

***Service Quality, Willingness-to-repurchase, and the Mediating Functions of Satisfaction
and Value-for-money: Study of Domestic Airlines in Nigeria***

Adetayo Olaniyi Adeniran; Mobolaji S. Stephens; Ikpechukwu Njoku

Department of Logistics and Transport Technology,

Federal University of Technology, Akure

Abstract

The study investigates the impact of service quality on passengers' value-for-money, satisfaction, and willingness-to-repurchase among domestic airline passengers in Nigeria. The study dwells on domestic travellers arriving at Lagos' Murtala Muhammed International Airport and Abuja's Nnamdi Azikwe International Airport. The survey included 335 passengers with post-purchase experience and who had utilized the domestic airline's services more than once. Using, Structural Equation Model (SEM), the study found a significant impact between service quality and willingness-to-repurchase ($p\text{-value: } 0.013 < 0.05; \beta = 0.113$). There is a significant impact between service quality and passengers' value-for-money ($p\text{-value: } 0.000 < 0.05; \beta = 0.577$). Furthermore, there is a significant impact between service quality and passenger satisfaction ($p\text{-value: } 0.015 < 0.05; \beta = 0.245$). There is a significant impact between value-for-money and passenger satisfaction ($p\text{-value: } 0.000 < 0.05; \beta = 0.463$). Additionally, there is a significant impact between passenger satisfaction and passengers' willingness-to-repurchase ($p\text{-value: } 0.000 < 0.05; \beta = 0.337$), and finally, there is a significant impact between value-for-money and willingness-to-repurchase ($p\text{-value: } 0.032 < 0.05; \beta = 0.168$). The study showed that airline managers should understand the exact passenger's demand on the economy and business classes, such demands influences passengers' willingness to repurchase.

Keywords: Willingness-to-repurchase; Satisfaction; Value-for-money; Service quality; Domestic airline; Nigeria

1. Introduction and Background

Nigeria's airline market is a market with a population of 200 million, is shared by 23 domestic airlines (NCAA, 2022) such as Aero Contractors, Air Peace, Allied Air, Arik Air, Azman Air, Dana Air, First Nation, Green Africa, Ibom Air, Kabo Air, Max Air, Overland Airways, United Air among others. Majority of the domestic airlines operate short-haul routes while some operate both domestic and international routes. In the situation of Nigeria repositioning her agriculture, manufacturing and service sectors and shifting away from a mono-economy that is oil-driven, Nigeria is opening the door to welcome foreign investments from all over the world. This development will be felt in the high standard of living, and the development of tourist attraction centres which will boost the indoor and outdoor tourist market; as a result, the demand for air transportation increasing significantly, and it creates a potential airline market in Nigeria.

Nonetheless, Adeola & Adebisi (2014) noted that the airline industry has been incessantly inflicted with high operational costs leaving them on lean margins. Thus, the high operational costs involved in the business required that they should remain profitable in the industry. Another challenge is that there are different fare variation of flights over time which

can sometimes be enormous (Lu *et al.*, 2017). Additionally, one of the characteristics of airline service (particularly the airline seats being offered by all airlines) is perishability, which implies that once the service is not used, it perishes because it cannot be kept. This can further be explained that immediately the aircraft takes off, the seat cannot be sold, and the existing seats that are not filled are lost (Zhang, 2019). Airlines are faced with different challenges, though they are in different phases. Some of these challenges are usually caused by government policy inconsistencies, political instability, policy defects, among all. As a result, it is essential to find a lasting solution to these challenges. This will enable a tradeoff between airline passenger demand and airline profit, and keep the business thriving such that passengers will not feel cheated.

Following the changing dynamics of various indices such as urbanization, globalization, digitalization, and socio-economic shift that seems to be influencing passenger choice of airline and expected service, the airlines are redesigning and adjusting their level of service offerings. Also, with the limitations brought by the Bilateral Air Service Agreements (BASAs), strategic alliance is been formed by airlines such that they shared code for the purpose of dominating new routes, expanding international route coverage, and delivering excellent service at reduced costs. Competition on prices made the situation worse together with a sharp increase in the foreign exchange (forex) rate, unavailability of forex, and high cost of fuel resulting to frequent losses in Nigeria.

Among the issues impeding the advancement of aviation service is the key criterion used by consumers to evaluate airline services (Adam & John, 2011), which is airline service quality (Chen, 2016). Improving and enhancing quality airline services does not only enhance high-quality growth in the civil aviation industry of any country but also boosts airline revenue (Adeola & Adebisi, 2014; Ma, 2021). Objective evaluation of airline service quality is required for enhancing airline service quality and growing the airline company's client base. Frequent complaints of aviation services being delivered to aviation customers are the manifestation of poor service quality which leads to dissatisfaction (Bellizzia *et al.*, 2018; Zhuo, 2015), and dealing with such complaints is an important aspect of regulating airline service quality. The aftermath of dissatisfaction is complaints, as the duo are found side-by-side. In a situation whereby there are no complaints, it is implied that customers are satisfied with the service offered (Bezerra & Gomes, 2016; Chen, 2016).

