IN-FLIGHT SERVICES AND CUSTOMER PATRONAGE OF DOMESTIC AIRLINES IN NIGERIA

Obabuike Ikeni NKPURUKWE, Ph.D
Department of Business Administration, Faculty of Management Sciences, Federal University Wukari, Taraba State, Nigeria
obason@ymail.om

Kefas Samuila TUNGKIR,
Department of Business Administration, Federal University Wukari, Taraba State, Nigeria
200Km Katsina-Ala Road, P.M.B. 1020, Wukari, Taraba State, Nigeria
kefastungkir@yahoo.com

Emmanuel NWOKAH, Ph.D
Department of Business Administration,
Federal University Wukari, Taraba State, Nigeria

Jeremiah Iwasen MZUGHULGA,
Department of Industrial Economics and Management, Faculty of Business Informatics and Integrated Systems Management, National Research Nuclear University MEPhI, Russia
jeremiahiwasenmzughulga@gmail.com

Abstract

This study examines the impact of in-flight services on customer patronage of domestic airlines in Nigeria, focusing on cabin comfort, in-flight entertainment, and food and beverage services. As the aviation industry becomes increasingly competitive, airlines must enhance service quality to meet evolving passenger expectations. Using a descriptive research design, the study used a population of 300 through which data was collected from 171 respondents determined using Taro Yamene's formula through structured questionnaires and analyzed using regression analysis inputted on Statistical Package for Social Sciences (SPSS). The findings reveal that cabin comfort has the strongest influence on customer patronage (B = 0.713, p < 0.001), followed by in-flight entertainment (B = 0.523, p < 0.001), while food and beverage services (B = 0.372, p < 0.001), though significant, have the least impact. The study concludes that passenger experience is a key determinant of airline competitiveness, with comfort and entertainment being more influential than meal quality, particularly for short-haul domestic flights. Airlines should prioritize seating ergonomics, expand entertainment options, and improve meal diversity to enhance customer satisfaction and loyalty. Future research should explore the role of digital innovation and artificial intelligence in optimizing in-flight service delivery.

Keywords: In-flight services, customer patronage, cabin comfort, in-flight entertainment, food and beverage services

1.   Introduction

The quality of in-flight services plays a crucial role in shaping passengers' overall travel experiences and influencing airline competitiveness. As global air travel continues to expand, airlines are increasingly focused on enhancing service delivery to meet passengers' evolving expectations. The aviation industry has made significant strides in enhancing in-flight services,

focusing on passenger comfort, entertainment, and connectivity. However, several challenges persist on both local and global scale (Njoroge & Samunderu, 2021).

Food and beverage services are essential in ensuring passenger satisfaction, particularly on long-haul flights. The quality, variety, and availability of meals and drinks directly impact passengers' comfort and perception of airline service standards (Han et al., 2019). A well-curated meal service can enhance the in-flight experience, catering to diverse dietary preferences and cultural expectations. However, challenges such as limited meal options, food freshness, and inconsistent service delivery remain key concerns for passengers (Nkpurukwe et al., 2024).

Similarly, in-flight entertainment has become a critical component of modern air travel, helping to alleviate boredom and enhance passenger engagement. Passengers increasingly expect seamless digital experiences, including access to live streaming, gaming, and personalized content. However, inconsistent Wi-Fi connectivity and outdated entertainment systems continue to pose challenges for many airlines (Cook & Billig, 2023).

Another fundamental aspect of in-flight service is cabin comfort, which affects passengers' physical and psychological well-being during air travel. Factors such as seat design, legroom, cabin temperature, noise levels, and overall cleanliness contribute to passenger comfort and satisfaction (Budd & Ison, 2017).

Airline service quality plays a crucial role in influencing customer satisfaction and patronage. Despite advancements in aviation technology and service delivery, many airlines continue to face challenges in meeting customer expectations in terms of cabin comfort, in-flight entertainment and food and beverages services, leading to fluctuating levels of patronage and customer retention. Cabin comfort, which includes seating arrangements, legroom, cabin cleanliness, temperature control, and noise levels, significantly affects passenger satisfaction, particularly on long-haul flights. However, some airlines struggle to provide a consistently comfortable experience due to cost constraints; aircraft design limitations, or failure to align services with customer preferences. More so, in-flight entertainment, encompassing audiovisual content, internet connectivity, and interactive features, has become a key differentiator in the airline industry. Yet, some airlines fail to offer engaging, high-quality, or personalized content, leading to reduced customer satisfaction, especially among younger and business travelers who expect seamless digital experiences. Similarly, food and beverage services are a fundamental aspect of the in-flight experience, influencing both perceived value and overall satisfaction. Passengers often express concerns about meal variety, dietary accommodations, freshness, and quality, which can impact their likelihood of choosing a particular airline for future travel. Inadequate menu options, poor meal presentation, and limited beverage choices further contribute to negative experiences, particularly for long-haul travelers who rely on these services for comfort and satisfaction. Therefore, this study seeks to investigate the extent to which these service elements influence airline customer patronage and propose recommendations for improving service delivery in the aviation sector.

