

Physical Evidence and Marketing Performance of Commercial Airlines in Nigeria

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Abstract

The main purpose of this study was to determine the extent to which physical evidence affects marketing performance of commercial airlines in Nigeria. Data collected from 110 crew resource managers, aircraft maintenance personnel, pilots, financial accountants, and customer service managers from 29 commercial airlines in Nigeria were analyzed using Pearson's r and stepwise regression statistics. It was found that physical evidence dimensions – ambience, personnel competence, and service systems design affect marketing performance measures – sales growth, market share and profitability of these airlines. We therefore, recommend that for commercial airlines in Nigeria to substantially increase their marketing performance, they should imbibe strategies that are capable of providing air passengers reliable, safe, and comfortable flights. These include very sound aircrafts with attractive ambience, highly experienced and competent staff, and air passenger-friendly service systems design.

Key words: Ambience, marketing performance, personnel competence, physical evidence, service systems design

1. Introduction

Making a trip by air involves a set of complex experiences over a period of hours with many opportunities for the air passengers to be pleased and comfortable, or disappointed, frustrated and infuriated (Berry and Lampo, 2004). Air passengers make decisions on a particular flight to board based, largely on their perceived safety and past experiences with the airline, which in turn depend on the quality of service product provided by the airline. Airline operators increasingly strive to attract, build, and retain customers through the quality of their service product offerings. In this regard, many airline operators invest heavily on innovative, streamlined, and efficient service systems to improve performance and remain in the competition (Olsen, 2005), however, Churchill and Peter (1998) observe that not many of these investors have developed competitive edge over others. In Nigeria, for instance, some airlines have even suffered entropy (e.g., oriented, Barnax, Concorde, ADC, Sossoliso airlines). Perhaps, unable to provide the required service quality, some of these airlines experienced low patronage and abysmal profit margin; and eventually collapsed. This paper recognizes airline business as essentially focusing on marketing service product. Being service organizations, these airlines have product, price, promotion, physical distribution, people, process, and physical evidence as their marketing elements.

One of the characteristics of a service product is its intangibility (Churchill and Peter, 1998; Berkowitz et al, 2000; Lancaster and Massingham, 2001, Brassington and Pettitt, 1999; Kotler and Armstrong 2007).

As potential buyers cannot see, hear, touch, taste, or smell services before purchasing them, marketers try to use communication elements that make benefits tangible and provide confidence in a purchase decision (Churchill and Peter, 1998). As services are perceived to be intangible, they cannot be seen or touched; and consumers cannot examine them before making purchase decisions (Clow and Baack, 2002). Numerous studies have been conducted with the attempt to determine the essential nature of service tangibility (Lovelock and Wirtz, 2007; Berry and Clark 1986). Only a few of them has emphasized the need for a focus on the tangibility aspect of service (Gronroos, 2000; Baker et al 1988; Bitner, 1990), and how it can be used to achieve better marketing performance. The intangibility of services poses some serious challenges for marketing. One is that a potential buyer cannot examine a service before buying it so the marketer must provide cues about the qualities and benefits of the service. Also when there is a fault or mistake in service delivery, it cannot be corrected or taken back. Intangibility has been widely adjudged by many service marketing theorists to be the most critical and unique feature of service (e.g., McDougall and Sweitsinger, 1990; Santos, 2002). Service marketers face significant challenges when it comes to communicating the intangible benefits of a service to their target audience (Mittal, 2002). Consequently scholars have argued on the use of tangible cues to overcome the intangibility and abstractness of most services (Berry, 1980; Legg and Baker, 1987). This is because as service products cannot be displayed, demonstrated, or illustrated, consumers cannot make a prepurchase evaluation of all the characteristics of services (Murray, 1991). Thus, new concepts are necessary if service marketing is to succeed (Shostack, 1977). Hence, the importance of tangibility service product cannot be overemphasized (Stafford, 1996).

This paper is inclined to believe that tangible cues, which are perhaps directly part of the service process, can be brought to focus through the use of physical representation, physical representation strategy uses physical evidence and artifacts of the service (Berry and Clark 1986), which are mostly like to affect patronage. Thus, this study focuses on the link between physical evidence and marketing performance of airline operators in Nigeria.

2. Background Literature

2.1 Marketing Performance

Performance is behavior evaluated in terms of its contribution to goals of the organization (Dalrymple et al, 2004; Johnston and Marshal, 2003). Kokkinaki and Ambler (1999), Ambler and Kokkinaki (1997) and Clark (2000) maintain that sales volume and profitability are among the most frequently used marketing performance measures; included to these is market share (Kohli and Jaworski, 1994). Research has shown that large organizations rely mostly on output performance measures which include sales volume, sales growth, and profitability (Asiegbu et al, 2011); market share (O'Sullivan and Abela, 2007).

