INDIAN JOURNAL OF
ENGINEERING

19(51), 2022

Assessment of passengers' satisfaction on service quality of Arik airline at Nnamdi Azikwe international airport, Abuja, Nigeria

Wokili-Yakubu Hawau'u, Owoeye Adelanke Samuel✉, Oni Babatope Gabriel, Fajulugbe Oluwasegun Bamidele

To Cite:
Hawau'u W-Y, Samuel OA, Gabriel OB, Bamidele FO. Assessment of passengers' satisfaction on service quality of Arik airline at Nnamdi Azikwe international airport, Abuja, Nigeria. *Indian Journal of Engineering*, 2022, 19(51), 43-54

Author Affiliation:
Department of Logistics and Transport Technology,
School of Innovative Technology,
Federal University of Technology, Minna, Nigeria

✉**Corresponding author**
Email: lankiedudu@yahoo.com

Peer-Review History
Received: 06 December 2021
Reviewed & Revised: 08/December/2021 to 27/January/2022
Accepted: 29 January 2022
Published: 31 January 2022

Peer-Review Model
External peer-review was done through double-blind method.

ABSTRACT

Excellent service quality can increase customer retention and inspire recommendations thus, allowing airlines to distinguish themselves from their competitors and retain existing passengers. In order for airlines to survive and increase their competitiveness, airlines must provide high-quality services to passengers so as to set themselves apart from their competitors. Domestically, the number of passengers using air transportation is increasing, worsening the situation because capacity is not being scaled up to accommodate these rising demands. The failure of airline to operate on a scheduled time frame, results in delays, has been a big issue. This study is among the very few to consider passengers' satisfaction to quality of service provided from a single airline provider in Nigeria. Arik airline was selected for this study because it is one of the most preferred airlines by passengers and a major key player in Nigeria aviation industry. 500 questionnaires were purposively administered to passengers patronizing Arik Air, while, only 390 questionnaires were properly filled and returned valid. SERVQUAL technique was utilized to separate service quality into five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. The gap score analysis was used to ascertain service gaps. While, Cronbach's alpha was adopted to ascertain the reliability and validity of data. Findings from the gap score indicated that passengers' expectations surpassed the actual service perceived (i.e., Tangibility = -1.46, Reliability= -1.614, Responsiveness= -1.43, Assurance=-1.765 and Empathy=-1.254). Multiple linear regression was used to assessed the impact of service quality on passenger's satisfaction showing coefficient of determination R^2 (79%), ANOVA result shows F = 103.238, p = .000. The following recommendations were made based on the findings; Airlines should also develop and maintain passenger-oriented marketing strategies to improve affordability and repeat patronage. Crews and Airline staff can leverage the leisure time in taking surveys from the travelers and seek feedback on their in-flight experience

Keywords: Passengers', Satisfaction, Service Quality, Airline

DISCOVERY
SCIENTIFIC SOCIETY
© 2022 Discovery Scientific Society. This work is licensed under a Creative Commons Attribution 4.0 International License.

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 | OPEN ACCESS

1. INTRODUCTION

Excellent service quality must be accomplished by airline industries in order to obtain a high degree of passenger satisfaction. This is because passenger happiness is usually judged on the basis of service quality. As a result, service quality and passenger pleasure are seen as critical to an airlines success and survival. The effective delivery of high-quality service is one of the ways in which airline businesses compete (Adeola & Adebiyi, 2014; Stephens & Idowu, 2020).

In the aviation sector, service quality is critical to an airline's profitability, therefore passengers are the most significant aspect, because airlines rely on their customers. Therefore, corporations must understand what customers need and desire in order to implement services at the larger level so as to achieve a better experience (Saha & Theingi, 2009; Fadare & Adeniran, 2018). More so, providing exceptional service is considered a must-have approach for success and survival in today's competitive market (Dawkins & Reichheld, 1990). The purpose of airlines, in general, is to offer services that attract passengers and keep them satisfied so that they may tell others about their pleasant experiences. Excellent service quality can increase customer retention and inspire recommendations thus, allowing airlines to distinguish themselves from their competitors and retain existing passengers. Hence, enticing passengers are away from competing carriers (Hu et. al., 2009; Ghotbabadi et al., 2014; Njoku & Udoka, 2021).

In order for airlines to survive and increase their competitiveness, they must provide high-quality services to passengers so as to set themselves apart from their competitors. Due to the high quality of service provided by airlines, travelers tend to stay loyal to them. Even travelers who are dissatisfied with the quality of service provided by a particular airline might continue to use that airline rather than moving to another (Brady et. al., 2001).

In the airline sector, passengers' pleasure has become vital as a result, the airline sector has been conducting more study on service quality and customer happiness. Having understood that value or quality stands as an important aspect of the service sector, and it has been proven to be the foundation for any organization's survival in the face of mounting competition, as well as for gaining public recognition while achieving its primary aim (Adeniran & Fadare, 2018; Oladun, & Ayantoyinbo, 2020). Despite all the advances and innovations that have come as a result of the denationalization of Nigerian airline services, the industry still has challenges in in term of a good service delivery at both domestic and international operations (Chen & Chang, 2005).