Service quality is among the important factors that enhances competitive advantage and airline breakthrough. Studies have been conducted on airline service quality such as Park *et al.* (2004) which focused on service value, satisfaction, and airline image in South Korea; Jin-Woo *et al.* (2005) which focused on reliability, customer service, in-flight service, convenience, accessibility in Australia; Nadiri *et al.* (2008) which focused on airline tangibles, terminal tangibles, personnel, empathy in Cyprus; Clemes *et al.* (2008) which focused on assurance,

convenience, comfort, timeliness, meals, security in New Zealand; Hwa-Kyung (2013) focused on staff attitude, clean interiors, comfortable seats, on-time performance, delicious food in Asia; Gures *et al.* (2014) focused on reliability and airline facilities in Turkey; Faizan *et al.* (2015) focused on airline tangibles, terminal tangibles, personnel quality, empathy, and Image in Pakistan; Rahim *et al.* (2015) focused on reliability, responsiveness, safety, communications, assurance, tangibles, security in UAE; Reza *et al.* (2016) focused on pre-flight service quality, in-flight service quality, and price fairness in Germany.

These earlier studies did not consider passengers' willingness-to-repurchase in their assessments; they did not examine the mediating functions of satisfaction and value-for-money on service quality and willingness-to-repurchase; they were conducted outside Nigeria such that their findings may not be applicable for Nigeria especially the domestic airlines being assessed by domestic passengers. Therefore, in this study, the performance measurement of Nigeria's domestic airlines from the perception of domestic passengers would be conducted and some recommendations would be suggested based on findings for improving the quality of services offered by those airlines, as well as to enhance satisfaction and achieve more than one-time consumption in a form of passengers' willingness-to-repurchase. This study aimed at examining the relationship between service quality and passengers' willingness-to-repurchase, and the mediating functions of satisfaction and value-for-money in the context of the Nigerian domestic airlines.

For this study, the following definitions were adopted:

Service quality: This is the customer's judgment based on the overall superiority, distinction or excellence of a product or service after the service offerings (Oliver, 2010).

Willingness-to-repurchase: This is a form of post-consumption feedback from the users of the service. An individual tends to repurchase a particular service after a one-time purchase (Schmidt & Bijmolt, 2020).

Value-for-money: This is defined as the benefits received by a customer on a product or service in exchange for the price paid (Kashyap & Bojanic, 2000).

Passenger satisfaction: This is the pleasure derived by passengers from the consumption of goods or services offered, and it is usually a post-consumption evaluation of a product or service (Giese & Cote, 2000).

2. Literature review

Airline services and categories

The measurement of airline passenger traffic and airline output is germane to determine the performance of any airline. Airline traffic is the amount of airline output that is sold or consumed. The form of traffic can either be passenger traffic, cargo traffic or both, which can

include air freight, mail and passenger baggage (Peter, Amedeo & Cynthia, 2009). Though the aircraft used for passenger traffic has limited space for carrying air freight which is usually carried in the belly compartments.

Traditionally, airlines have three travel classes in which a passenger may be seated. They are (1) First class, (2) Business class, and (3) Economy class. All these three classes are differentiated by each airline's policies, although there are dynamics by which the classes are differentiated which is based on the cabin configuration (Eric, 2017). The first class, as it connotes, is expensive more than other classes, and the passengers in this category are more comfortable with excellent services. Business class is also referred to as an executive class. The fare of this class is expensive but more affordable than first class. The last is the economy class. This is divided into two categories based on seats in the cabin "regular economy" and "premium economy".

Regular economy class seating is the fundamental form of seating arrangement where passengers receive the basic standard service with no real perks. The major service offered is a seat from point A to point B. The other category of economy class is premium economy seating which is slightly better than regular economy seating but must be less extravagant than business class. Apart from the seating which is a general service, menu items are available for premium economy seating. The distance and row in the seating arrangement in premium economy class are not usually different from that of the regular economy class. The illustration of the traditional classification of airline services is shown in Figure 1 below.

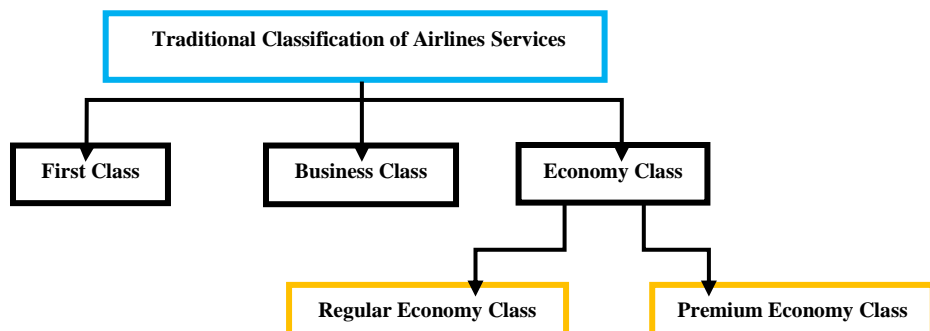


Figure 1: Traditional classification of airline services

Source: Author's design

Service quality measurements of air transport sector

Various ways of measuring the quality of service and the dimensions have been applied in the air transport sector. Ming-kei & Yui-Yip (2016) examined SERVQUAL dimensions (tangibles, reliability, responsiveness, assurance and empathy) and compared the importance of service quality for airlines and airport. Their study seems to agree with the reality of five

dimensions of service quality as proposed by Parasuraman *et al.* (1988). By applying the perception-expectation gap model, Thomas (2014) investigated how service quality theory impacts on airport users. It was shown from results that the relative importance of these service quality dimensions was heterogeneously perceived by passengers of airlines and airports which are the major air service providers.