This study is on airline operators which are usually large firms, and thus, marketing performance measures were captured as ratings by airlines firms respondents based on a self-assessment of their sales growth, market share and profitability with respect to their competitors' and their previous years'.

2.2 Services Marketing Mix Additional Elements

Definitions of service abound in marketing literature. Services include all economic activities whose output is not a physical product or construction, is generally consumed at the same time it is produced; and provides added value in forms (such as convenience, amusement, timeliness, comfort, or safety, health) that are essentially intangible concerns of its first purchaser (Quinn et al, 1987). Services are economic activities that produce time, place, form, or psychological utilities (Murdick et al, 1990). Services are deeds, processes, and performances (Zeithaml and Bitner, 2000). A service is an intangible product involving a deed, a performance, or an effort that cannot be physically possessed (Lancaster and Massingham, 2001). Services are economic activities offered by one party to another, most commonly employing, time-based performance to bring about result in recipients themselves or in objects or other assets for which purchases have responsibility (Lovelock and Wirtz, 2007). This paper defines a service product as an economic activity though intangible in nature, but can be tangibilized in its delivery with the aim of producing time, place, form, and psychological utilities, that satisfy the goals of both the recipient and provider.

Consumers compare expectations about a service offering to the actual experience with the service (Ozment and Morash, 1994). Such expectations are influenced by word-of-mouth communications, personal needs, past experiences, and promotional activities, while actual experiences are determined by the way an organization delivers its services (Brown and Swartz, 1989). The relative importance of the various dimensions of service quality varies by the type of service (Ostrom and Iacobucci, 1995).

A number of characteristics differentiate service products from physical products. Services are intangible and therefore, more difficult for both the service providers and the customers to measure and evaluate objectively. Intangibility of service therefore refers to the difficulty of communicating the service benefits. Services are perishable and consequently cannot be produced in advance of demand and held in inventory. Services are produced and consumed simultaneously, indicating that either the customer or a possession of the customer is involved in the process while the service is being delivered. Services are also difficult to patent and relatively easy to imitate (Davis and Heineke, 2003). Furthermore, we recognize that there is inconsistency in service delivery. Inconsistency refers to the difficulty of providing the same level of service quality each time a service is purchased. As services depend on experience and competence of people who deliver them, their quality varies with each provider's capabilities and everyday performance.

These unique characteristics of service product require that they must be sold in a way distinctly different from that of physical products. In this regard, Kotler (1997) observes that traditional '4Ps' of marketing often work well for physical products, but suggest that additional elements are required to sell service products. Also, scholars of services marketing (Baron, 1995; Lovelock, 1996) agree that the traditional marketing mix of '4Ps' needs to be extended to '7Ps'. That is service products should involve the conventional 4Ps attributed to the sale of physical product, namely product, price, promotion and physical distribution, and additional '3Ps' – people, process, and physical evidence.

2.2.1 People: This is considered an important element in the sale of service products because of direct contact between customers and frontline employees in marketing services. The people element of services marketing suggests that the selection and training of service staff is a *sine qua non* in overall marketing effort of the service organizations such as airline companies. In addition, it is equally important that these service staff are adequately motivated and rewarded to provide effective customer pleasing interactions. In this regard customer contact staff should exhibit enthusiastic, positive and customer caring attitude.

2.2.2. Process: In services marketing, how the service is delivered is paramount. For example, service system performance determines the length of customer waiting time (Asiegbu et al, 2011). Inseparability, intangibility and inconsistency are important attributes underpinning the process element of services marketing mix. The process element relates to procedures for interacting with customers at the point of contact. To ensure consistency, in service delivery, the process element of the mix should be planned. Again, staff training, motivation and compensation, production schedules, ordering facilities and so on are important considerations in designing the process element of services marketing mix. The process element can be a major way of differentiating a service provider from the competition. Services marketers need to be constantly looking for new service innovations with regard to the process element.

2.2.3 Physical Evidence: The intangibility of service products makes it difficult for consumers to evaluate service offerings, particularly quality and value for money, prior to purchase. Also this intangibility can make it difficult for the marketer to position new service product offerings. In view of this, marketers often need to "tangibilize" the service offering through the way they manage the physical evidence that accompanies the service. Physical evidence includes aspects such as the service provider's building/facilities and staff appearance; other aspects are personal hygiene and uniforms. In addition, promotional materials and branding strategies are all elements of physical evidence that serve to *tangibilize* a service offering to a customer. These physical evidence cues are what potential customers use to evaluate accurately or inaccurately things like service quality.