Domestically, the number of passengers using air transportation is increasing, worsening the situation because capacity is not being scaled up to accommodate these rising demands (Erdil & Yildiz, 2011). Issues, such as airline's inability to properly manage ticketing leading to frustration on the part of the passengers. Also, reservation issues has resulted in the rejection of boarding to certain customers who have valid tickets. More so, ticket racketeering abounds leading to higher cost of ticket purchase by passengers denying people who genuinely want to travel not forgetting often lack of employee civility and lack of awareness of the attitude on the airline's brand (Chikwendu, et. al., 2012).

The failure of airline to operate on a scheduled time frame, which results in delays, has been a big issue (Angelova & Zekiri, 2011). The fiasco to disseminate flight information as soon as it becomes available is also one of the challenges passenger's faces. In that passengers despise delays in any form, and they frown upon this event when it occurs frequently (Chang & Yeh, 2002). Inadequacy of airline employees, combined with poor security inspections, are clearly some of the reasons why passengers' luggage is mishandled and personal things are lost while in route.

Long lines occur at the check-in counters most of the time, which serves as a deterrent to passengers (Brady 2001). More so, Domestic airlines in Nigeria are subjected to fierce rivalry, which is to be expected given the industry's deregulation. Hence, this study is among the very few to consider passengers' satisfaction to quality of service rendered from a single airline provider in Nigeria. This area of study will invariably offer new intellectual terrain while providing useful findings to benefit the aviation sectors and other stakeholders. Thus, underline the needs to carry out this study.

2. LITERATURE REVIEW

The entirety of highlights and attributes of an item, method, or administration is referred to as quality. It is the keyword for organizations' survival in the global economy. Therefore, one of the most important business requirements that firms must meet in order to attract and retain consumers is to convey the highest possible level of administration, while also surveying and integrating traveler opinions into a hierarchical structure for a better customer experience (Nwaogbe, Wokili, Omoke & Asiegbu, 2013).

In a competitive business environment such as the airline sector, it is critical for firms to develop customer-oriented practices. The opinion of a company's relative inferiority/superiority and its services is referred to as quality of service (Bitner & Hubbert, 1994). Academics have debated the significant of quality in a service for a long time. Thus, Ostrowski et al., 1993), opined that supplying standard quality has been known as an efficient and effective way of making a company's products more unique in a

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 | OPEN ACCESS

particular market. In the service industry, the consumer operations are uniquely situated in a competitive marketplace with "lookalike" contest offerings.

Dennet et al., (2000), postulated that airport ‘‘significant attribute" is not an accurate benchmark for customer happiness. Airport service factors such as building comfort and restaurant/shopping options have a significant impact on total consumer satisfaction. Staffing expenditures is said to be one of the greatest challenges in the budget of an airline, as they are in other service firms. Purchasing, maintaining, repairing, and replacing vehicles, equipment, tools, and materials can be costly, more so, insurance premiums might be quite high as well.

The relationship between client satisfaction and performance has been misunderstood in the literature. Service quality is an antecedent of customer happiness (Parasuraman, Zeithaml, & Berry 1988), whereas fulfillment is a byproduct, according to Bitner (1992); Bolton, & Drew (1991). A factor influencing the quality of a perceived service quality, as opined by Oliver (1980), is a wide assessment or opinion of a service's greatness, whereas pleasure is related to a specific transaction. One's typical attitude toward product purchases gradually fades from satisfaction. He believes that contentment has a mediating effect on service quality, leading service quality to fluctuate. Satisfaction quickly becomes part of the altered sense of service quality as a result of this process.

Cronin & Taylor (1992), asserted that practitioners always examine the performance of the company's business operations to determine the overall determinant satisfaction of service quality. They argued that evaluations of a service provider's performance appear to be followed by judgments of service quality and satisfaction. This implies that service quality and satisfaction can be seen as a combined entity in a variety of ways. Customer relates his share of accountability to his assumptions after purchasing and using a product or service. He will be satisfied if the product/service works or better than planned. On the other hand, if the performance is below expectations, there will be dissatisfaction (Grönroos 1982, 1984; Parasuraman et al., 1985, 1988; Churchill & Surprenant, 1982; Cardozo, 1965; Howard & Sheth, 1969).

Swan and Combs (1976) when evaluating airline service quality, passengers prefer to prioritize attributes linked to instrumental performance, such as 'time saved,' over attributes connected to service quality. Grönroos (1984), suggested that service quality is determined by variables impacting expected and perceived service. Also, he opined that the perceived quality of a particular service is the result of an evaluation system. The customer evaluates his expectations in comparison to the service he believes he received.