2.   Conceptual Framework
The Concept of In-flight Services

In the highly competitive airline industry, in-flight services play a crucial role in shaping passenger experience, satisfaction, and loyalty. Airlines strive to differentiate themselves through the quality of services offered during flights, as these services significantly influence customer perceptions and patronage decisions (Chen & Chao, 2015). Airline passenger satisfaction and behavioral intentions depend significantly on in-flight services because these services form a vital component of airline quality. The analysis demonstrates seat comfort especially seat width prominence as the

most vital element for service quality perceptions (Sebjan et al., 2017). Airlines can enhance their services by implementing service blueprints from passenger reviews to restructure processes and lower complexity while expanding diverse service areas (Nam et al., 2018).

Key factors affecting passenger satisfaction include tangibility, language skills, food, and baggage facilities, with significant differences observed in cabin cleanliness, employee communication, and meal options among various traveler types (Arora et al., 2020). Additionally, personalizing in-flight meal services based on passengers' personality traits, such as neophobia and variety-seeking tendencies, can enhance the overall experience. Researchers and industry experts typically categorize in-flight services into multiple dimensions, which may include the followings:

CABIN COMFORT

In the Nigerian aviation sector, cabin comfort is a critical dimension of in-flight services, profoundly influencing passenger satisfaction and loyalty. This encompasses factors such as seating quality, legroom, cabin cleanliness, temperature control, and noise levels. Adequate seating arrangements and sufficient legroom are fundamental to passenger comfort. Studies have shown that passengers prioritize seating comfort and space, which directly impact their overall satisfaction and choice of airline. Ayantoyinbo and Boye (2015) indicate that limited legroom and uncomfortable seating can lead to passenger dissatisfaction, affecting their willingness to repurchase tickets from the same airline.

Maintaining a clean cabin environment is crucial for passenger health and comfort. Nwaogbe et al. (2021) emphasize that cleanliness significantly affects passengers' perceptions of service quality. Their study reveals that passengers expect high standards of hygiene, and any deviation can result in negative evaluations of the airline's overall service. More so, effective temperature regulation and noise minimization contribute significantly to in-flight comfort. While specific studies focusing on Nigerian airlines are limited, general aviation research suggests that passengers are sensitive to cabin environment factors. Inadequate temperature control and high noise levels can lead to discomfort, thereby diminishing the travel experience. Airlines are encouraged to invest in modern aircraft equipped with advanced climate control systems and noise-reducing technologies to meet these standards.

Furthermore, the Nigerian Civil Aviation Authority (NCAA) plays a vital role in overseeing and enforcing standards related to cabin comfort. This includes certifying and monitoring airlines to ensure compliance with established comfort and safety regulations. Additionally, the training of cabin crew is essential in maintaining and enhancing cabin comfort. Institutions like the Nigeria College of Aviation Technology (NCAT) offer comprehensive training programs for flight attendants, focusing on passenger comfort and safety.

Enhanced cabin comfort leads to higher satisfaction levels, increasing the likelihood of repeat customers (Liu et al., 2019). Conversely, some passengers may prioritize cost over comfort, leading to a preference for budget airlines despite potential discomfort. This highlights the complexity of customer preferences in the airline industry.

Importance of Cabin Comfort in Airline Operations

Cabin comfort plays a crucial role in **airline operations,** influencing passenger satisfaction, loyalty, and overall business performance. Airlines that prioritize cabin comfort gain a competitive advantage by enhancing the travel experience and fostering customer retention. The key importance of cabin comfort in airline operations includes:

1. **Enhancing Passenger Satisfaction and Experience:** Cabin comfort significantly impacts passenger perception of service quality (Nwaogbe et al., 2021). Comfortable seating, sufficient legroom, noise reduction, and optimal temperature control contribute to a pleasant travel experience, reducing fatigue and stress, particularly on long-haul flights (Kim & Lee, 2021). Satisfied passengers are more likely to provide positive reviews and recommend the airline to others.

2. **Increasing Customer Loyalty and Repeat Patronage:** Airlines that offer superior cabin comfort tend to retain customers and attract repeat travelers. According to Eshaghi et al. (2024), passenger comfort is a major determinant of airline loyalty, influencing the likelihood of repeat bookings. Frequent travelers prioritize comfort when selecting airlines, making it a key factor in customer retention strategies.

3. **Gaining a Competitive Advantage:** In an industry where airlines compete for market share, cabin comfort serves as a differentiating factor. A research by Albayrak et al. (2020) highlight that airlines with better cabin comfort outperform competitors in customer preference. Business-class and premium economy passengers, in particular, consider seat comfort, legroom, and cabin environment when choosing airlines.

4. **Reducing Passenger Complaints and Negative Feedback:** Poor cabin comfort often leads to customer dissatisfaction, complaints, and negative reviews, which can damage an airline's reputation (Ayantoyinbo & Boye, 2015). Airlines with uncomfortable seating, poor hygiene, and inadequate temperature control receive lower service ratings, negatively impacting their brand image.

