AMERICAN JOURNALS
Open Access, Peer Reviewed Journals

American Journal of Business Management, Economics and Banking
ISSN (E): 2832-8078 Volume 39, August - 2025

ELECTRONIC SERVICE QUALITY AND E-PASSENGER SATISFACTION IN THE AVIATION INDUSTRY IN RIVERS STATE, NIGERIA

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ABSTRACT

The study investigated the effect of electronic service quality factors influencing e-passenger satisfaction to airlines in the tourism industry in Rivers State, Nigeria. The descriptive survey research gathered data from 138 airline passengers who patronised both domestic and foreign airlines in Nigeria. A well structured questionnaire containing 17 items, with four demographic items was used to elicit data from the respondents. The primary data generated from the questionnaire administration was utilised to validate the model developed for the study empirically through statistical tests with the help of Statistical Package for the Social Sciences (SPSS). The inferential statistical analysis showed that e-passenger satisfaction to the airlines was driven by accessibility, security, information quality, and service reliability. The study therefore concluded that acquiring robust e-business infrastructure is essential for tourism service providers like airlines that want to enhance e-passenger satisfaction. It was thus recommended that, to enhance or sustain the e-satisfaction of airline passengers towards e-transaction processes, the airline owners/managers should ensure that the websites are readily available 24/7 to enhance real time processing of the documentations required among others.

KEYWORDS

Accessibility. Information Quality. Service Reliability. Security. E-Passenger Satisfaction. Nigeria.

Introduction

Computer and Information and Communication Technology's (ICT) revolution have ultimately altered the way and manner business organizations operate, serve and retain their customers. These activities created by ICT have brought about a paradigm shift in the service industry in the context of service delivery and overall competition with rivals in the business environment (Haghtalap, et al, as cited in Cetinsoz, 2013). The increase of electronic commerce at a global scale have influenced how organizations compete in the cyber space. In an era dominated by technology, organisations that desire to achieve competitive advantage, are expected to establish their presence in several digital platforms

where online marketing is practiced. Consequently, organizations adopt e-business strategies to increase their online presence to conduct their marketing transactions: communicate with customers, close deals and deliver their products and services(Ekeke & Etuk, 2021).

Electronic services are expected to be efficient and effective and efficient to make the internet commerce successful to the admiration of customers. To achieve this, online marketers are expected to build e-business infrastructure that is capable of enhancing e-service quality. Parasuraman et al (2005) noted that service quality is a key determinant of success of digital channels for service delivery.

The physical services marketing environment and the e-business environment are different in terms of operational efficiency. In the physical business environment, five principal dimensions such as responsiveness, tangibility, empathy, reliability and assurance (Parasuraman, et al. 1985). On the other hand, the lack of human interaction during the internet marketing experience (Web site experience) suggests that new dimensions are required to enhance the quality of services deliverable on the internet. Accordingly, determinants such as website quality, information quality, e-responsiveness, reliability, communication, appearance, credibility, availability, responsiveness, ease of use, security, are some of the factors that are considered crucial for delivering of high-quality online services (Zeithaml, et al 2000). In a country like Nigeria where electric power is a luxury and costly, it is imperative that an empirical study is conducted to affirm the satisfaction of online customers in terms of e-service quality. Airline passengers may decide to engage in an online travel transactions/activity when there is a perceived service quality and overall satisfaction. Extant literature (Almotairi, et al, 2013; Al-Msallam, & Alhaddad, 2016; Anderson, & Srinivasan, 2003; Ayo, et al, 2016; Madnick, Wang, Lee, & Zhu, 2009; Van La, 2005; Lam, 2022; Akinci, et al, 2010; Vo, et al, 2020) has demonstrated several studies that studied the effect of e-service quality dimensions on customer satisfaction and customer behavioural intentions in various market contexts. Therefore, the departure point in this study was to investigate the effect of e-service quality and e-passenger satisfaction in the airline industry in Nigeria. This is imperative due to the fact that none among those studies was found to have been conducted to the best of our knowledge in Rivers State. The dimensions of the predictor variable (accessibility, service reliability, security and information quality) and that of the criterion variable (e-passenger satisfaction) formed the point of departure.

Aim and Objectives of the Study

The main aim of the study was to examine the influence of electronic service quality on electronic passenger satisfaction in aviation industry in Rivers State. The specific objectives were to;

i. Determine the effect of accessibility on e-passenger satisfaction in Rivers state.
ii. Examine the effect of security on e-passenger satisfaction in Rivers State.
iii. Determine the effect of information quality on e-passenger satisfaction in Rivers State.
iv. Ascertain the effect of service reliability on e-passenger satisfaction in Rivers State.