Copious studies on the dimensions of service quality have given credence to the notion that service quality is a multidimensional concept. For example, Gronroos (1990) stated that quality should not be measured by a single dimension and further proposed three dimensions: technical, functional and image quality. Despite the consensus on the multidimensionality of the service quality, its dimensionality varies across studies due to the context specific nature of service quality. In spite of the conformity of agreement on the multidimensionality of service quality, its application in the air transportation has achieved mixed results. Some studies support the application of expectation-perception of SERVQUAL, and other studies support the service performance (SERVPERF) measure.

Galloway & Wearn (1998) in their study showed that expectation has no contribution to the predictive capabilities in their survey; which results to the adoption of other alternative measurements that is different from SERVQUAL gap analysis, such as service performance, the importance-performance gap analysis and modifications of service quality adjusted to the specific context. Service quality is identified to be a context-specific construct. There is need to factor in different dimensions of service quality when dealing with specific situation of the industry with regards to service quality measurement (Lagrosen 2001). Despite the fact that SERVQUAL proposed by Parasuraman *et al.* (1988) was tune to broad-spectrum of service quality dimensions, the five dimensions of service quality may not be enough or well-encompassing to sufficiently measure the quality of services within the air transport sector. As a consequence, there is need to complement, modify and adjust the five dimensions of service quality proposed by Parasuraman *et al.* (1998) to the specific situation of air transport context.

In summary, criticisms surrounding SERVQUAL model provides that the assessment of quality and cannot be adopted in all service sectors because it will not address industry specific issues like air transportation. In the air transport industry, critics identified that SERVQUAL model is not suitable for measuring service quality because it does not factor in the specific dimensions of air transport in service quality (Park, Robertson & Wu, 2004). Also, it does not consider the ‘*Moment of Truth*’ as the customer directly interacts with reservation staff, boarding, airlines cabin crew, luggage handling and others (Archana & Subha, 2012; Saha & Theingi, 2009; Nadiri *et al.*, 2008; Prayag, 2007).

In air transportation, airline quality (AIRQUAL) was developed by Ekiz, Hussain & Bavik (2006), it is a comprehensive model of service quality (SERVQUAL). AIRQUAL was

adapted from SERVQUAL model to measure service quality of airlines in the Turkish Republic of Northern Cyprus (TRNC) and was later validated by Nadiri *et al* (2008) to measure perceived service quality in Cyprus. However, it was contended by Nadiri *et al.* (2008) that AIRQUAL model should be adopted in diverse cultural settings. On this note, the application of AIRQUAL was embraced and cemented such that the belief that service quality measurement is country, culture and context specific. According to Ekiz, Hussain & Bavik (2006), AIRQUAL majorly consist of five airline specific dimensions. Among the studies conducted on AIRQUAL measurement of quality are shown in Table 1. Furthermore, some have deployed critical analysis in assessing service quality measurement apart from AIRQUAL measurement.

In this study, the framework of air service quality is measured in terms of services provided in each class of tickets (first class, business class and economy class) in the Nigerian air transport sector.

Impact of service quality on passengers' willingness to repurchase, value-for-money and passenger's satisfaction

In recent times, evaluation of service quality is carried out in most research by employing various approaches such as service quality gap, customer satisfaction, customer loyalty, willingness-to-repurchase, and others. Customer satisfaction is a metric used to assess the quality of service (Buaphiban & Truong, 2017; Burton, Sheather and Roberts, 2016). Satisfaction is the benefit acquired by consumers (Sun *et al.*, 2011). The assessment is conducted from the angle of service perception which relates mostly to emotions (Wang, 2014; Yu & Li, 2012).

Based on the measurement of customer satisfaction in the aviation industry, Badama (2015) examined the service quality level of Mongolian airlines and concluded that the satisfaction level of ticketing service and the satisfaction level of ground service affect consumers' airline service experience, which in turn affects customers' loyalty to the airline. Sun (2018) revealed a relationship between varied passenger travel patterns and related variables such as service quality, customer satisfaction, customer value, and propensity to patronize in future. To evaluate service quality, the service quality gap evaluation model is primarily based on the difference between the expected and experienced service quality of consumers (Grönroos, 1984), which may be quantified using the Service Quality scale (Sun *et al.*, 2011), with five qualities of reliability, assurance, tangibility, empathy, and responsiveness (Chen, 2008; Li & Xiong, 2014).

According to Balcombe, Fraser & Harris (2009) and Borhan *et al.* (2017), a service is an activity or a set of activities that take place in contact between customers and service staff and/or systems of service providers and are supplied as solutions to customers' issues.