2.3 Physical Evidence and Marketing Performance

Physical evidence has been defined as the environment in which the service is delivered, when the firm and customer interact and any tangible components that facilitates performance of the service (Zeithaml and Bitner, 2003).

Physical environment includes the appearance of physical structure landscaping, vehicles, interior furnishing, equipment, uniforms, signs, printed materials and other visible cues that provide evidence of service quality. Physical evidence is thus, an element of services marketing mix which enables the consumer to evaluate a firm. As it concerns airline industry, we view physical evidence in terms ambience, personnel competence, and service systems design.

2.3.1 Ambience: Ambience in aviation industry describes the nature of the environment in which the airlines operate including the condition of the aircrafts. The ambience or physical facilities in the departure, arrival, and ticketing places as well as inside the aircrafts must be customer – friendly to elicit continued patronage. How pleasant physical setting are determines the extent of overall customer satisfaction and loyalty (Run and Han, 2010; Stedman, 2003). Smooth take-off and landing, and ambient music tunes in the aircraft, departure and arrival halls, the condition of facilities for use in emergency situations, the provision high standard conveniences, good refreshments, and how they are served the seats and sitting arrangements facilities to allow air passengers have front, side, and rear views of the outside environment in the course of the journey, and neatness of the aircraft are all important contributors to an aircraft ambience. An aircraft ambience, can therefore value to airline travelers by helping to reduce their stress and increase their comfort. We therefore, argue that an airline operator can use aircrafts with welcoming and friendly ambience to elicit patronage of air travelers. Thus, we state our first set of hypotheses as follows:

- H_{a1}: Ambience is significantly associated with sales growth in airline industry in Nigeria.
 H_{a2}: Ambience is significantly associated with market share in airline industry in Nigeria.
 H_{a3}: Ambience is significantly associated with profitability in airline industry in Nigeria.

2.3.2 Personnel Competence: Personnel represent their organizations in exchange and interaction relationships with customers and other stakeholders. They can make service delivery and purchasing more convenient and enjoyable by reducing the time and effort involved. An airline’s personnel can build long-term relationship that benefit both their air travelers and their airlines by handling customer complaints and problems effectively. However, for the airline personnel to be effective, they need to be competent. Competence of an employee is described in terms of the worker’s knowledge, skills, and behavior (Schoonover et al, 2000; McCain et al, 2004; Avilar, 2005; Defloor et al, 2006; Ley et al, 2007; Zeb-Obipi, 2007). An employee competence has been defined as those observable knowledge, skills and behavior which differentiate between superior and other performers in a job context. (Asigbu et al 2012; Asiegbu and Powei, 2012). Airline passengers expect airline personnel such as pilots, engineers, and service staff to be high competent because traveling by air is a high risk movement. For example, air passengers expect the best of performance in terms of effective landing and take-off that exhibit a pilot’s operational dexterity and competence. These can only be achieved with well trained and experienced pilots.

The accuracy of the airline personnel in the use of aircraft facilities assures airline passengers of excellent service and competence of the personnel, which in turn can make the air passengers to be confidence and committed to the airline. Consumer confidence has been found to correlate positively with purchase intention (Oduh et al, 2012). Thus, appearance, age, skills, knowledge, behavior of an aircraft’s personnel are important to the air passengers in evaluating service quality of the airline. The result of such evaluation is most likely to affect an air passenger’s intention to patronize a particular airline. Thus, we state our second set of hypotheses as follows:

- H_{a4}: Personnel competence (PC) is significantly associated with sales growth in airline industry in Nigeria.
 H_{a5}: Personnel competence (PC) is significantly associated with market share in airline industry in Nigeria.
 H_{a6}: Personnel competence (PC) is significantly associated with profitability in airline industry in Nigeria.

2.3.3 Service Systems Design: A system is a set of interrelated and interdependent parts that operate together to achieve a common objective (Kinicki and Williams, 2003). A systems design specifies how the system will accomplish its objective of meeting the needs of its users. Hence, a system’s design consists of activities that produce system specifications satisfying the functional requirements that were developed in the systems analysis process (O’Brien, 2002).

An airline's service systems design specifies functions and tasks to be performed to satisfy the airline passengers. It includes the manner in which these activities are to be performed in a way that positions the airline positively in the minds of the target air travelers. Routine and periodic servicing and maintenance systems of aircraft should be strictly adhered to, if air mishaps are to be avoided or minimized. Service systems design involves a monitoring subsystem that ensures unalloyed compliance to safety standards.