Literature Review

Conceptual Review

E-Service Quality

E-Services are services that are delivered on the internet (Zeithaml, et al, 2000). They are distinguishable from physical sciences because of the characteristics associated with online services. Scholars have developed e-service quality scales that have been used to measure e-service quality in

various contexts (Akinci et al, 2010). Some of the dimension of e-service quality are as follows up to date and reliable information,, responsiveness, on time fulfillment, ease of use that includes functionality and accessibility of website, privacy/security, graphic style fulfillment/reliability and other criteria such as access, responsiveness, personalization (Zeithanl et al, 2002).For this current study, the dimensions of e-service quality used are accessibility, service reliability, security and information quality.

Dimension of E-Service Quality

Accessibility: Accessibility is the extent to which users have equal access to the website. Bertot & Jaeger (2006:163) posit that governments ought to design their websites in a manner that ensures that universal access is afforded to citizens.

Security This dimension deals with how a website proves to be trustworthy for its customers. Madu and Madu (2002) suggest that online services are delivered and operated in a highly reliable and dependable manner in order to build trust and convey confidence to customers. Due to the lack of a physical entity and interpersonal contact while purchasing online, customers are especially concerned with the transaction's safety. Security also refers to the attributes of privacy that are imperative for making transactions online (Zeithaml et al., 2002). Customers may worry that their personal and transactional information can be accessed or used over the Internet by third parties. Security has been perceived as being a critical dimension in terms of service quality or satisfaction, and is unique to the internet environment (e.g., Szymanski & Hise, 2000; Yoo & Donthu, 2001). Lack of the assurance of security has been regarded as the main barrier preventing customers from shopping online. It is natural to conclude that security is a crucial component of quality when considering online travel services.

Information Quality: E-service as a process is information-driven as the physical contact between service employees and customers is absent. It therefore implies that "in e-service, information is vital for customers to make their decision since they cannot physically examine what they want to purchase and know about the company" (Li & Suomi, 2009, p.7). The authors equally provided dimensions of information quality to include updated information, current and timely information, accurate and relevant information, and information that is easy to understand. There is evidence that measurements of information quality can be used to predict organisational outcomes (Madnick *et al*. 2009).

Accessibility: This describes the dimension of e-service quality that ensures that services are easily and securely obtained online.

Service Reliability: Reliability refers to the consistency of performance and dependability of companies (Parasuraman et al. 1985, 2005). According to some empirical studies, reliability is the most important dimension of eservice quality. In the virtual environment, it is vital to make customers to trust that the company is going to perform what it promises to do. Reliability can make customers recognize the consistency and credibility of the company as well. Customer perception of reliability of the website could be exemplified by confirmation emails, order tracking functions and accuracy of service promises (e.g., delivering what is ordered)

Passenger E-Satisfaction

E-satisfaction is defined as, "an assessment that goes beyond the users' insight of e-retailers' products and services" (Van La, 2005). Contantin (as cited in Kamal et al., 2018, p.165) defined e-satisfaction as the fulfilment an on-line user attains after comparing the holistic on-line experience and the perceived expectations. Anderson and Srinivasan (2003, p.125) defined e-satisfaction as the, "contentment of a customer with respect his/her prior purchase experience with a given electronic commerce firm".

Customer satisfaction is described as an ambiguous and abstract concept because it varies from individual to individual, service to service and product to product (Kumbler 2011). A lot of factors ranging from physical, economic and psychological affects customer satisfaction in various market contexts. In extant literature, service quality has been confirmed as a significant determinant of customer satisfaction (Cronin & Taylor 1994; You & Donthu 2001; Zeithaml, Parasuraman & Malhotra, 2000; Parasuraman, Zeithaml & Berry, 1985).

Theoretical Foundations

The Theory of Planned Behaviour: The theory of rational behaviour (TPB), propounded by Ajzen in 1991, as a result of what was considered as a restriction of the earlier theory (Theory of Reasoned Action) which claimed that human behaviour was entirely under the control of reason (Nickerson, 2023). Also, it is not always the case that intentions are what drive behaviour. Principally, it is the individual's purpose to carry out a specific action that is considered as a key component of the idea of planned behaviour, much as the TRA theory.