FOOD AND BEVERAGE SERVICES

The provision of food and beverages serves as a vital element to improve total passenger quality and flight satisfaction. High-quality in-flight food and beverage services are essential for passenger satisfaction, as evidenced by studies showing a direct correlation between meal qualities and re-flying intentions (Shehata, 2025). The author identified factors such as core meal quality, external presentation, and delivery methods as factors that contribute to the customer's satisfaction level. As a key dimension of in-flight services, meal offerings contribute to customer perceptions of service quality, influencing their loyalty and airline choice (Lau et al., 2016). The importance of food and beverage services extends beyond sustenance, as they also impact brand differentiation, passenger well-being, and cultural inclusivity.

Key Factors Influencing Food and Beverage Service Quality
Meal Presentation and Packaging: The visual appeal of in-flight meals influences passenger perceptions of quality. Airlines invest in aesthetically pleasing presentation, sustainable packaging, and ergonomic meal trays to enhance customer experience (Nkpurukwe et al., 2024).
Timing and Frequency of Meal Service: Proper meal scheduling ensures that passengers receive food at appropriate intervals, avoiding hunger or discomfort. Airlines design meal schedules based on flight duration, time zones, and passenger needs (Albayrak et al., 2020).
Use of Technology in Meal Customization: Some airlines incorporate pre-flight meal selection systems, allowing passengers to choose their preferred meals in advance. Digital ordering and AI-

driven meal personalization improve service efficiency and passenger satisfaction (Lau et al., 2016).

Sustainability and Waste Reduction: Many airlines are adopting sustainable catering practices by using organic ingredients, biodegradable packaging, and minimizing food waste (Chodor, (2024). Sustainable meal services align with airline corporate social responsibility (CSR) efforts and appeal to environmentally conscious passengers.

Challenges in In-Flight Food and Beverage Services
The logistical challenges alongside storage constraints represent a major issue for performing food and beverage services during flights. Unlike restaurants, airlines must prepare and store meals under strict safety and refrigeration guidelines. Maintaining food quality during long flights remains a challenge (Razman et al., 2024). More so, airlines must balance meal quality with cost efficiency.

Furthermore, passengers from different cultural backgrounds have varying food expectations. Airlines operating across multiple regions must adapt their menus to satisfy international travelers while maintaining operational efficiency (Hussein et al., 2023). This also affects the service experience of customers. Customers who are not exposed to the western world, often fails to appreciate the food combinations often offered by cabin crew.

IN-FLIGHT ENTERTAINMENT
In-flight entertainment (IFE) has evolved significantly, enhancing passenger experience during air travel. Initially introduced in 1921, IFE now encompasses a variety of media, including movies, TV shows, and music, aimed at alleviating boredom and discomfort during flights (Sui, 2022). Airline passengers enjoy better experiences and satisfaction through in-flight entertainment systems known as IFE. It includes various audio-visual content, connectivity options, and interactive features that keep travelers engaged during flights. In Nigeria, where air travel is a growing sector, IFE is increasingly becoming a competitive differentiator among airlines striving to improve customer satisfaction and loyalty (Nwaogbe et al., 2021).

Modern IFE systems utilize wireless networks to provide personalized content, improving accessibility and user experience (Liu et al., 2020). The design and development of IFE systems now incorporate aerospace norms and standards, with new features such as camera modifications enabling passenger cooperation (Leonard et al., 2017).
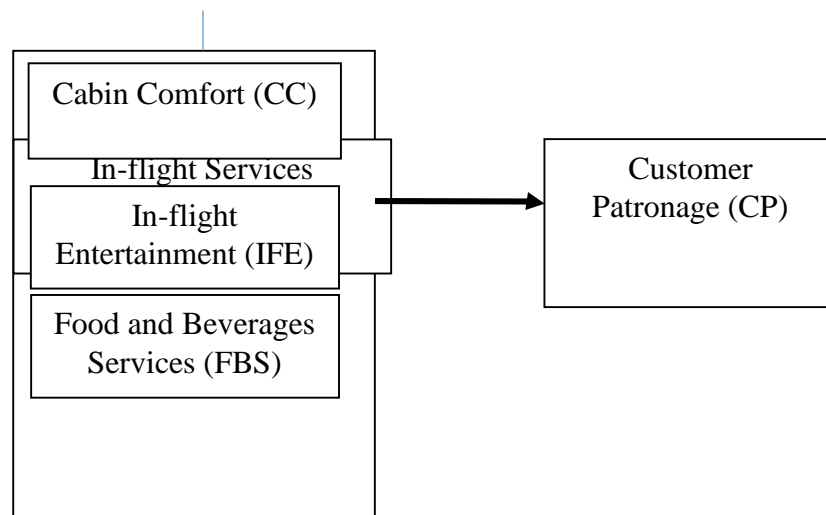
CUSTOMER PATRONAGE
The willingness of customers to use airline services depends heavily on service excellence along with their experience and the relationship they share with the airline. Mostert et al., (2019) opined that service failures accompanied by recovery measures impact customer satisfaction to a great extent while determining future patronage. Higher customer satisfaction leads airlines to gain more travel customers through positive spread of information which results in increased traffic and public trust.