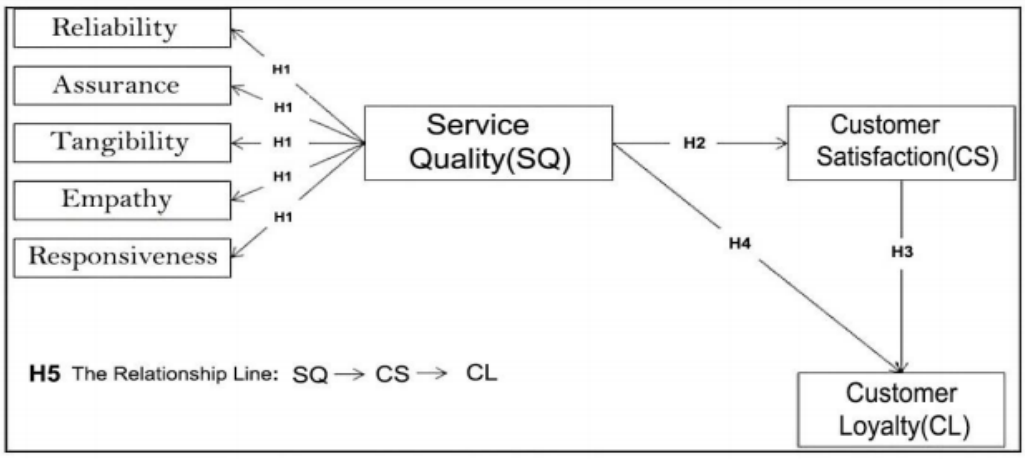

Figure 1 A diagram depicting how service quality affects customer satisfaction, which leads to customer loyalty.
Source: Cronin & Taylor (1992)

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 | OPEN ACCESS

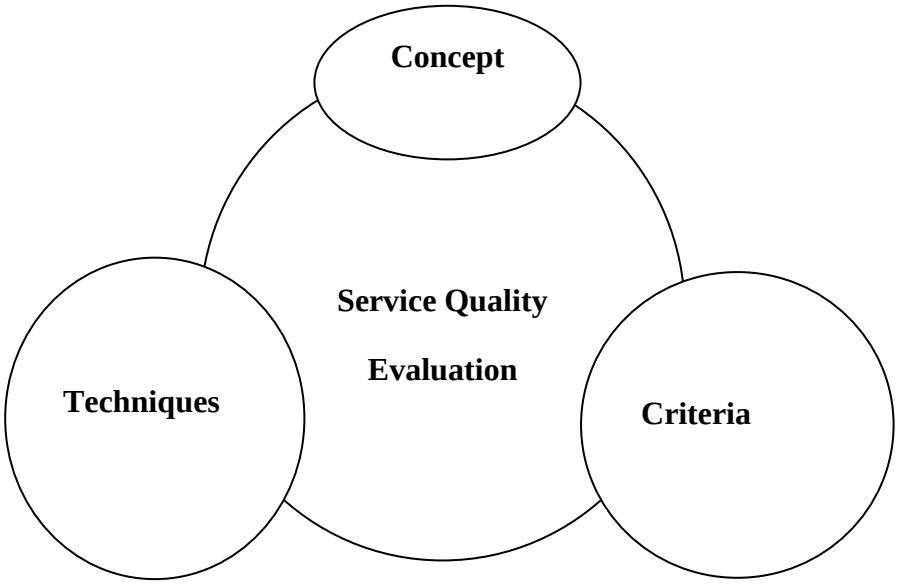

Figure 2 Main Parts of Service Quality Evaluation Framework. *Source: (Parasuraman, Zeithaml & Barry 1985)*

2.1. Airline Products, Services and Facilities

The variety, degree, and quality of airline products, services, and facilities available at a general airport can have a significant impact on the airline's ability to meet its objectives. After the market assessment process has determined demand for airline products, services, and facilities, a decision must be made about who, or what organization, is best suited to supply the demand and how, in what manner demand will be supplied.

Table 1: Aviation Products, Services and Facilities

AIRCRAFT	PASSENGER AND CREW	FACILITIES

• Protection and parking ground
• Ground service and handling
  ○ The towing services
  ○ Underground power system
  ○ Deicing
  ○ Lavatory
  ○ Provision of good water
• Maintenance of aircraft
  ○ Cabin
  ○ Exterior properties
• Refueling
• Lub oils/ lubricating oil
  ○ Pistons and turbines
• Technicalities in rendering services
  ○ Power plants
  ○ Instrument
  ○ Interior design
	• Loading and Unloading
	• Baggage handling
	• Catering
	• Pilot supplies
	• Ground transportation arrangements
	  ○ Shuttle services
	  ○ Crew cars
	  ○ Rental cars
	  ○ Limousine
	• Concierge reservations
	  ○ Hotel/motel
	  ○ Restaurants
	  ○ Entertainment
	• Flight services
	  ○ Flight training
	  ○ Rental of aircraft
	  ○ Chartering of aircraft
	  ○ Management of the aircraft
		• Construction of a general aviation terminal
		• Parking of aircraft (Ramp)
		• Hangar for planes
		• Office
		• Shop
		• Storage
		• Parking of automobiles
		• Construction of a general aviation terminal
		• Parking of aircraft (Ramp)
		• Hangar for planes
		• Office
		• Shop
		• Storage
		• Parking of automobiles

Source: (ACRP, 2009)

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 I OPEN ACCESS

3. STUDY AREA

Nigeria's Federal Capital Territory is home to Nnamdi Azikiwe International Airport and it is also known as the main air terminal servicing Abuja, the country's capital city. Abuja have domestic and international terminals which has the same running ways. It serves as a major hub for a number of airlines, notably Arik Airlines.