The TPB model therefore states that a person's intention to perform a certain action is influenced by that person's attitude towards the planned behaviour, attitudes, subjective norms, and perceived control. Therefore, the main determinants of TPB lead to the generation of customer intent, which in turn influences customer behaviour (Madden et al., 1988). Thus, attitude, subjective norm, and perceived control are described as the three conceptual determinants of TPB which are used to predict customer intention. Thus the foundation of the TPB theory was formed.

Empirical Review and Hypotheses Development

Vo, et al (2020) studied the effect of E-service quality on customer satisfaction and Consumer Engagement Behaviours (CEB) toward luxury hotels. Also, the study examined mediation relationships between website quality, customer satisfaction, and CEBs. The study found that website service quality contributes to customer satisfaction, then influences their CEBs and brand loyalty. In addition, customer satisfaction serves as a partial mediation on the relationships between hotel website service quality and CEBs in the hotel industry.

In Nigeria, Ayo, et al (2016) examined the factors influencing e-banking usage by customers based on e-service quality, attitude and customer satisfaction. The study showed that perceived e-service quality had a very strong influence on customer satisfaction and use of e-banking, competence of e-service support staff, system availability, service portfolio, responsiveness and reliability, in that order, were found to be most significant in rating e-service quality.

Patwary (2020) examined the factors that influence hotel customers' online booking intention. The four factors that influence online booking intentions used for the study were ease of use, social influence, perceived risk, and positive e-WOM.. The result showed that perceived risk had a negative influence

on the intention to book a hotel online. In addition to ease of use, social influence, and positive word-of-mouth, perceived risk had a positive impact on the intention to book a hotel online.

Chaang-Iuan and Yi-Ling,.(2007) conducted a research to identify the dimensions of e-travel service quality that could enhance online customer satisfaction and loyalty intention. The development of a reliable and valid measurement instrument for e-travel service quality was a second objective. The empirical results identified five core components: information quality, security, website functionality, customer relationships and responsiveness. The empirical results showed that dimensions of e-travel quality service scale had strong predictive capability in relation to online customer satisfaction and loyalty intention.

Kamal, et al (2018) in the context of hotel booking, the authors found that e-satisfaction influenced e-loyalty which implied that online hotel booking users are more likely to revisit and repurchase hotel products and services especially because of their hotel online booking experience which attains selected utilitarian and hedonic features.

Paulo, et al (2019) examined the effect of e-service quality on customer satisfaction, customer trust, and customer behaviour, in the context of online shopping site design, security/privacy and fulfilment had effect on customer behaviour. Also, customer service did not significantly relate to overall e-service quality. Overall e-service quality was statistically significantly related to customer behaviour.

Vo, et al (2019) examined 'the impact of e-service aviation on the customer satisfaction and consumer engagement behaviours toward Luxury hotels'' Vic-tram. The aim of the study was to increase the number of online bookers enhancing the level of customer satisfaction and engagement behaviours on e-service of up-scale hotel websites in Vietnam. The survey was carried out among 332 online bookers through both online and offline methods. The PLS- SEM was used to conduct the analysis on the association among the constructs. The results revealed that website service avidity plays key role in boosting customer satisfaction, customer engagement behaviours and brand loyalty. It was also found that customer satisfaction has partial mediating role on ties between hotel website service quality and customer engagement behaviours in the hotel sector.

Al-Hawary, and Al-Smeran, (2017) examined 'impact of electronic service quality on customer satisfaction of Islamic banks in Jordan. The dimensions of e-service quality were reliability, ease of Use, effectiveness, website design, privacy, and responsiveness. The result revealed a statistically significant impact of e-service quality (Via ease of use, website design, privacy, and responsiveness) on customer's satisfaction of Islamic banks in Fordam. On the other hand, there was insignificant impact of reliability and effectiveness on customer satisfaction it had great role in stimulating and supporting customer's altercation.

Li, Liu, and Suomi, (2009) developed a scale to evaluate e-service quality from the perspectives of both online companies and customers. The results indicated that trust from the perspective of customer and ease of use from the perspective of online company are the most critical and important facets in customers' perception of online travel service quality, while reliability, system availability and responsiveness had influence on customer's perception of online travel service quality as well, but the influence is not so strong as that of trust and ease of use.

Swaid, and Wigand, (2009) constructed a scale for measuring e-service quality, and also examined the effects of the dimensions of e-service quality on the various types of customer loyalty. By conducting exploratory factor analysis and structural equation modeling, we found that e-service quality is measured on six dimensions: information quality, website usability, reliability,

responsiveness, assurance and personalization. The results showed that assurance was the most important factor affecting „price tolerance", reliability had the greatest influence on „preference loyalty". Responsiveness had significant negative impact on „complaining behavior".