Kotler and Keller (2016) expressed that price as an essential choice factor that drives customer decisions particularly in aviation's competitive business environment. The study showed pricing approaches directly control customer loyalty particularly within price-conscious consumer groups. Profit increases for airline operators which deliver services that match customer satisfaction levels compared to businesses that fail to meet these expectations (Nkpurukwe et al., 2024).

Chang and Yeh (2012) highlighted the role of customer satisfaction in shaping repeat patronage. They found that a positive travel experience including easy booking processes, seamless check-in, and courteous staff has a lasting effect on customer loyalty. The researchers established that satisfaction levels mediate how service quality perceptions drive customer loyalty. Dimyati and Subagio (2018) demonstrate how customer trust functions as the key intermediary between satisfying customers and developing commitment as they build enduring business relationships. A business earns customer commitment through trust because satisfied customers view the company as reliable and honest and competent so they establish long-term intentions to the brand.

The Nigerian airline industry under digital service operations heavily relies on online interactions as the primary customer-company contact point. Insecure customers tend to lose trust when websites offer poor usability and accessibility solutions since they face difficulty validating payments and accessing required flight details. Airline websites build trust by providing user-friendly interfaces that guarantee smooth transactions and transparent system security which results in secure online interactions.

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│  ┌──────────────────────────┐           │
│  │   Cabin Comfort (CC)     │           │
│  └──────────────────────────┘           │          ┌────────────────────┐
│    In-flight Services                   │          │     Customer       │
│  ┌──────────────────────────┐           │  ───────▶│  Patronage (CP)    │
│  │     In-flight            │           │          │                    │
│  │  Entertainment (IFE)     │           │          └────────────────────┘
│  └──────────────────────────┘           │
│  ┌──────────────────────────┐           │
│  │   Food and Beverages     │           │
│  │     Services (FBS)       │           │
│  └──────────────────────────┘           │
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Source: Nkpurukwe, et al. 2024; Shehata, et al 2025.

THEORETICAL FRAMEWORK

The study follows the Service Quality Model which is also referred to as the SERQUAL model. In 1988 Parasuraman alongside Zeithaml and Berry created the SERVQUAL (Service Quality) model to provide a measure for service quality by studying customer perceptions and expectations. Haghighat (2017) explains that the five fundamental elements which influence service quality are tangibility, reliability, responsiveness, assurance, and empathy. Service industries worldwide utilize this model to assess customer satisfaction as well as service delivery enhancement.

Assumptions of the Service Quality Model

The service quality model bases its foundation on multiple conceptual principles about service quality combined with customer perception expectations. According to this model service quality emerges from the gap that forms when customer expectations meet actual service performance assessments. Positive gaps indicate satisfaction because customers receive service better than they anticipated yet negative gaps signal dissatisfaction due to inferior service delivery. The model

establishes that customers base their service quality evaluations on five distinct factors (Ganiyu, 2016).

- ❖ *Tangibility* – The physical appearance of facilities, equipment, and staff.
- ❖ *Reliability* – The ability to provide consistent and dependable services.
- ❖ *Responsiveness* – The willingness to assist customers and provide prompt service.
- ❖ *Assurance* – The knowledge, courtesy, and credibility of service personnel.
- ❖ *Empathy* – The extent to which services are personalized and cater to customer needs.

The model further assumes that improving these dimensions leads to higher customer satisfaction and loyalty, which are crucial for business success.

Application of SERVQUAL to Airline Operations in Nigeria

The Nigerian airline industry maintains intense competition among operators including Air Peace, Arik Air, Ibom Air and Dana Air as they compete to capture and hold onto their passenger base. The industry's service quality evaluation and enhancement process benefits from the implementation of the SERVQUAL model.

i.   Tangibility: Nigerian airlines must ensure that aircraft, airport lounges, and staff uniforms are modern and well-maintained. Customers tend to perceive airlines with clean and well-equipped facilities as more professional and reliable.

ii. Reliability: Airlines must consistently adhere to flight schedules, minimize cancellations, and handle baggage efficiently. Frequent flight delays and cancellations in Nigeria have led to customer dissatisfaction, highlighting the need for better operational reliability.

iii. Responsiveness: Airlines need to improve customer service by providing quick responses to inquiries, complaints, and requests. This includes efficient ticketing, baggage handling, and customer support services to enhance passenger experience.

iv. Assurance: Ensuring passenger safety, well-trained flight attendants, and professional conduct from airline staff builds customer confidence. Nigerian airlines must prioritize staff training to improve communication, safety procedures, and customer interaction.

v.   Empathy: Airlines should personalize customer experiences, such as offering flexible booking options, special assistance for disabled passengers, and loyalty programs for frequent flyers. Providing culturally sensitive services that cater to diverse Nigerian passengers can also enhance customer satisfaction.