Arik Airlines is a Nigerian airline with two bases: Murtala Muhammed International Airport in Lagos and Nnamdi Azikiwe International Airport in Abuja. Arik Airlines flies to a number of regional and mid-distance locations throughout Africa. Three years after Nigeria Airways' death, on April 3, 2006, Arik airline took over the former airline's Lagos facilities and began rehabilitation work. On June 14, 2006, Arik Airlines received two new Bombardier CRJ-900 aircraft for use on small flights in Nigeria. Arik Airlines began scheduled passenger service on October 30, 2006, with four CRJ 900 aircraft flying between Lagos and Abuja. Calabar flights began on November 15, 2006, while Benin City and Enugu services resumed on January 7, 2007. The airline is solely owned by Ojemai Investments.

Figure 3 Map of Nigeria showing Abuja

Source: Wikipedia (2021)

Plate 1: Satellite View of Nnamdi Azikiwe International Airport.

Source: Wikipedia (2021)

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 I OPEN ACCESS

4. METHODOLOGY

The descriptive survey research approach was chosen in this study since the goal was to create an accurate profile in determining and analyzing the current state of service quality on passenger satisfaction. As at February 2021, the total number of passengers using Arik Airline stands at 791 (Wikipedia, 2021). A purposive sampling technique was utilized in this study to administered questionnaires to Arik airline passengers while trying to board or disembark Arik Air. Only passengers who has acknowledged using Arik Air for the past one year were eligible to participate.

While, time constraints of airline passengers at the airport was taken into consideration. Arik airline was selected because it is one of the most preferred airlines by passengers and a major key player in Nigeria aviation industry. The researcher was able to administer five hundred (500) questionnaires and three hundred and ninety (390) were properly filled and returned valid. The survey was conducted for a period of seven days. SERVQUAL technique was utilized to separate service quality into five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. The service quality dimension will help to assesses overall passengers' views on satisfaction derived from quality of services provided by Arik Air.

The gap score analysis, in which descriptive statistics was used to describe the means of passenger perceptions and expectations. To detect service quality gaps, the gap scores were calculated by subtracting perception values from expectation scores for each item and attribute. While, Cronbach's alpha was adopted to ascertain the reliability and validity of data for each of the five dimensions in the modified SERVQUAL model. Cronbach's alpha is a value that ranges from 0 (no internal reliability) to 1 (very high internal reliability) (perfect internal reliability).

5. RESULTS

5.1. Service Quality Analysis

Passengers' reactions to the SERQUAL indicators are used to evaluate service quality. In this study, the SERVQUAL technique was utilized to separate service quality into five dimensions: tangibles, reliability, responsiveness, assurance, and empathy (primary variable). Table 2 shows the total number of variables used.

Table 2 Public Air Service Quality Attributes Measures

Varialble	Variable code	Decription
Tangibles	T.1	Day to day instrment
	T.2	The facilities are physical appealing in nature
	T.3	The workers are well coordinated and well dressed
	T.4	physical appearance of the infrastructure is determined by various services of the airline.
Reliability	R.1	The firm responds within the time span they promised.
	R.2	When a customer has a difficulty, the company is compassionate and reassuring.
	R.3	They are dependable
	R.4	They deliver their services when they say they will. They keep meticulous records.
	R.5	
Responsiveness	R.1	Customers should not expect to know when the service will be completed in advance. Employees cannot be expected to provide prompt service.
	R.2	
	R.3	Employees are not required to always be willing to assist clients.
	R.4	It's fine if you're too busy to reply to customer demands quickly.
Assurance	A.1	Staff must be dependable.
	A.2	When dealing with personnel, customers should feel safe.
	A.3	Workers must be courteous.
	A.4	Workers should receive appropriate financial backing in order to do a good job.
Empathy	E.1	Organizations must not be meant to cater to each client on an

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 | OPEN ACCESS

	individual basis.
E.2	Organizations must not be meant to cater to each client on an individual basis.
E.3	It is impractical to expect personnel to fully comprehend the customer's requirements.
E.4	It is unrealistic to expect personnel to keep the customer's best interests at heart.
E.5	Businesses should not be obligated to operate at times that are convenient for their customers.