Zemblytė, (2015) developed and tested empirically the instrument for evaluating e-service quality. The findings showed that e-service quality from customers' perspective is composed of four dimensions: compensation, responsiveness and fulfillment, website operation, and reliability. Narteh, (2013) carried out a study to identify the dimensions of Automated Teller Machine (ATM) service quality and their relative importance based on evaluation through customers' perceptions. The quantitative study adopted a questionnaire for primary data collection from 530 ATM customers of 15 banks in Ghana. Statistical results identified five dimensions of the "ATMqual" model in order of importance, as follows; reliability, convenience, responsiveness, ease of use and fulfillment. Hong (2016) studied the factors affecting Vietnamese people's intention to book hotels online. The research results showed that perceived usefulness, perceived ease of use, perceived risk of goods/services, and perceived risk, affected booking intention online.

From the foregoing, the following hypotheses in their null forms guided the study;

H_1: Accessibility does not have positive and significant effect on e-passenger satisfaction.

H_2:Security does not have positive and significant effect on e-passenger satisfaction.

H_3:Information quality does not have positive and significant effect on e-passenger satisfaction.

H_4: Service reliability does not have positive and significant effect on e-passenger satisfaction.

Research Methodology

In this study, the descriptive survey design was adopted for this research work. The research design was chosen due largely to the nature of data sought. The research design helps researchers to systematically obtain information to describe a phenomenon, situation, or population. This current research sought to obtain data from airline passengers in Rivers State, Nigeria.

Due to the technical nature of this study the study considered the airline passengers who are supposed to have in depth knowledge and experience on how the e-service quality dimensions influences their satisfaction. This implies that only the concerned respondents were consulted for the study through judgemental sampling technique. Instead of going to the airport for questionnaire administration, they were distributed through travel agencies in Port Harcourt.

The population of this study was considered large and unknown. In this case the researcher adopted the Cochran formula to determine the sample size.

Where n= sample size

$$n=\frac{Z^2(PQ)}{E^2}$$

Where n= sample size

P= percentage of positive response

q = percentage of negative response

Z= level of confidence

Z= (1.96)

e = 0.05

n= ?

$$n = \frac{(1.96)^2\ (0.9)\ (0.1)}$$

$$n=\frac{3.841(0.09)}{(0.05)^2}$$

$$n=\frac{3.841(0.09)}{0.0025}$$

$$n=\frac{0.34569}{0.0025}$$

$$=138.$$

Therefore, the researcher administered 138 copies of questionnaires to the airline passengers that were involved in data collection for this research.

For the purpose of this current research, primary data is the most appropriate and it was collected specifically fors the study (Saunders et al., 2009) from airline passengers in Port Harcourt, Rivers State. The instrument used in this study is a structured questionnaire. The questionnaire is divided into six (6) sections (section A-F) containing twenty-three (23) items in all. Section A has six (6) questions on the demographics characteristics of the participating airline passengers in Port Harcourt. In section B-E, twelve (12) items making it three (3) items each for the four dimensions of e-service quality (accessibility, security, information quality and service reliability). Section F has five (5) items for e-passenger satisfaction. A 5-point Likert measurement scale will be used in weighting the responses. For the questionnaire in this study, all the variables (accessibility, security, information quality, service reliability and e-passenger satisfaction) were measured using ordinal scale; using a 5-point Likert scale format(5 = Strongly Agree, 4 = Agree, 3 = Undecided, 2 = Disagree, 1 = Strongly Disagree). The Likert-type scale of measuring variables was chosen because it is easy to construct, takes much less time and is considered more reliable (Kothari, 2017).

In this study, e-service quality is the predictor variable which was operationalized using accessibility, security, information quality, and service reliability (adapted from Narteh, 2013; Swaid, & Wigand, 2009). The dependent variable of e-passenger satisfaction was measured in line with items adapted from Ryu , Lee and Kim, (2012) and Lim (2010).

The research instrument was subjected to face and content validity which were certified by the supervisor. Reliability of the instrument was tested using Cronbach Alpha test with a threshold of 0.7. This facilitated the necessary revision and modification of the research instrument. Nunnally and Bernstein, (1994) provided and accepted 0.70 benchmark for measuring instruments using Cronbach Alpha. On this note, Cronbach Alpha test was used to determine the reliability of the instruments aided by Statistical Package for Social Sciences (SPSS, 23.0). Table 1 below shows a Chronbach Alpha of .988 which is a good value and thus confirms the reliability of the instrument.