Increased air passenger traffic has increased demand for the service quality provided by airlines (Oghojafor *et al.*, 2016). To thrive in such intensely competitive circumstances, the airline industry has turned to high-quality service delivery as a marketing approach (Grönroos, 1984). As a result, airline operators should develop their methods to meet service expectations as well as service quality characteristics that are most important to air customers to maximize passenger satisfaction and willingness-to-repurchase (Akamavi *et al.*, 2015; Anderson, Narus & Van Rossum, 2018; Badama, 2015; Leong *et al.*, 2015).

Table 1: Assessment of Air service quality measurement with techniques

Author(s)	Year	Country	Sample Size	Unit of Measurement	Method of Analysis
Fareena <i>et al.</i>	2000	US and Europe	1956	Passengers travelling between US and Europe	T-Test
Park <i>et al.</i>	2004	South Korea	592	Korean international passengers	SEM
Jin-Woo <i>et al.</i>	2005	Australia	501	Australian international passenger at T3 airport	SEM
Nadiri <i>et al.</i>	2008	Cyprus	583	North Cyprus national airline passenger	SEM
Clemes <i>et al.</i>	2008	New Zealand	428	International flights Passengers	Multiple Regression T-Test, ANOVA
Saha & Theingi	2009	Thailand	1,212	Passengers of low-cost carriers (LCCs) in Thailand	SEM
Marta & DeCastro	2011	Portugal	11,558	Long haul passengers and medium haul passengers	Multiple Regression Analysis
Hwa-Kyung	2013	Asia	181	Passengers of a major international airline in the Asian region	SPSS, Factor Analysis
Juliet	2013	Uganda	303	International passengers in Entebbe International Airport	Chi square and Regression Analysis
Güres <i>et al.</i>	2014	Turkey	821	Passengers in four Turkish airports	SEM
Faizan <i>et al.</i>	2015	Pakistan	498	Passengers of Pakistan international airlines	SEM
Rahim <i>et al.</i>	2015	UAE	253	Passengers of a Dubai airlines	SEM
Sergejs & Ksenija	2015	Latvia	937	International passengers at RIGA International Airport (Latvia)	Factor Analysis
Rahim	2016	Nigeria	800	Domestic passengers in Lagos Airport	Pearson Correlation and Exploratory Factor Analysis
Reza <i>et al.</i>	2016	Germany	203	Passengers in Munich Airport	CFA, Multiple Correlation
Sandada & Matibiri	2016	South Africa	148	Passengers in Harare International airport	SEM
Samuel	2017	Nigeria	302,869	Domestic passengers in Murtala Muhammed Airport, Lagos	Multiple Regression Analysis
Maria <i>et al.</i>	2018	Italy	3,313	Passengers of Lamezia Terme Airport	Ordered Logit Model
Muhammad <i>et al.</i>	2018	Malaysia	460	Malaysian Airlines Passengers travelled	PLS-SEM
Efthymiou <i>et al.</i>	2019	London	160	Passengers of British Airways at London Heathrow Airport	Chi Square and Correlation
Hyun-Jeong, & Hak Seon	2019	Skytrax Survey	9,632	Passengers in Singapore, Qatar, All Nippon, Emirates, EVA, Cathay Pacific, Lufthansa, Hainan, Garuda Indonesia, and Thai Airlines	Linear regression
Kumar & Kumar	2019	India	323	Passengers of Low Cost Airlines	Factor Analysis and Multiple Regression Analysis
Özlem, Mahmut & Sahap	2019	Skytrax Survey	1096	Business Passengers	Logistic Regression Analysis
Adeniran <i>et al.</i>	2020	Nigeria	514	Domestic passengers in Lagos airport	Factor Analysis

Source: Authors' compilation

Furthermore, service quality is critical to aviation's competitive advantages through increasing customer willingness-to-repurchase, gaining market share, and generating profits (Ozment & Morash, 1994). According to Hapsari (2017), service quality is one of the most researched indicators and pertinent drivers of consumer value-for-money (Yang *et al.*, 2012) and willingness-to-repurchase for airlines (Leong *et al.*, 2015). Based on the discussions, the following null hypotheses were proposed:

H₀₁: Service quality has no significant impact on passengers' willingness to repurchase

H₀₂: Service quality has no significant impact on value-for-money.

H₀₃: Service quality has no significant impact on passengers' satisfaction.

Relationship between passenger's satisfaction, value-for-money and willingness-to-repurchase

According to Arnoldina & Viktorija (2014) and Chonody *et al.* (2018), relationship between satisfaction and value-for-money constructs have traditionally been defined as an overall construct based on previous interactions and perceptions of the consumer on different service providers. Previous theoretical viewpoints on such relationships in client-vendor exchanges have resulted in the development of measures to assess the quality of interactions and transactions among the users and service providers (Azman *et al.*, 2017; Geraldine, 2013). Satisfaction and value-for-money are the two most prominent factors used to contribute to the relationship quality assessment (Athanassapoulos and Iliakopoulos, 2016; Walsh *et al.*, 2010). Satisfaction denotes an assessment of the product's purchase and/or consumption experience (Giao *et al.*, 2020). Thus, passenger satisfaction is based on their particular experiences in terms of their requirements and expectations (Oliver, 2010). Previous studies by Gures, Arslan & Tun (2014), Leong *et al.* (2015) and Yang *et al.* (2012) have shown that passenger satisfaction can be influenced by service quality and value-for-money.

