowns.
ASS3 Safety performance of airline.
ASS4 Knowledgeable and skillful provision of services.
ASS5 Sincere and responsive attitude to passenger complaints.
ASS 6 Employees instill confidence to passengers
ASS7 employees are consistently courteous
ASS8 Knowledgeable employees to answer customer question
EMP1 Numerous, easy-to-use ticketing channels.
EMP2 Convenient flight scheduling.
EMP3 Spontaneous care and concern for passengers'needs.
EMP4 Frequent cabin service rounds by flight attendants.
EMP5 Having a sound loyalty programme to recognize you as a frequent customer
EMP5 Having a sound loyalty programme to recognize you as a frequent customer
EMP6 Having a sound mileage programme
EMP7 Having other travel related partners e.g. car rentals, hotels, and travel insurance
TEC1 It is successful to complete a travel
TEC2 Pilot has technological knowledge and skills
TEC3 It is a reliable company
IMA1 It is a successful company
IMA2 It has a superior technology in its flight services
IMA3 It has a good reputation
IMA4 It is sincere to the passengers

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