Table 1 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.988	.989	17

Multiple Regression Analysis was employed to determine the magnitude of the effect of the dimensions of e-service quality on e-passenger satisfaction in the airline industry in Port Harcourt assisted by the Statistical Package for the Social Sciences (SPSS) version 23.0.

Analyses and Discussion

Analysis of Questionnaire

Table 2 and Table 3 below are used to analyse the questionnaire in terms of distribution and demographic profile of respondents respectively.

Table 2 Questionnaire Distribution and Retrieval

Questionnaire	Frequency	Percent
Distributed	138	100%
Not retrieved	38	27.54 %
Retrieved	100	72.46 %
Useful response	100	72.46 %
Not used	-	NIL

One hundred and thirty eight questionnaires(138) representing (100%) were administered, one hundred (100) copies (72.46%) were retrieved while 38 copies (27.54%) were not retrieved. The one hundred (100) copies representing 72.46% were all useful and therefore used for statistical analysis. Data collected from respondents were statistically treated as indicated on the table below:

Table 3 Demographic profile of respondents

S/No	Demographic variables	No	Percent
1	**Gender**		
	Male	32	32.00
	Female	68	68.00
	Total	100	100.00
2	**Age**		
	< 20 years	4	4.00
	20 – 29 years	76	76.00
	30 – 39 years	12	12.00
	> 40 years	8	8.00
	Total	100	100.00
3	**Highest Education Qualification**		
	FSCL	-	-
	SSCE/GCC	20	20.00
	HND/B.Sc	68	68.00
	MA/M.Sc/MBA	8	8.00
	Ph.D	4	4.00
	Total	100	100.00
4	**No of years you have patronized the airline**		
	<2yrs	20	20.00
	2-4yrs	56	56.00
	5-8yrs	18	18.00
	9yrs>	6	6.00
	Total	100	100.00

Table 3 above shows the information on demographic profile of respondents. The table shows that 32 respondents (32.00%) were male while 48 respondents (48.00%) were female. This implies that female respondents were of the majority.

The information on age brackets of the respondents in section 2 of Table 3 above shows that 4 respondents (4%) was less than 20 years, 76 respondents (76%) were within 20 – 29 years, 12 respondents (12%) were within 30 – 39 years while 8 respondents (8%) were greater than 40 years. This information shows that majority of the respondents were within 20-29 years.

Section 3 of Table 3 above shows information on the respondents' level of education. They were represented as follows: FSLC (Nil), SSCE/GCE (20) (20%), while HND/B.SC (68) (68%), MA/MSC/MBA (8) (8%) and Ph.D (4)(4%) From the information it shows that respondents with HND/B.Sc are of the majority.

Section five of Table 3 records the number of years you have patronized the airline. The representation are as follows; <2yearas (20)(20%), 2-4years (56)(56%), 5-8years (18)(18%), >9years (6)(6%). From the information it shows that respondents who have worked for 2-4 years are of majority.

Univariate Analysis

The elements in the study were individually analysed with the use of descriptive statistics as shown below:

Table 4. Descriptive statistics on items of accessibility

Descriptive Statistics

	N	Mean	Std. Deviation
If i want to, i could easily contact a customer service representative over the phone	100	4.2200	.64479
The airline's website showed its street and email addresses, and phone numbers	100	4.2400	.68343
Fore more information, I could turn to the internet, airline's chat room, bulletin boards, or others	100	4.2600	.69078
Valid N (listwise)	100		

Information on Table 4 above indicates the statistical result of accessibility of airline online services studied in Port Harcourt, Rivers State through the application of descriptive statistics with Statistical Package for Social Science (SPSS). All the mean scores on the items were greater than 3.9. This is an indication that respondents generally agreed on the items concerning how easy it is to access the airlines online. The implication being that the passengers finds it easy to contact the airlines' representatives online. The airlines' addresses are also available on the website. The standard deviations were quite low indicating that the responses were not far from each other. The grand mean of 3.9 > 3.0 is the required mean of a five point Likert scale.