Furthermore, in the study of Hellier *et al.* (2003), the level of satisfaction felt by passengers after receiving a service influences their willingness-to-repurchase a product or service was identified. Passengers' willingness-to-repurchase was seen as a process in which a person purchases products or services from the same vendors again. Colin, Yahua & Jeff (2022) conducted a study on the nexus between airline service quality, customer satisfaction and repurchase intention, using the perspective of Laotian air passengers, and found a positive relationship between the three constructs. Similar studies were conducted by Chilembwe (2014), Choi *et al.* (2017), Cristobal, Flavian & Guinaliu (2017), and Cubillo, Sanchez & Cervino (2018). Furthermore, it was revealed that willingness-to-repurchase a certain product or service in future is a function of positive post-consumption experiences overtime (Akamavi *et al.*, 2015; Da Silva *et al.*, 2017; Durvasula, 2017). Some researchers discovered a favourable relationship between passenger satisfaction and willingness-to-repurchase (Eliasaph, Farida & Balarabe, 2016; Leong *et al.*, 2015; Vuong *et al.*, 2020). Based on the discussions, the following null hypotheses were proposed:

H₀₄: Value-for-money has no significant impact on passenger satisfaction.

H₀₅: Passengers' satisfaction has no significant impact on passengers' willingness-to-repurchase.

H₀₆: Value-for-money has no significant impact on passengers' willingness-to-repurchase.

Measurement

As shown in the conceptual model (see Figure 2), value-for-money was represented with reasonable airfare for service and justification for price paid which were developed by Forgas *et al.* (2010) and modified for this study; service quality was represented with airline services for economy class ticket, airline services for business class ticket, and airline services for first class ticket; willingness-to-repurchase was represented with willingness-to-repurchase first class ticket, willingness-to-repurchase business class ticket, and willingness-to-repurchase economy class ticket which were developed by Akamavi *et al.* (2015) and modified for this study; passengers' satisfaction was represented with adherence to COVID-19 safety rules, ground services, cabin services, and on-board services which were developed by Leong *et al.* (2015) and modified for this study. All constructs were measured on Five-point Likert scale.