EMPIRICAL REVIEW

Nkpurukwe, Nwokah, and Abu (2024) investigated the impact of passenger comfort (PC) on customer patronage (CP) through an analysis of in-flight services (IFS) and baggage handling (BH) which influence customer satisfaction (CS) and referrals (R) in their article "Effects of Passenger Comfort on Customer Patronage of Domestic Airlines in Nigeria.". This research utilizes Statistical Package for Social Sciences (SPSS) to evaluate quantitative data obtained from 200 respondents selected through stratified random sampling among 2000 Nigerian domestic airline passengers flying ten different airlines. Strong statistical data shows an intense correlation ($r = 0.721$) between in-flight service quality and passenger satisfaction because passengers feel extremely happy when airlines deliver quality meals alongside enjoyable entertainment and personalized services. The data shows baggage management creates a moderate connection ($r = 0.652$) between its effectiveness and customer satisfaction since well-managed baggage leads to

enhanced passenger services. The analysis shows that when passengers share their reviews with others about their travel experiences in-flight services (r = 0.593) play a significant role in generating referrals to the same extent as baggage handling (r = 0.484) yet at a moderate level. The research establishes that customer comfort factors have a substantial impact on consumer loyalty because all tested statistical relationships prove favorable between the studied variables. The authors advocate airline companies to direct their improvements toward flight comfort and dining quality and entertainment options and personified experiences because these variables significantly impact customer satisfaction and additional endorsements.

Park, Lee, and Nicolau (2020) conducted research on "Understanding the Dynamics of the Quality of Airline Service Attributes: Satisfiers and Dissatisfiers" to examine airline service quality attribute relationships with customer satisfaction ratings. The research groups airline services into two categories according to Herzberg, Mausner, and Snyderman (1959) Two-Factor Theory: satisfiers improve ratings and dissatisfiers reduce them. Online consumer reviews totaling 157,035 were studied through platform analysis to evaluate service quality effects on customer' perception. Research results show the satisfiers of cleanliness and food and beverages and in-flight entertainment act as important drivers for customer satisfaction improvement. The research findings show that customer satisfaction and dissatisfaction depend uniquely on different service attributes of airlines while emphasizing the necessity of customer-oriented marketing strategies in the airline sector. Airline organizations should adopt comprehensive strategies that elevate satisfier standards because this approach improves the passenger journey yet maintains minimal dissatisfaction through effective service fault prevention.

Wang et al. (2021), in their study titled "Assessment Method for Civil Aircraft Cabin Comfort: Contributing Factors, Dissatisfaction Indicators, and Degrees of Influence," explore the role of cabin comfort in airline selection and passenger satisfaction. Using questionnaires distributed to passengers on Chinese airlines, the study develops an assessment model to identify key indicators of cabin comfort dissatisfaction and measure their degree of influence on passenger experience. The findings reveal that five major factors, comprising 36 specific indicators, influence cabin comfort at varying levels. The analysis groups these comfort indicators into three categories based on passenger feedback and dissatisfaction levels which include major discomfort factors along with minor discomfort elements and general comfort factors. The hierarchical structure enables airlines to direct their improvements towards passenger comfort factors which have the greatest impact. The study concludes that a systematic approach to assessing cabin comfort can help airlines enhance passenger experience and loyalty.

3.   Methodology

A descriptive research approach enables the investigation of the link between in-flight service quality and domestic airline patronage dynamics in Nigeria. The selected in-flight service dimensions and their influences on customer patronage receive extensive analysis through this research design. The research program employed 300 participants from employee groups and customer groups across the airline sector. Taro Yamene's approach from 1967 served as the basis for selecting 171 employees and customers through his formula to build unbiased representation. The structured questionnaire functioned as the main instrument for data collection.

Respondents completed surveys through both an online platform and face-to-face meetings to enhance accessibility and participant numbers. An assessment of the instrument's reliability occurred through a Cronbach's Alpha calculation which evaluated the questionnaire's self-

consistency. A reliability coefficient of 0.7 and above was considered acceptable, indicating that the instrument consistently measures the intended variables. Meanwhile, the researcher's supervisor vetted the questionnaire to ensure the validity of the research instrument. The research data was analyzed through Statistical Package for the Social Sciences (SPSS) software version 27. The survey data was summarized through two descriptive analytical methods using mean and standard deviation calculations to view respondent characteristics and opinions. The analysis utilized regression as the inferential method to study relationships between flight services and customer patronage. The study evaluated data significance with a 95% confidence interval whose threshold was set at $p \leq 0.07$. The sample size determination using Taro Yamene formula of 1967 is displayed below.

$$n = \frac{N}{1+N(e)^2}$$

Where

N = Population (300)

E = Tolerance error allowed (0.05)

n = Sampling size (?)