Source: Author's Computation (2021)

Table 3 Reliability Statistics (Cronbach's Alpha)

Cronbach's Alpha	N of Items
.669	22

Source: Author's Computation (2021)

5.2. Passengers' Expectations and Perceptions

Table 4 Summary of Means of Passengers Expectation, Perception and Gap Score

Dimension	Statement	Expectation Score	Perception Score	Gap Score
Tangibles	T.1	4.02	2.56	-1.46
	T.2	4.70	2.69	-2.01
	T.3	4.88	2.70	-2.18
	T.4	4.33	2.82	-1.51
	Average	**4.4825**	**2.6925**	**-1.79**
Reliability	R.1	4.05	3.16	-0.89
	R.2	4.78	2.81	-1.97
	R.3	4.74	2.97	-1.77
	R.4	4.94	3.28	-1.66
	R.5	4.28	2.50	-1.78
	Average	**4.558**	**2.944**	**-1.614**
Responsiveness	R.1	4.38	3.16	-1.22
	R.2	4.57	3.24	-1.33
	R.3	4.31	2.47	-1.84
	R.4	4.73	3.40	-1.33
	Average	**4.4975**	**3.0675**	**-1.43**
Assurance	A.1	4.36	3.10	-1.26
	A.2	4.80	2.89	-1.91
	A.3	4.93	3.05	-1.88
	A.4	4.84	2.83	-2.01
	Average	**4.7325**	**2.9675**	**-1.765**
Empathy	E.1	4.98	3.12	-1.86
	E.2	4.32	2.87	-1.45
	E.3	4.22	3.54	-0.68
	E.4	4.53	3.86	-0.67
	E.5	4.52	2.91	-1.61
	Average	**4.514**	**3.26**	**-1.254**

Source: Author's Computation (2021)

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 | OPEN ACCESS

The 5-point Likert scale was used to assess expectations and perceptions, with higher values indicating a stronger level of expectation or perception. Passenger expectations were generally higher than the expected level of indicated services by the reality scores. As a result, the gap score (Perception – Expectation) was negative. Passenger expectations frequently surpass the actual service perceived, according to Parasuraman et al., (1988), indicating that there is always room for improvement.

5.3. Gap Scores Analysis

The purpose of the gap score study is to learn how passengers feel about airline service quality and which areas of service they enjoy. According to Parasuraman et al., (1985) the higher the perception (P) minus expectation (E) score, the higher the perceived service quality and, as a result, the higher the degree of customer satisfaction. The gap scores were generated based on the misalignment of passengers' perceptions and expectations of Arik Airline's services.

Table 5 Average means and gap scores of the five dimensions

Dimension	Expectation Score	Perception Score	Gap Score
Tangibility	4.02	2.56	-1.46
Reliability	4.558	2.944	-1.614
Responsiveness	4.4975	3.0675	-1.43
Assurance	4.7325	2.9675	-1.765
Empathy	4.514	3.26	-1.254

Source: Author's Computation (2021)

In general, travelers' perceptions of the quality of service provided by Arik Airline did not reach their expectations (all gaps' scores in the dimensions are negative). Assurance (-1.765), reliability (-1.614), tangible (-1.460), responsiveness (-1.43), and empathy (-1.43) all had substantial mean disparities (-1.254). These figures indicate that airline passengers' perceptions of performance are lower than the expected level of service excellence. As a result, airlines must develop ways to meet passengers' expectations to a greater extent.

Table 6 Descriptive statistics for the five dimensions

	TA	RL	RN	AS	EM
Mean	-1.7900	-1.6140	-1.4300	-1.7650	-1.2540
Median	-1.7600	-1.7700	-1.3300	-1.8950	-1.4500
Mode	-2.18[a]	-1.97[a]	-1.33	-2.01[a]	-1.86[a]
Std. Deviation	.35954	.41980	.27821	.34122	.54839
Skewness	-.173	1.836	-1.785	1.838	.286
Std. Error of Skewness	1.014	.913	1.014	1.014	.913
Kurtosis	-4.826	3.760	3.416	3.529	-2.785
Std. Error of Kurtosis	2.619	2.000	2.619	2.619	2.000

a. Multiple modes exist. The smallest value is shown

TA – Tangible, RL – Reliability, RN – Responsiveness, AS – Assurance, EM – Empathy

Source: Author's Computation (2021)

Standard deviation ratings for all five dimensions are reasonably constant, as seen in Table 6 indicates that the passengers had a wide range of opinions on service quality.

5.4. Level of Passengers' Satisfaction with Arik Airline Services

The SERVQUAL Model's Reliability component was used to assess Arik Airlines' service reliability. Passengers were dissatisfied with the quality of services as indicated by the reliability dimension, according to the descriptive statistics in Table 6, with a mean score of -1.614. The standard deviation is 0.4198, indicating that the gaps are widely spaced. The modal gap is -1.97, whereas the median gap is -1.77, which is different from the mean. This dimension has multiple modes, but only the least used is adopted. With a score of 1.836, the distribution is negatively skewed, meaning that the gaps are deviated to the left of the mean and grouped away

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 | OPEN ACCESS

from the mean. In terms of the Responsibility dimension, travelers are generally dissatisfied with the level of service provided by Arik Airlines, with a gap of -1.43. The median and mode both came to the same result of -1.33.