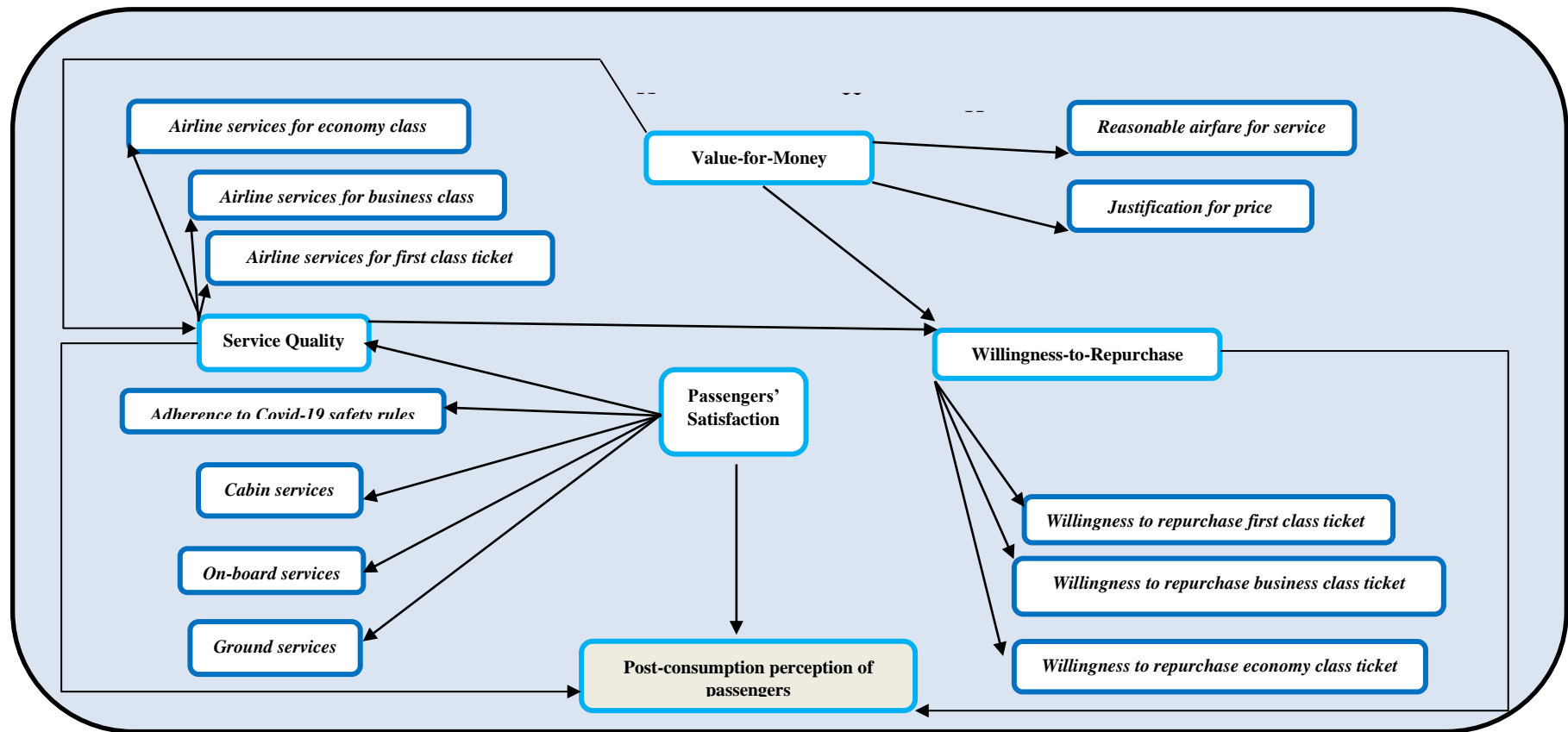


Figure 2: Conceptual model

3. Methodology

Sampling technique and sampling size

This study deployed multistage sampling procedure (random sampling of airlines in the terminals, and convenience sampling of passengers through the airlines). Electronic questionnaire through Google form was designed and the link was shared to the passengers. The primary data were obtained concurrently from arrival passengers at the two major domestic airports in Lagos and Abuja using an electronic questionnaire through a survey.

In the situation whereby the population is unknown, large or infinite, Zikmund (2013) proposed sample size formula which is determined by different error allowances. To have more sample for this study, the chosen error allowance of 0.04 was deployed to establish the sample size as shown in the equation below:

The formulae for achieving sample size $n = \frac{Z^2}{4E^2}$

where;

n = sample size;

Z = Z score for 96% confidence interval is 2.05;

E = Error allowance (0.04)

When inserted into the formula, sample size was approximately 657. Comrey & Lee (2018) provided that the sample size of hundred is poor; a sample size of two hundred is fair; a sample size of three hundred is good; a sample size of five hundred is very good. In this study, the sample size of six hundred and fifty-seven (657) is adequate for reporting. The study targeted arrival passengers in Murtala Muhammed International Airport (MMIA), Lagos, and Nnamdi Azikwe International (NAIA), Abuja. The data was administered between 1st to 31st August 2021. It is expedient to note that the fear of contacting COVID-19 and it measures will influence the perception of passengers because of the fragile and international nature of air transport business.

It is pertinent to note that for the purpose of capturing willingness-to-repurchase and satisfaction (which are post consumption variables), the respondents are those that have more than one year air travel experience and have patronized the airline more than once. An electronic form of questionnaire was administered to the arriving passengers through the airline customer service representatives. The link of electronic questionnaire was shared with passengers. Out of the 657 responses received, 407 responses were fully completed. From the 407 responses collected, 335 questionnaires (82.31%) were valid for data analysis based on the fact that they have patronized the airline more than once and have more than

one year travel experience. The details of the completed questionnaires received were shown in Table 2 below.

Table 2: Response rate

MMIA	NAIA
Domestic	Domestic
208	199
Total: 407	

Source: Authors' Computation (2022)

The completed questionnaire was 407 (208 for MMIA and 199 for NAIA).

The distribution of the sample (see Table 3), there, the majority of respondents were male (53.13%), and were between 26-45 years. These ages were referred to as the economic stimulating age. Most of the respondents (51.05%) were married, and were self-employed and professional (43.88%; 35.22%). This implies that the majority of the people that can afford to travel by air are those in the self-employed and professionals.

Table 3. Sample distribution

Items		Frequency	Per cent
Gender	Female	157	46.87
	Male	178	53.13
Marital status	Married	171	51.05
	Single	164	48.95
Age	< 26 years old	63	18.81
	26-35 years old	113	33.73
	36-45 years old	127	37.91
	>45 years old	32	9.55
Occupation	Student	48	14.33
	Self-employed	147	43.88
	Professional	118	35.22
	Retired	22	6.57
Monthly income	Below ₦100,000	12	3.58
	₦100,000 - ₦300,000	128	38.21
	₦301,000-₦600,000	93	27.76
	₦601,000 - ₦1,000,000	79	23.58
	Above ₦1,000,000	23	6.87
Class of ticket	Economy class	233	69.55
	Business class	102	30.45

Source: Authors' work

The airline services were categorized into three classes (Economy class, Business class and First class). Each class determines the package of services that were offered by the airline to the passengers when onboard; it is also among the criteria that determine the amount of airfare. From the analysis shown in Table 3, it was revealed that while there

were no first-class passengers among the respondents, the majority of the respondents (69.55%) purchased economy class ticket, and 30.45% purchased business class ticket.

4. Result

The measurement model connects the variables with their latent variables. The validity and reliability of the multi-item measures were evaluated before doing the SEM estimate (Chang, 2012; Vuong & Suntrayuth, 2020). Following the study of Giao & Vng (2019), which emphasized that the composite reliability values in a model should be 0.7 or more, each variable was examined and plotted to validate reliability (Chen & Chang, 2017). Table 4 clearly shows that all of the variables employed in this study were trustworthy since they had Composite Reliability and Cronbach's Alpha values greater than 0.7. As a result, all results are within the permitted range, implying high dependability. Furthermore, convergent validity is the amount of variation that exists when two or more items agree while assessing related constructs, and it is determined using the Average Variance Extracted (AVE). When the AVE exceeds 0.50, convergent validity is said to be dependable. Table 4 indicated that AVE values ranged from 0.532 to 0.831. As a result, all of the survey instrument's items are now deemed convergent validity.