Table 5 Descriptive statistics on items of security

Descriptive Statistics

	N	Mean	Std. Deviation
The website has adequate secured features to protect customers' information	100	4.3400	.68490
The airline will not give customers information to their sites	100	4.2400	.71237
The airlines makes full confirmation of on-line payments	100	4.5000	.57735
Valid N (listwise)	100		

Information on Table 5 above indicates the statistical result of security of airline online services studied in Port Harcourt, Rivers State through the application of descriptive statistics with Statistical Package for Social Science (SPSS). All the three items were greater than 3.9. This is an indication that respondents generally agreed on the items concerning the fact that the airlines' websites tend to have security features that gives the passengers (customers) the confidence to transact online. With a mean score of 4.5, the customers also confirmed that the airlines usually confirm every payment made. The standard deviations were quite low indicating that the responses were not far from each other. The grand mean of 3.9 > 3.0 is the required mean of a five point Likert scale.

Table 6 Descriptive statistics on items of information quality

Descriptive Statistics

	N	Mean	Std. Deviation
Information provided by this airline online is very accurate	100	4.3000	.57735
Information provided by this airline online is very concise	100	4.2200	.64479
The website of the airline has updated service information	100	4.1800	.65721
Valid N (listwise)	100		

Information on Table 6 above indicates the statistical result of information quality of airline services studied in Port Harcourt, Rivers State through the application of descriptive statistics with Statistical Package for Social Science (SPSS). All the mean scores on the items were greater than 3.9. This is an indication that respondents generally agreed on the items concerning the airline website having accurate and concise information necessary to enable purchase decisions. The standard deviations were quite low indicating that the responses were not far from each other. The grand mean of 3.9 > 3.0 is the required mean of a five point Likert scale.

Table 7 Descriptive statistics on items of service reliability

Descriptive Statistics

	N	Mean	Std. Deviation
The billing process was accurately handled and its records were kept accurately	100	4.2600	.56174
When the airline promised to email or call me by a certain time, it did so	100	4.2600	.74698
online service are delivered as promised	100	4.1800	.65721
Valid N (listwise)	100		

Information on Table 7 above indicates the statistical result of service reliability of airline services studied in Port Harcourt, Rivers State through the application of descriptive statistics with Statistical Package for Social Science (SPSS). All the mean scores on the items were greater than 3.9. This is an indication that respondents generally agreed on the items concerning the airline making strong impression on them in terms of delivering online services as promised. The standard deviations were quite low indicating that the responses were not far from each other. The grand mean of 3.9 > 3.0 is the required mean of a five point Likert scale.

Table 8 Descriptive statistics on items of e-customer satisfaction

Descriptive Statistics

	N	Mean	Std. Deviation
Online services of my preferred airline meet my expectations	100	4.3600	.68931
With this airline, I have good experience online	100	4.4800	.57700
I am satisfied with the service of this airline	100	4.1000	.54123
I consider myself to be a loyal patron of my preferred airline	100	4.0600	.76303
I will continue to patronize the preferred airline even if it increases its price	100	3.7000	.94815
Valid N (listwise)	100		

Information on Table 8 above indicates the statistical result of e-passenger satisfaction with airline brands studied in Port Harcourt, Rivers State through the application of descriptive statistics with Statistical Package for Social Science (SPSS). All the mean scores were greater than 3.9, except one item. This is an indication that respondents generally agreed on the items concerning their level of

satisfaction with the airline brands in terms of e-services offered to customers. The standard deviations were quite low indicating that the responses were not far from each other. The grand mean of 3.9 > 3.0 is the required mean of a five point Likert scale. The descriptive results implies that the online services of the airlines met the expectations of the airline passengers.

Test of Hypotheses

Multiple Regression Analysis

DECISION RULE

If PV < 0.05 = Reject Ho

PV >0.05 = Accept Ho

Table 9-11 Multiple Regression Analysis showing the effect of e-service quality dimensions on e-service quality

Table 9 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.846[a]	.716	.704	.51549

a. Predictors: (Constant), Service Reliability, Security, Accessibility, Information Quality

Table 10 ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	63.756	4	15.939	59.982	.000[b]
	Residual	25.244	95	.266		
	Total	89.000	99			

a. Dependent Variable: E-Customer Satisfaction

b. Predictors: (Constant), Service Reliability, Security, Accessibility, Information Quality

Table 11 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.593	.403		-3.949	.000
	Accessibility	.676	.208	.460	3.246	.002
	Security	.726	.155	.525	4.686	.000
	Information Quality	-.428	.313	-.261	-1.370	.004
	Service Reliability	.265	.288	.157	.919	.030

a. Dependent Variable: E-Customer Satisfaction

For this study, regression analysis was performed to predict the level of passengers' brand engagement based on four independent factors of brand experience. The four independent factors/dimensions of

brand experience are: sensory experience, affective experience, behavioural experience and intellectual experience.