The standard deviation of the responsibility dimension is 0.27821, indicating that the deviations from the mean are not very large. In terms of the Responsibility dimension, travelers are generally dissatisfied with the level of service provided by Arik Airlines, with a gap of -1.43. The median and mode both came to the same result of -1.33. The standard deviation of the responsibility dimension is 0.27821, indicating that the deviations from the mean are not very large. With a negative skewness of -1.785, the deviation is to the left. Because the kurtosis value is 3.416, the gaps are likewise grouped at a place other than the distribution's mean. The average dissatisfaction gap for the assurance component is -1.765. This dimension's modal gap is -2.01. There are several modal classes in this dimension, but the least is -2.01, which is greater than the mean. The median difference is -1.895. The standard deviation is 0.34122, indicating little departure from the mean, which is spread to the right since the distribution is negatively skewed (-1.838) and the gaps cluster at a location away from the mean (kurtosis = 3.529).

5.5. Overall Perceived Service Quality

Table 7 Descriptive statistics on overall service quality

N	Min	Max	Mean		Std. Dev.	Skewness		Kurtosis	
			Statistic	Std. Error		Statistic	Std. Error	Statistic	Std. Error
22	-2.18	-0.67	-1.5582	0.09078	0.42578	0.763	0.491	-0.106	0.953

Source: Author's Computation (2021)

Table 7 illustrates that passengers have higher expectations of Arik Airlines than the airline can deliver. The negative mean of -1.5582 demonstrates that expectations in Arik Airline surpass perceptions. The standard deviation is still modest, lower than when working with individual dimensions, indicating that there is some population homogeneity. Because the distribution is skewed with a value of 0.763 and the gaps are grouped at some point away from the mean, the gap deviation is higher to the left. The standard deviations of the distinct dimensions vary around a common average, indicating that they are pretty constant across the five dimensions, implying a range of opinions on service quality among the passengers polled. In conclusion, overall perceived service quality is low (-1.5582), implying that the level of service passengers receives fall short of their expectations, suggesting that they are dissatisfied. This could be due to either airlines under-delivering on their promises to customers or airlines over-promising on their services.

5.6. Impact of Service Quality on Passengers' Satisfaction

In examining the impact of service quality on passengers in the study area, multiple regression model was used to predict the effects the 14 underlying factors of service quality on passengers' satisfaction. The regression model can be conceptualized as:

$$Y = F(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}) + e \quad \text{.....Equation(1)}$$

Where;

Y = passengers' satisfaction

X_1 = Availability and ease of information on ticket prices and flight schedules etc.

X_2 = Availability of pre-flight services (early baggage check-in email reminder)

X_3 = Level of accuracy, ease and speed during check-in of passenger

X_4 = Courtesy of frontline employees

X_5 = Provision of comfortable and entertaining waiting lounge for passengers awaiting to board aircrafts

X_6 = Availability of clean and up to date and necessary airport facilities

X_7 = Availability of more than one check-in option

X_8 = Airline departure of flights at scheduled time

X_9 = Early dissemination of information in times of delay

X_{10} = Provision of good quality food and beverages to passengers during in-flight operations

X_{11} = Ability to provide on board shopping of variety of products

X_{12} = Ability to provide in-flight entertainment and programs for passengers

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 | OPEN ACCESS

X_{13} = Availability of good comfortable seats and facilities to passengers
X_{14} = Availability of airline travel related partners such as car rental, hotels etc.

Equation (1) above is now made operational in the form of a regression

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + b_{10}X_{10} + b_{11}X_{11} + b_{12}X_{12} + b_{13}X_{13} + b_{14}X_{14} + e$$

……Equation (2)

Where Y represents the dependent variable,
Xn = Independent variables
b_0 = constant, and
b_1-b_{14} = coefficient of independents variables
e = represents the residual error.

Table 8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.889a	.790	.782	.31889

a. Predictors: (Constant), X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}

Source: Author's Computation (2021)

Table 8 shows the model summary of the regression. The coefficient of determination R^2 79% explains the amount of variation in the dependent variable as a result of variation in the independent variables. That is 79% of changes in dependent variable (Passenger's satisfaction) is explained by the independent variable (airline services) in the model under the period of consideration. While, the remaining 21% is accounted for by other factors which the study has not investigated.

Table 9 ANOVA[a] Result

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	146.980	14	10.499	103.238	.000[b]
	Residual	39.050	384	.102		
	Total	186.030	398			

a. Dependent Variable: Passenger satisfaction

b. Predictors: (Constant), X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}, X_{14}

Source: Author's Computation (2021)

The ANOVA results in table 9 shows F = 103.238, p = .000. Therefore, the model is statistically significant since $p < 0.001$ at 0.05 alpha level. The result depicts that variables X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13} and X_{14} significantly correlates with passengers' satisfaction of airline services.