The correlation matrix can also be used to establish discriminant validity. Since a construct's variance with its associated indicators is greater than its variance with any other construct, the square root of a construct's AVE score should be greater than the squared correlation with any other construct (Vuong & Giao, 2020). Table 4 shows the correlation matrices for the constructions with diagonal values. The square root of the AVE values for each construct was greater than the squared correlation with any other construct. As a consequence, the notions' discriminant validity has been proven.

Table 4. Internal consistency, convergent, and discriminant validity among constructs

Constructs	Cronbach's Alpha	Average Variance Extracted (AVE)	WtR	PS	VfM	SQ
WtR	0.887	0.814	(0.885)	0.632	0.582	0.521
PS	0.912	0.831		(0.918)	0.619	0.537
VfM	0.857	0.747			(0.846)	0.576
SQ	0.823	0.532				(0.727)

Notes: WtR= Willingness-to-Repurchase, PS= Passenger Satisfaction, SQ= Service Quality, VfM= Value-for-money; Square roots of average variance extracted (AVE) of latent variables are shown in the parentheses.

Due to the fact that the survey was conducted in two different airports, there is a need to determine whether all the samples are the same. Hence, one-way ANOVA was used to determine whether there is any statistically significant differences between the means of

constructs between groups with different income levels and travel experience of passengers as shown in Table 5. The highlighted values denote statistical significance (p -value < 0.05) and do not support the null hypothesis ($H_0: \mu_1 = \mu_2 = \mu_3$). This implies that there is homogeneity in the samples.

Table 5. One-way ANOVA tests for constructs between groups with different income levels, travel experience of passengers

M-I	VfM	PSQ	PS	WtR
Above ₦1,000,000 (n = 23)	3.57	3.15	3.65	3.13
₦601,000 - ₦1,000,000 (n = 79)	3.79	3.63	3.81	3.55
₦301,000 - ₦600,000 (n = 93)	3.64	3.95	3.64	3.81
₦100,000 - ₦300,000 (n = 128)	3.47	3.92	3.12	3.63
Below ₦100,000 (n = 12)	3.25	3.42	3.23	3.45
F-statistics	3.057	1.439	2.936	1.387
p -value	0.024	0.154	0.038	0.181
A-TE				
>2 years (n = 291)	3.71	3.81	3.74	3.87
2 years (n = 198)	3.54	3.77	3.58	3.61
F-statistics	3.393	2.931	1.215	3.329
p -value	0.027	0.014	0.352	0.013

Source: IBM SPSS AMOS 24

Note: VfM = value-for-money; PSQ = perceived service quality; PS = passenger satisfaction; WtR = willingness-to-repurchase; M-I = monthly income; A-TE = air travel experience.

Structural Equation Model

For this study, a preliminary structural equation encompassing all of the survey items was created, and the early model's goodness of fit was assessed using confirmatory factor analysis. Checking the model fit and evaluating the hypotheses comprise the structural model analysis. The findings demonstrate that all of the goodness of fit metrics were within their acceptable ranges: $\chi^2 = 486.351$ ($p = 0.000$); GFI = 0.903; CFI = 0.961; NFI = 0.923; $\chi^2/df = 2.573$; RMSEA = 0.064 (see Table 6), because they meet the overall fitness level recommendation: GFI > 0.90 ; CFI > 0.95 ; NFI > 0.90 ; $\chi^2/df < 3$; RMSEA < 0.08 (Bentler, 1990; Bentler & Bonett, 1980; Tucker & Lewis, 1973).

Table 6. Model's goodness of fit index

All	Model's Goodness of Fit Index					
	χ^2	RMSEA	GFI	CFI	NFI	χ^2/df
	495.240	0.064	0.903	0.961	0.923	2.573

Source: IBM SPSS AMOS 24

The findings revealed that the research model fits well. The results of the hypotheses tests are summarized in Table 7.

Hypothesis 1: The null hypothesis which states that service quality has no significant impact on passengers' willingness-to-repurchase is hereby rejected based on the p -value: $0.013 < 0.05$ and beta coefficient: 0.113. Hence, service quality has a significant impact on willingness-to-repurchase domestic airline services in Nigeria (Table 7). According to the findings, the higher the level of quality service, it is more likely that the passengers will be willing to repurchase domestic flight tickets.

Hypothesis 2: The null hypothesis which states that service quality has no significant impact on value-for-money is hereby rejected based on the p -value: $0.000 < 0.05$ and beta coefficient: 0.577. Hence, service quality has a significant impact on passengers' value-for-money as perceived by domestic airline passengers in Nigeria (Table 7). The findings revealed that the higher the level of quality service being delivered, it is more likely that the passengers would have a positive justification for the air fare paid on the domestic air trip.