Air passengers are most likely to value hitch-free and stress-free air travel experience. Customers are averse to airlines that are associated with incessant unexplained delays (Asiegbu, 2011), flight cancellations and track record of avoidable air mishaps. Air travelers consider ticketing systems, flight connections, processing time, security checks, booking systems, refunds that accompany flight cancellations and passenger experience management systems of airlines in making decision to board any airline.

We are of the opinion that airlines that incorporate these customer values in their service systems design are most likely to win the confidence, commitment and loyalty of the air travelers. This will most likely reflect in their marketing performance. Hence, we have another set of hypotheses as follows:

H_{a7}: Service systems design is significantly associated with sales growth in airline industry in Nigeria.

H_{a8}: Service systems design is significantly associated with market share in airline industry in Nigeria.

H_{a9}: Service systems design is significantly associated with profitability in airline industry in Nigeria.

3. Methodology

Ontologically, this study took a realist view and a positivist epistemology. It therefore, adopted quantitative research approach and cross-sectional survey research design in a non-contrived setting, where the researchers were not in complete control of the elements of the research. Twenty-nine commercial airlines, operating in Nigeria at February 2012, formed the database of this study. Five copies of the study questionnaire were hand-delivered to each of these airlines to be completed by their crew resource managers, pilots, and maintenance and customer service personnel. In total, one hundred and forty five copies of the questionnaire were administered within three months. However, one hundred and ten copies, representing 75.8 percent, found useable on retrieval were analyzed using Pearson correlation and stepwise regression statistics.

The questionnaire was divided into three sections. Section A, which contains six questions, we meant to identify the participating airlines and the respondents. Section B consists of twenty questions on the three dimensions of physical evidence: ambience – six questions, personnel competence – six questions, and service systems design – eight questions. Section C comprises twenty four questions on measures of marketing performance: sales growth – seven questions, market share – nine questions, and profitability – eight questions.

The validity of our scale measurements were confirmed using a pilot survey of management staff of ten commercial airlines and five specialists in services marketing and business studies. This was in addition to the earlier validity confirmation of marketing performance in previous studies (Ambler and Roberts, 2005; O'Sullivan and Abela, 2007). Using Cronbach's Alpha test, we determined the internal consistency of our study variables. Their reliability coefficients are above 0.70 benchmark, thus, we proceeded with the analyses.

Table 3.1: Reliability Coefficients of Study Variables

S/No	Dimensions/Measures of the study Variables	Number of Items	Number of Cases	Cronbach's Alpha
1.	Physical Evidence	4	110	0.757
2.	Ambience	6	110	0.856
3.	Personnel Competence	6	110	0.829
4.	Service Systems Design	8	110	0.883
5.	Marketing Performance	4	110	0.889
6.	Sales Growth	7	110	0.721
7.	Market share	9	110	0.878
8.	Profitability	8	110	0.709

Source :SPSS Output on Data collected February-May, 2012.

4. Analyses

4.1 Correlation of Physical Evidence Dimensions with Marketing Performance Measures

The dimensions of physical evidence – ambience (A), personnel competence (PC), employee, service systems design (SSD), were correlated against the three measures of marketing performance – sales growth, market share and profitability. The aim was to ascertain if some of the physical evidence dimensions significantly correlated with all or some of these marketing performance measures. The correlation values with their related ρ -values are shown in Table 4.1.

Table 4.1: Pearson Correlations between Physical Evidence Dimensions and Marketing Performance Measures

Physical Evidence Dimensions	Statistic	Marketing Performance Measures		
		Sales Growth	Market Share	Profitability
Ambience (A)	Correlation	0.655	0.733	0.776
	Sig. (2-tailed)	0.000	0.000	0.000
	N	100	110	110
Personnel Competence (PC)	Correlation	0.621	0.746	0.746
	Sig. (2-tailed)	0.000	0.000	0.000
	N	110	110	110
Service Systems Design (SSD)	Correlation	0.629	0.773	0.759
	Sig. (2-tailed)	0.000	0.000	0.000
	N	110	110	110

** Correlation is significant at the 0.01 level (2-tailed)

Based on Cohen and Haliday (1982) classification of Pearson’s, r , we can observe that physical evidence dimensions – ambience, personnel competence and service systems design correlated moderately with sales growth, and highly (or strongly) with both market share and profitability. The ρ -value in each case was $0.000 < 0.01$, indicating that there is one change in hundred (once in hundred times) that are could have selected a sample that shows a relationship where none exists in the population. These relationships are supported by the regression sum of squares in models 3 in Tables shown in Appendices 2, 6, and 8. In those Tables we find that sales growth, model 3 (Appendix 2) has a regression sum of squares 154.397 out of 314.555, representing its ability to explain 49.1 percent (Appendix 1) of the variations in sales growth. Market share, model 3 (Appendix 5) shows 207.837 regression sum of squares out of 302.764, representing the model’s ability to explain 68.6 percent (Appendix 4) of the variations in market share. Profitability, model 3 (Appendix 8) indicates 237.819 out of 338.918 regression sum of squares representing the model’s ability to explain 70.2 percent (Appendix 7) of the variations in profitability.