The Table 9 shows that R is .846, R Square is .716 and adjusted R square is .704. This is an indication that 71.6% of the variance in e-customer satisfaction can be explained by the changes in independent variables of e-service quality. As a general rule, this model is considered as a 'good fit' as this, multiple regression model is able to explain above 60% (threshold) of variance in the dependent variable: e-customer satisfaction (Moosa & Hassan, 2015). The ANOVA Test in Table 10 shows that F = 59.982 & *pv*=.000< 0.05., indicating significant relationship between the e-service quality and e-customer satisfaction.

The result of the regression analysis shows that all the four indicators of e-service quality in influencing e-passenger satisfaction all made significant contribution to explaining the dependent variable (Table 11). The four significant factors are: security (SEC) (*B*=.726; *p*=.000 < 0.05) and accessibility (ACC) (*B*=.676; *p*=.002 < 0.05); information quality (IFQ) (*B*=.428; *p*=.004 < 0.05) and service reliability (SER) (*B*=.265; *p*=.030 < 0.05) respectively.

Therefore the model can be written as:

E-Passenger Satisfaction = 0.726(SEC) + .676(ACC) +0.428 (IFQ) + 0.265 (SER) -1.593

The model suggest that by associating any of the four dimensions of e-service quality with the airline brand, the empirical model can increase the level of e-satisfaction of the airline passengers when other things remain constant. Thus, the model suggest that changes in security of the airlines' operations can have the biggest influence on level of e-passenger satisfaction as its beta co-efficient (*B*=.726) is the highest and significant, followed by accessibility (*B*=.676), information quality (*B*=.428), and service reliability (*B*=.265).

Testing of hypotheses 1, 2,3 and 4

Decision Rule

If PV < 0.05 = Hypothesis is supported

PV > 0.05 = Hypothesis is not supported

Hypotheses 1

Effect of accessibility on e-passenger satisfaction

HO_1: Accessibility does not have positive and significant effect on e-passenger satisfaction

HA_1: Accessibility has positive and significant effect on e-passenger satisfaction

The result of the regression analysis (Table 11) shows that accessibility made positive and significant contribution to explaining the dependent variable (*B*=.676; *p*=.002 < 0.05). Based on this result, the null hypothesis is rejected. It means therefore that accessibility has positive and significant effect on e-passenger satisfaction. Accordingly therefore, we reject the null hypothesis and accept the alternative hypothesis.

HA_1: Accessibility has positive and significant effect on e-passenger satisfaction

Hypotheses 2

Effect of security on e-passenger satisfaction

HO_2: Security does not have positive and significant effect on e-passenger satisfaction

HA_2: Security has positive and significant effect on e-passenger satisfaction

The result of the regression analysis (Table 11) shows that security made positive and significant contribution to explaining the dependent variable (B=.726; p=.000 < 0.05). Based on this result, the null hypothesis is rejected. It means therefore that security has positive and significant effect on e-passenger satisfaction. Accordingly therefore, we reject the null hypothesis and accept the alternative hypothesis.

HA_2: Security has positive and significant effect on e-passenger satisfaction

Hypotheses 3

Effect of Information quality on e-passenger satisfaction

HO_3: Information quality does not have positive and significant effect on e-passenger satisfaction

HA_3: Information quality has positive and significant effect on e-passenger satisfaction

The result of the regression analysis (Table 11) shows that information quality made positive and significant contribution to explaining the dependent variable (B= -.428; p=.004> 0.05). Based on this result, the null hypothesis is rejected. It means therefore that information quality has positive and significant effect on e-passenger satisfaction. Accordingly therefore, we reject the null hypothesis and accept the alternative hypothesis.

HA_3: Information quality has positive and significant effect on e-passenger satisfaction

Hypotheses 4

Effect of service reliability on e-passenger satisfaction

HO_4: Service Reliability does not have positive and significant effect on e-passenger satisfaction

HA_4: Service Reliability has positive and significant effect on e-passenger satisfaction

The result of the regression analysis (Table 11) shows that service reliability made positive and significant contribution to explaining the dependent variable (B=.265; p=.030 < 0.05). Based on this result, the null hypothesis is rejected. It means therefore that service reliability has positive and insignificant effect on e-passenger satisfaction. Accordingly therefore, we accept the null hypothesis.