Hypothesis 3: The null hypothesis which states that service quality has no significant impact on passenger satisfaction is hereby rejected based on the p -value: $0.015 < 0.05$ and the beta coefficient: 0.245. Hence, service quality has a significant impact on passenger satisfaction (Table 7). The study found that with the increasing level of service quality, it is more likely that the passengers would be satisfied with the services rendered by domestic airline in Nigeria.

Hypothesis 4: The null hypothesis which states that value-for-money has no significant impact on passenger satisfaction is hereby rejected based on the p -value: $0.000 < 0.05$ and beta coefficient: 0.463. Hence, value-for-money has a significant impact on passenger satisfaction (Table 7). According to the findings, the higher the level of justification of value received for airfare paid, it is more likely that the passengers would be satisfied with the services rendered by the domestic airline in Nigeria.

Hypothesis 5: The null hypothesis which states that passenger satisfaction has no significant impact on passengers' willingness-to-repurchase is hereby rejected based on the p -value: $0.000 < 0.05$ and beta coefficient: 0.337. Hence, passengers' satisfaction has a significant impact on passengers' willingness-to-repurchase (Table 7). The results indicate

that the increasing level of satisfaction will enhance the more willingness-to-repurchase domestic airline tickets in future.

Hypothesis 6: The null hypothesis which states that value-for-money has no significant impact on passengers' willingness-to-repurchase is hereby rejected based on the p -value: $0.032 < 0.05$ and the beta coefficient: 0.168. Hence value-for-money has a significant impact on passengers' willingness-to-repurchase (Table 7). According to the findings, the higher the level of justification of value received for airfare paid, the passengers will be willing to repurchase domestic airline tickets in future. **Table 7. Results of hypotheses**

Hypothesis	Relationship	Path Coefficient	Standard Deviation	T-Statistics	p -value	Decision on Null Hypothesis
H0 ₁	SQ → WTR	0.115	0.038	2.235	0.013	Reject H0 ₁
H0 ₂	SQ → VfM	0.577	0.046	15.752	0.000	Reject H0 ₂
H0 ₃	SQ → PS	0.245	0.059	4.331	0.015	Reject H0 ₃
H0 ₄	VfM → PS	0.463	0.055	7.105	0.000	Reject H0 ₄
H0 ₅	PS → WTR	0.337	0.041	6.651	0.000	Reject H0 ₅
H0 ₆	VfM → WTR	0.168	0.058	3.113	0.032	Reject H0 ₆

Source: IBM SPSS AMOS 24

5. Conclusions and recommendations

The study was conducted to reveal how passengers' satisfaction, value-for-money and willingness-to-repurchase were impacted by service quality in the context of domestic airlines in Nigeria. Thus, the nexus between service quality and willingness-to-repurchase in the domestic airline industry in Nigeria via the mediation functions of relationship quality (passengers' satisfaction and value-for-money) were measured. It was revealed that willingness-to-repurchase was impacted by the quality of services provided by domestic airlines in Nigeria. Besides, this study also indicated that service quality could improve the level of passenger satisfaction and their perception on the value-for-money, which could enhance more than one-time consumption that is captured with willingness-to-repurchase. On this note, the following recommendations were suggested:

- The questionnaire for the study was designed using services of traditional ticket; this is a major contribution to knowledge, and its adoption will be suitable for use by the managers of domestic airlines in Nigeria when evaluating passengers on airline service delivery towards achieving more than one-time consumption.
- The study found a significant impact between passengers' willingness-to-repurchase and service quality based on the economy and business class tickets. This implies that improvement of each class will assist airlines in addressing pertinent challenges that require urgent attention for improvement. Examples are

increasing the quality of seat pitch, provision of additional baggage spaces, cleanliness of the airline lounge, among all.

Since the study was carried out during the COVID-19 pandemic, the passengers' perception may be influenced by COVID-19 measures. Therefore, the results of future studies that will be conducted during the post-COVID-19 may have slight difference from this present result because most of the COVID-19 measures put in place by government has been relaxed. This study is relevant because the recommendations could be adopted whether there is infectious disease outbreak or not.

Nonetheless, there are some limitations of this study that should be noted in future research:

- This study focused only on willingness-to-repurchase as it is enhanced by service quality. Hence, there could be other relevant constructs that could be measured. In future studies, more factors that seems to impact willingness-to-repurchase may be included.
- This study was conducted only in Nigeria and among domestic airlines and passengers. Hence, the results mainly reflected the passenger behaviours that fly in Nigeria. Similar study can be conducted in two or more African countries to achieve a continental sample.

List of abbreviations

AVE: Average Variance Extracted

BASAs: Bilateral Air Service Agreements

PS: Passenger Satisfaction

VfM: Value-for-money

SEM: Structural Equation Model

SERVQUAL: Service Quality

SQ: Service Quality

WTR: Willingness-to-Repurchase

Consent for publication

N/A

Availability of data and materials

The datasets generated and/or analysed during the current study are available from the corresponding author on reasonable request, but cannot be made publicly available in order not to go against the declaration of confidentiality made to the participants.

Competing interest

The author declares that there is no competing interest.

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Authors' contribution

AOA designed the manuscript; MSS supervised and proofread the manuscript; IN: supervised and proofread the manuscript.

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