Thus;

$$n = \frac{300}{1+300(0.05)^2}$$

$$n = \frac{300}{1+(300*0.0025)}$$

$$n = \frac{300}{1+0.75}$$

$$n = \frac{300}{1.75}$$

$n \approx 171$

Regression model for study study

The research uses mathematical linear models to depict the behavior of both dependent and independent variables together with their associated coefficient relationships.

$$CP = \beta0 + \beta1 \ (CC) + \beta2 \ (FBS) + \beta3 \ (IFE) + \epsilon$$

Where:

- CP: Customer Patronage
- CC: Cabin Comfort
- FBS: Food and Beverages Services
- IFE: In-flight Entertainment
- $\beta0$: Intercept
- $\beta1, \beta2, \beta3$: Coefficients of regression
  ϵ: Error term

4.   Results

Results indicate that out of 171 distributed questionnaires only 165 respondents returned them back for analysis. The collected questionnaires were valid and completed. Six respondents did not return their questionnaires. The description of investigated variables in this portion includes access to the mean and standard deviation measurements for each variable.

Table 1: Descriptive Statistics

Variables	Mean	Standard Deviation
Cabin Comfort	3.162	0.331

In-Flight Entertainment	3.158	0.308
Food and Beverage Services	3.150	0.363
Customer Patronage	3.254	0.358

Source: Survey Data, 2025

The findings reveal that airline service characteristics receive positive assessments from passengers as Customer Patronage scored 3.254 while Cabin Comfort and In-Flight Entertainment and Food and Beverage Services each scored 3.162 and 3.158 respectively and 3.150. The participants displayed consistent perceptions about how well the service dimensions impact passenger satisfaction through a wide range of low standard deviation rates from 0.308 to 0.363. The analysis suggests a generally positive perception of airline service quality, with customer patronage being the strongest indicator of overall satisfaction. However, there is room for improvement in food and beverage services, as it records the lowest mean score. Airlines might prioritize enhancing in-flight meal quality and variety, while also maintaining focus on improving cabin comfort and entertainment offerings, as these contribute significantly to passenger satisfaction and continued patronage.

Table 2: Regression Result on In-flight services and customer patronage

Model	Unstandardized Coefficients		t	p-value	Collinearity Statistics	
	B	Std. Error			Tolerance	VIF
(Constant)	-.907	.276	-3.294	.001		
Cabin Comfort	.713	.056	12.403	.000	.919	1.083
In-flight Entertainment	.523	.044	6.008	.000	.892	1.115
Food and Beverages Services	.372	.040	5.216	.000	.940	1.058

a. Dependent Variable: Customer Patronage
b. Source: SPSS v27, 2025

The analysis outcomes demonstrate how each independent variable impacts the prediction of Customer Patronage. The baseline value of Customer Patronage would be negative (-0.907) if no predictors were present. A one-unit increase in Cabin Comfort will yield a 0.713 increase in Customer Patronage according to the results (B = 0.713). Among the three variables it exerts the highest predictive power. Research shows that Customer Patronage benefits significantly from In-Flight Entertainment services (B = 0.523). However, In-Flight Entertainment generates effects that are less potent than Cabin Comfort. Among all three predictor variables Food and Beverage Services (B = 0.372) demonstrates a positive effect on Customer Patronage yet produces the lowest coefficient value. The regression model maintains its reliability because the Tolerance values exceed 0.1 and VIF values remain below 10 indicating no multicollinearity issues.

Table 3: ANOVA on in-flight services and customer patronage

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	127.295	3	42.086	24.390	.000b
Residual	36.856	90	.404		

Total	164.151	93				

a. Dependent Variable: customer patronage
b. Predictors: (Constant),   cabin comfort, in-flight entertainment, and food and beverages services.

The ANOVA table confirms that Customer Patronage receives significant predictive power from Cabin Comfort along with In-Flight Entertainment and Food & Beverage Services indicators ($p < 0.001$). The regression model accounts for a significant proportion of variance through its total sum of squares which reaches 164.151. The independent variables account for 127.295 of the total regression sum of squares. Unexplained variation amounts to 36.856 in the residual sum of squares. The model's regression mean square value reaches 42.086 while its calculated F-value of 24.390 indicates statistical significance which proves the independent variables influence Customer Patronage when considered together.

Table 4: Model Summary   of   in-flight services and customer patronage

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	690	.587	.575	.44583	.587	105.382	3	90	.000	1.485

a. Predictors: (Constant), cabin comfort, in-flight entertainment, and food and beverages services.

The model summary indicates a strong positive relationship between Cabin Comfort, In-Flight Entertainment, and Food & Beverage Services and Customer Patronage, with an R^2 value of 0.587. Customer Patronage variance can be explained through these predictors to a degree of 58.7%. After including the number of predictor variables the model reliability stands proved by its adjusted R^2 value of 0.575. The F-statistic value of 105.382 and significant p value < 0.001 show that the independent variables together effectively predict Customer Patronage. A Durbin-Watson statistic value of 1.485 indicates that there is no substantial autocorrelation in the residual values.