HA_4: Service Reliability has positive and significant effect on e-passenger satisfaction

Discussion of Findings

This section discusses the findings of the study. It indicates how this study and previous studies are related or differ in certain perspectives.

Effect of accessibility on e-passenger satisfaction

The findings of this study show that accessibility has great influence on e-passenger satisfaction in the airline industry in Rivers State, Nigeria (B=.676; p=.002 < 0.05). The result is consistent with previous studies such as Patwary, 2020). It should be emphasised that despite how beautiful a website is, if it is not easy for customers to access, it is of no marketing value.

Effect of security on e-passenger satisfaction

The findings of this study show that security has great influence on e-passenger satisfaction in the airline industry in Rivers State, Nigeria (B=.726; p=.000 < 0.05). The result is consistent with previous studies (such as Chaang-Iuan & Yi-Ling 2007; Paulo, et al 2019). Online security is very important

factor when customers consider online transactions. This is because there is need for the organisations concerned to ensure that while customers are transacting, their personal data is protected from hackers.

Effect of information quality on e-passenger satisfaction

The findings of this study show that information quality has great influence on e-passenger satisfaction in the airline industry in Rivers State, Nigeria (B=-.428; p=.004 < 0.05). The result is consistent with previous studies (such as Chaang-Iuan & Yi-Ling 2007; Paulo, et al 2019). Accurate and concise information is necessary for customers to make online purchase decisions. It is expected that airline make appropriate information available on their website to enable online transactions since someone may not be readily available to explain meaning of information that are not clear to the understanding of the customers.

Effect of service reliability on e-passenger satisfaction

The findings of this study show that service reliability has less influence on e-passenger satisfaction in the airline industry in Rivers State, Nigeria as the effect was negative and insignificant (B=.265; p=.030 > 0.05). The result is consistent with Al-Hawary, and Al-Smeran, (2017) and Li, et al (2009). Online services should be reliable so as to earn the trust and confidence of customers.

Conclusion

Overall, this study examined the effect of e-service quality on e-passenger satisfaction in the airline industry. The results of the empirical analyses have revealed that accessibility, security, information quality and service reliability are very important determinants of e-satisfaction of airline passengers in the tourism industry. It is believed that these findings are very important to both academic researchers and tourism service practitioners with regard to satisfaction of travellers towards e-transactions. The study therefore concludes that acquiring robust e-business infrastructure is essential for tourism service providers like airlines that want to enhance e-passenger satisfaction.

Recommendations

i. The finding showed that accessibility had positive and significant effect on e-passenger satisfaction. To enhance or sustain the loyalty of airline passengers, towards e-transaction process, the airline owners/managers should ensure that the websites are readily available 24/7 to enhance real time processing of the documentations/transactions and or enquires required. This recommendation implies that that the owners of airlines should ensure that a dedicated staff is assigned with the responsibility for on-line requests for e-reservations for the airline brand. Being a global trade means that airline services in the context of transactions (such as e-reservation) should be on real time
ii. Security had positive and significant e-passenger satisfaction. It is recommended that to sustain e-passenger satisfaction, airline owners/managers should ensure the security of the payment platform adopted. This is to enhance the confidence of airline passengers especially in the area of their personal data.
iii. Information quality had negative and significant effect on e-passenger satisfaction. To enhance e-passenger satisfaction therefore, the website should be enriched with quality and appropriate information that will enable tourists/travellers to take purchase decisions. The owners/managers

of airlines should take advantage of the e-business revolution by investing in it in order not to lose customers to competitors.

iv. Service reliability had positive and significant effect on e-passenger satisfaction. It is recommended that, to elicit e-passenger satisfaction, airline owners/managers should employ competent staff that are ICT compliant. This will ensure that quality e-service is delivered to airline passengers. Appropriate training and development programmes should be initiated to update the skills of the service employees.

Contribution to knowledge

The study provides an example of using the dimensions of e-service quality to investigate the level of e-passenger satisfaction in the context of a developing country Nigeria. Another major contribution to knowledge is that the empirical research effort captured four principal dimensions of e-service quality (accessibility, security, information quality and service reliability) in a single model.

Suggestions for Further Study

The research had some limitations;

(i) Only airlines operating in Port Harcourt and in the tourism industry of the economy were studied. Other airlines operating in other states of Nigeria should be studied in future.

(ii) It studied the influence of only four dimensions of e-service quality, other dimensions should be investigated in future studies.

(iii) It is expected that future research should broaden the organisational scope to include other sectors of the tourism industry such as hotels.

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