Table 10 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	2.361	.016		147.883	.000
	X_1	.252	.016	.369	15.784	.000
	X_2	.543	.016	.794	33.962	.000
	X_3	-.052	.016	-.076	-3.246	.001
	X_4	-.010	.016	-.015	-.646	.519
	X_5	.030	.016	.045	1.904	.058
	X_6	.015	.016	.021	.910	.363
	X_7	-.003	.016	-.004	-.166	.868
	X_8	.055	.016	.080	3.432	.001
	X_9	.018	.016	.026	1.096	.274
	X_{10}	-.011	.016	-.016	-.698	.486

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 | OPEN ACCESS

X_{11}	-.005	.016	-.007	-.309	.757
X_{12}	-.019	.016	-.027	-1.161	.246
X_{13}	-.056	.016	-.082	-3.489	.001
X14	.008	.016	.012	.522	.602

a. Dependent Variable: Passenger satisfaction

Source: Author's Computation (2021)

Table 10 shows the regression coefficients for satisfaction model. The result shows that five variables have positive influence on passengers' satisfaction (i.e. however, some of the variables still show negative influence on passengers' satisfaction. The model is therefore expressed as:

Passenger satisfaction = $2.361 + 0.252(X_{1,}) + 0.543(X_2) – 0.052(X_3) – 0.010(X_4) + 0.030(X_5) + 0.010(X_6) – 0.003(X_7) + 0.055(X_8) + 0.018(X_9) – 0.011(X_{10}) – 0.005(X_{11}) – 0.019(X_{12}) – 0.056(X_{13}) + 0.008(X_{14})$…….Equation(3)

According to equation 3, X_2 – Pre-flight services availability (i.e., early baggage check-in email reminder) (β =0.543, p=.000) has the largest impact on passenger satisfaction with Arik Airline services. Then there's X_1 – Availability and ease of information on ticket prices and flight schedules (β =0.252, p=.000), X_8 – Airline departure of flights on time (β =0.055, .001), X_5 – Provision of comfortable and entertaining waiting lounge for passengers awaiting to board aircrafts (β =0.03, .058), X_9 – Early dissemination of information in times of delay (β =0.018, p=.274), and X_6 – Availability of clean and up to date airport facilities (β =0.015, p=.363), X_{14} availability of airline travel related partners such as car rental, hotels etc. (β =0.008, p=.602), while, X_7 – Availability of more than one check-in option (β=-0.003, p=.868), X_4 – Courtesy of frontline employees (β =-0.01, p=.519), X_{10} – Provision of good quality food and beverages to passengers during in-flight operations (β =-0.011, p=.486), X_{12} – Ability to provide in-flight entertainment and programs for passengers (β =-0.019, p=.246), X_3 – Level of accuracy, ease, and speed during passenger check-in (β =-0.052. p=.001).

6. CONCLUSION

Service quality is a statistically relevant and appropriate criterion for measuring airline passengers' happiness. It was observed in this study that passengers rate service quality bad across all dimensions (tangibility, reliability, responsiveness, assurance, and empathy), implying that passengers' expectations were not met by Arik Airline. Passengers were dissatisfied with all aspects of service quality in this regard. All of the metrics demonstrate a-disconnect between expected and perceived service, implying that Arik Air must improve across all board to close gaps that could lead to decrease in number of passengers patronage and satisfaction.

Recommendations

1. Arik Air should leverage the leisure time in taking surveys from the travelers and seek feedback on their in-flight experience.
2. Loyalty programs must be created by airline to attracts and retain customers.
3. Airlines should also cultivate and retain passenger-oriented marketing tactics to improve affordability and repeat patronage.

Funding

This study has not received any external funding.

Conflict of Interest

The author declares that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

REFERENCES AND NOTES

1. ACRP. (2009). *ACRP Report 20: Strategic Planning in the Airport Industry (Project 03-09).* http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_020.pdf.
2. Adeniran, A.O. and Fadare, S.O. (2018) Relationship between Passengers' Satisfaction and Service Quality in Murtala Muhammed International Airport, Lagos, Nigeria. International Journal of Research in Industrial Engineering, 7, 349-369.
3. Adeola, M. M. and Adebiyi, S. O. (2014). Service Quality Perceived Value and Customer Satisfaction as Determinants

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 | OPEN ACCESS

of Airline Choice in Nigeria. International Letter of Social and Humanistic Sciences, 20(2014), 66-80.