Table 5: Summary of Regression Result

Hypothesis	Variables	Beta	t-value	P-Value	Decisions
H01	Cabin Comfort	0.713	12.403	0.000	Rejected
H02	In-flight Entertainment	0.523	6.008	0.000	Rejected
H03	Food and Beverage Services	0.372	5.216	0.000	Rejected

Customer patronage directly corresponds to the extent of cabin comfort experiences. Customer patronage depends heavily on cabin comfort since passengers really value pleasant and enjoyable travel experiences. Research by Wang et al. (2021) shows that cabin comfort together with seating comfort, temperature and noise levels negatively affect passenger satisfaction and airline loyalty. For airlines such as Air Peace and Arik Air in Nigeria, ensuring high levels of cabin comfort including spacious seating, clean cabin environments, and well-regulated in-flight conditions has been instrumental in retaining passengers and enhancing customer experience.

In-flight entertainment demonstrates a clear positive link to customer loyalty because of its essential role in flight entertainment quality. The study confirms existing research such as Park et al., (2020) which showed how in-flight movies with Wi-Fi connection and entertainment platforms impact passenger satisfaction alongside airline choice decisions. For domestic airlines in Nigeria, incorporating diverse and high-quality entertainment options has been a key strategy in improving customer experience, increasing positive reviews, and fostering long-term customer loyalty.

Customer patronage shows a positive relationship with food and beverage services indicating how crucial it is for airlines to provide excellent dining experiences on flights. Nwaogbe et al. (2021) established that passenger satisfaction depends significantly on the quality and variety and presentation of meals according to their research. Offering diverse meals and dietary accommodation and continuous meal service improvements by airlines creates a superior travel experience which results in better customer loyalty and more effective customer recommendation practices. The findings indicate that food and beverage services have the least regression coefficient among the three predictors of customer patronage, suggesting that while it plays a role in passenger satisfaction, it is not as strong a determinant as cabin comfort and in-flight entertainment.

While food and beverages services have a least correlation result, passengers may view food and beverage services as a basic necessity rather than a key factor influencing their choice of airline. Unlike cabin comfort, which directly affects physical well-being, or in-flight entertainment, which enhances engagement during flights, food and beverage services may not be a major deciding factor unless it is exceptionally poor or outstanding. For domestic airlines in Nigeria, many flights are relatively short-haul (typically under two hours). On such routes, passengers may not prioritize meal quality or variety as much as they would on long-haul flights where food plays a more significant role in overall comfort. In contrast, factors like seat comfort and in-flight entertainment become more relevant, even on shorter journeys.

5.   Conclusion and recommendations

This study investigated the impact of in-flight services on customer patronage of domestic airlines in Nigeria. The study focused on the dimensions of in-flight services (cabin comfort, in-flight entertainment, and food and beverages services) on customer patronage. The result and findings from the analysis reviewed that cabin comfort is a major determinant in customer repurchase and loyalty. This means that domestic airlines should focus more on cabin comfort through better seating arrangement, legroom and cabin cleanliness. More so, in-flight entertainment displayed the second highest regression coefficient meaning that the quality of movies, TV shows, and music, aimed at alleviating boredom and discomfort during flights makes the passengers feel more comfortable. On the other hand, while food and beverages services is positively correlated, customers may consider other factors that gives them comfort as suppose to the quality of meal perhaps due to short hauls. Drawing inferences from this conclusion, the study recommended that:

i.   Since cabin comfort has the highest impact on customer patronage, airlines should invest in ergonomic seating, spacious legroom, improved cabin air quality, and noise reduction strategies.

ii.   Given the strong correlation between in-flight entertainment and customer patronage, airlines should modernize their entertainment offerings by introducing Wi-Fi services, personalized streaming options, and interactive content.

iii.   Although food and beverages had the least regression impact, airlines can improve their influence on customer patronage by offering customized meal options, high-quality snacks, and cultural menu choices.

Future research could explore how artificial intelligence (AI), digital self-service options, and smart cabin technologies impact customer satisfaction and loyalty in the Nigerian airline industry.

REFERENCES

Albayrak, T., Karasakal, S., Kocabulut, Ö., & Dursun, A. (2020). Customer loyalty towards travel agency websites: The role of trust and hedonic value. *Journal of Quality Assurance in Hospitality & Tourism, 21*(1), 50-77.

Arora, M., Mittal, S., & Mishra, S. (2020). An empirical research of effect of flight airline services on the satisfaction of operational populace. *International Journal of Technology Transfer and Commercialisation.*

Ayantoyinbo, B. B., & Boye, B. (2015). Preferences for Nigerian domestic passenger airline industry: a conjoint analysis. *European Journal of Logistics Purchasing and Supply Chain Management, 3*(2), 21-27.

Budd, L., & Ison, S. (2017). *Air transport management.* Routledge.

Chang, Y. H., & Yeh, C. H. (2012). A survey analysis of service quality for domestic airlines. *European Journal of Operational Research, 139*(1), 166-177.

Chen, C. F., & Tseng, W. S. (2010). Exploring customer-based airline brand equity: evidence from Taiwan. *Transportation Journal, 49*(1), 24-34.

Chodor, D. (2024). Enhancing well-being in transit.

Cook, G. N., & Billig, B. G. (2023). *Airline operations and management: A management textbook.* Routledge.

Dimyati, M., & Subagio, N. A. (2018). Customer trust as mediator in the creation of customer relationship intention. *Management & Marketing, 13*(1), 710-729.

Eshaghi, M. S., Afshardoost, M., Lohmann, G., & Moyle, B. D. (2024). Drivers and outcomes of airline passenger satisfaction: A meta-analysis. *Journal of the Air Transport Research Society, 3*, 100034.

Ganiyu, R. A. (2016). Perceptions of service quality: An empirical assessment of modified SERVQUAL model among domestic airline carriers in Nigeria. *Acta Universitatis Sapientiae, Economics and Business, 4*(1), 5-31.

Haghighat, N. (2017). Airline service quality evaluation: A review on concepts and models. *Economics, Management and Sustainability, 2*(2), 31-47.

Han, H., Lee, K. S., Chua, B. L., Lee, S., & Kim, W. (2019). Role of airline food quality, price reasonableness, image, satisfaction, and attachment in building re-flying intention. *International Journal of Hospitality Management, 80*, 91-100.

Hussein, M., Dawood, A. E., & Mohamed, M. (2023). The impact of flight catering supply chain practices on food and beverage quality in EgyptAir company. *International Journal of Tourism and Hospitality Management (Print).* https://doi.org/10.21608/ijthm.2023.327227

Kotler, P., Keller, K. L., Brady, M., Goodman, M., & Hansen, T. (2016). *Marketing Management* (3rd ed.). Pearson Higher Ed.

Lau, K. C., Lee, S., & Phau, I. (2023). Motivations, attitudes, and intentions towards luxury dining in airplane-themed restaurants: Moderating roles of desire to fly, desire for luxury and FOMO. *Journal of Hospitality and Tourism Insights, 6*(5), 1967-1989.

Leonard, S., Allison, I. K., & Olszewska, J. I. (2017). Design and test (D&T) of an in-flight entertainment system with camera modification. *2017 IEEE 21st International Conference on Intelligent Engineering Systems (INES), 000151*-000156.

Liu, B., Battigaglia, A., Plummer, C., Bailey, K., Malecki, C., & Watts, C. (2020). Wireless in-flight entertainment system.

Liu, J., Liu, J., Yu, S., & Chu, J. (2019). The passengers' comfort improvement by sitting activity and posture analysis in civil aircraft cabin. *Mathematical Problems in Engineering, 2019*, 1–10. https://doi.org/10.1155/2019/3278215

Mostert, P., Meyer, C. F., & Rensburg, L. R. (2019). The influence of service failure and service recovery on airline passengers' relationships with domestic airlines: An exploratory study. *Southern African Business Review, 13*, 118-140.

Nam, S., Ha, C., & Lee, H. C. (2018). Redesigning in-flight service with service blueprint based on text analysis. *Sustainability, 10*(12), 4492.

Nam, S., Ha, C., & Lee, H. S. (2018). Redesigning in-flight service with service blueprint based on text analysis. *Sustainability.*

Njoroge, S. P., & Samunderu, E. (2021, April). Africa aviation: Challenges and opportunities. In Bode, Umuerri (Eds.): Universities, Entrepreneurship and Enterprise Development in Africa–Conference Proceedings 2020 (pp. 110-133).

Nkpurukwe, O. I., Nwokah, E., & Abu, P. J. (2024). Effects of passenger comfort on customer patronage of domestic airlines in Nigeria. *FULafia International Journal of Business and Allied Studies, 2*(4), 188-204.

Nwaogbe, O. R., Ogwude, I. C., & Pius, A. (2021). Service quality and passenger satisfaction in air transportation in a developing economy: Evidence from Nigeria. *Journal of Aviation Technology and Engineering, 10*(1), 30.

Park, S., Lee, J. S., & Nicolau, J. L. (2020). Understanding the dynamics of the quality of airline service attributes: Satisfiers and dissatisfiers. *Tourism Management, 81*, 104163.

Razman, N., Anang, N. A., Abdullah, R., Ramli, N., Aris, M. M. M., & Zahari, H. (2024). Evaluating domestic passenger satisfaction with in-flight catering services. *Asian Journal of Research in Education and Social Sciences, 6*(S1), 81-91.

Sánchez-Rebull, M. V., Rudchenko, V., & Martín, J. C. (2018). The antecedents and consequences of customer satisfaction in tourism: A systematic literature review. *Tourism and Hospitality Management, 24*(1), 151-183.

Sebjan, U., Tominc, P., & Širec, K. (2017). Multiple conceptual modelling of perceived quality of in-flight airline services. *Promet-Traffic & Transportation, 29*, 311-319.

Shehata, E. A. (2025). The impact of inflight food service quality on passenger satisfaction in Egyptian airlines. *International Journal of Tourism and Hospitality Studies, 0*(0), 0. https://doi.org/10.21608/ijthsx.2024.334010.1126

Sui, Y. (2022). Pleasure while flying: Inflight entertainment as a medium for cultural production and dissemination (pp. 159–167). https://doi.org/10.1007/978-981-19-0641-1_10