4. Angelova, B. and Zekiri, J. (2011). Measuring Customer Satisfaction with Service Quality Using American Customer Satisfaction Model (ACSI Model). International Journal of Academic Research in Business and Social Sciences, 1(3), 232-258.
5. Bitner, M.J. (1992), ''Servicescapes: the impact of physical surroundings on customers and employees'', The Journal of Marketing, 56 (2), 57-71.
6. Bitner, M.J. and Hubbert, A.R. (1994), "Encounter satisfaction vs. overall satisfaction and quality", Sage Publications, 72-94.
7. Bolton, R.N. and Drew, J.H. (1991) A Multistage Model of Customers' Assessments of Service Quality and Value. Journal of Consumer Research, 7(4), 375–384.
8. Brady, M. K., Cronin, J. J. . (2001). *Some New Thoughts on Conceptualizing Perceived Service Quality.*
9. Cardozo, R.N. (1965) An Experimental Study of Customer Effort, Expectation, and Satisfaction. Journal of Marketing Research, 3, 244-249.
10. Chang, Y.H., & Yeh, C. H. (2002). A Survey analysis of service quality for domestic airlines, *European Journal of Operational Research, 193,* 166- 177. doi: http://dx.doi.org/10.1016/S0377-2217(01)00148-5
11. Mikulic, J. and Prebezac, D. (2008), ''Prioritizing improvement of service attributes using impact range-performance analysis and impact-asymmetry analysis'', Managing Service Quality, 18 (6), 559-576.
12. Churchill Jr., G.A. and Surprenant, C. (1982) An Investigation into the Determinants of Customer Satisfaction. Journal of Marketing Research (JMR), Journal of Marketing Research 19(4), 491-504. Published By: Sage Publications, Inc.
13. Cronin, J.J. and Taylor, S.A. (1992), "Measuring service quality: a reexamination and extension", Journal of Marketing, (56), 55-68.
14. Dawkins, P. M. and Reichheld, F. F. (1990). Customer retention as a competitive Weapon. Directors and Boards. Summer, 20-40.
15. Fadare SO, Adeniran AO. Comparative analysis of public operated airport terminal and concessioned airport terminal in Lagos, Nigeria. Discovery, 2018, 54(272), 304-318
16. Ghotbabadi, A.R. Feiz, S., & Baharun, R. (2014), Service quality measurements: a review, International Journal of Academic Research in Business and Social Sciences, (2). DOI: 10.6007/IJARBSS/v5-i2/1484.
17. Gronroos, C. (1984). *A service quality model and its marketing implications.* European Journal of Marketing, 18(4), 36-44.
18. Gronroos, C. (1982). An applied service marketing theory. European Journal of Marketing, 16(7), 41.
19. Howard, J.A. and Sheth, J.N. (1969) The Theory of Buyer Behavior. John Wiley, New York, 12-15.
20. Hu (Sunny), Hsin-Hui, Kandampully, Jay& Juwaheer, Thanika Devi (2009) 'Relationships and impacts of service quality, perceived value, customer satisfaction, and image: an empirical study', The Service Industries Journal, 29 (2), 111 — 125.
21. Njoku I, Udoka CG. Customers' Expectations and Perceptions of Airport Service Quality Performance in Murtala Muhammed International Airport, Lagos, Nigeria. Indian Journal of Engineering, 2021, 18(50), 381-390
22. Nwaogbe, O. R., Wokili, H., Omoke, V., Asiegbu, B. (2013). An Analysis of the impact of air transport sector to economic development in Nigeria, *IOSR Journal of Business Management, 14*(5), 41- 48. doi: http://dx.doi.org/10.9790/487X-1454148.
23. Oladun EA, Ayantoyinbo BB. Econometric analysis of air passenger demand in Nigeria. Discovery, 2020, 56(297), 620-627
24. Oliver, R.L., Rust, R.T. and Varki, S. (1997), ''Customer delight: foundations, findings, and managerial insight'', Journal of Retailing, 73 (3), 311-336.
25. Ostrowski, P. L., O'Brien, T. V., and Gordon, G. L. (1993). "Service quality and customer loyalty in the commercial airline industry", Journal of Travel Research, 32, 16-28.
26. Parasuraman, A., Zeithaml, V. A. and Berry, L. L. . (1985). A conceptual model of service quality and its implication for future resarch. Journal of Marketing, 41-50.
27. Parasuraman, A., Zeithaml, V. A., and Berry, L. L. . (1988). SERVQUAL, a multiple item scale for measuring customer perception. Journal of Retailing, 64(1), 12-40.
28. Saha, G. C., and Theingi. (2009). *Service quality, satisfaction and behavioural intentions: A study of low cost airline carriers in Thailand.* Managerial Service Quality, 19(3), 350-372.
29. Stephens MS, Idowu TA. Airport service quality and patronage in Nigeria. Discovery, 2020, 56(300), 805-811
30. Swan, J. E. and Combs. L. J. . (1976). *Product performance and customer satisfaction: A new concept.* Journal of marketing, 40(2), 25-33.

© 2022 Discovery Scientific Society. All Rights Reserved. ISSN 2319–7757 EISSN 2319–7765 | OPEN ACCESS