4.2 Hypotheses on the Influence of Physical Evidence Dimensions on Sales Growth

SPSS output on stepwise regression –coefficients (Appendix 3), summarize the computation of the t-statistics and related p-value for testing the significance of the intercept and β of each of the independent variables in the regression model:

$$\text{Sales growth} = \beta_0 + \beta_a A + \beta_{pc} PC + \beta_{ssd} SSD + \varepsilon \quad \text{-----} \quad \text{Model 1}$$

We tested the null hypothesis that at least one of these coefficients β_a, β_{pc} , and $\beta_{ssd} = 0$.

Where β_a, β_{pc} , and β_{ssd} are ambience, personnel competence, and service systems design coefficients respectively.

As shown in Appendix 3, $\beta_0 = 4.144$, intercept, t sales growth with p-value of 0.000 which is less than $\alpha/2 = t 0.025$. The results of analyses with SPSS are shown in Table 4.2.

Based on our test results, as they are empirically established, we have ample evidence that the intercept β_0 , is significant, and that ambience, personnel competence and service systems design in the regression equation, significantly affect, and are related to sales growth in the regression equation. The resulting model 1 would be thus:

$$\text{Sales growth} = 4.1444 + 0.368A + 0.204PC + 0.254SSD + \epsilon \quad \dots\dots\dots \text{Resulting model 1.}$$

The result of the F statistic, as produced by the SPSS, based on 110 valid copies of questionnaire is shown in Appendices 2, 5, and 8. The values of “ F ” and “sig” in Model 3, in Appendix 2, $F = 34.062$ and $\rho = 0.000$ indicating that since $F = F_{0.05}$ is less than $F(\text{model}) = 34.062$, the F – statistic is significant at ρ -value of 0.05 and 0.01. Our resulting regression model 1 is therefore, useful such that ambience, personnel competence, and service systems design have substantial relationships with sales growth.

4.3 Hypotheses on the Effect of Physical Evidence on Market Share

In the bid to obtain empirical information on whether the dimensions of physical evidence – ambience (A), personnel competence (PC), and service systems design (SSD), significantly affect market share, we used the t-statistic to test the relevance and significance of the β parameter of the physical evidence elements to market share. The three hypotheses H_{a2} , H_{a5} , and H_{a8} focus on the associations between physical evidence dimensions and market share.

The SPSS outputs on stepwise regression coefficients (Appendix 6) summarize the computation of the t-statistics and related p-values for testing the significance of the intercept and β of each of the independent variables in the regression model.

$$\text{Market share} = \beta_0 + \beta_a A + \beta_{pc} PC + \beta_{ssd} SSD + \epsilon \quad \text{----- Model 2}$$

We were testing the null hypothesis that:

$$\beta_a, \beta_{pc} \text{ or } \beta_{ssd} = 0$$

As shown in Appendix 6, $\beta_0 = 0.581$, Intercept /t/ market share / = 0.956 with a ρ -value of 0.341. The results of analyses with SPSS are shown in Table 4.2.

Based on the test results as they are empirically established, we have very strong evidence that the intercept β_0 is significant and that ambience, personnel competence and service systems design in the regression equation, significantly affect, and are related to market share in the regression equation. Thus, the resulting model 2 would be:

$$\text{Market share: } 0.581 + 0.245AF + 0.274HF + 0.433PF + \epsilon \quad \dots\dots\dots \text{Resulting model 2.}$$

The values of “ F ” and “sig” statistics in model 3 of Appendix 5 are 77.361 and $\rho = 0.000$. These indicate that our resulting regression model 2 is useful, and that ambience, personnel competence, and service systems design have substantial relationship with market share.

4.4 Hypotheses on the Influence of Physical Evidence Factors on Profitability

In the bid to better understand whether the physical evidence dimensions – ambience, personnel competence, service systems design, significantly affect profitability, significance of the β parameter of the physical evidence dimensions to profitability. The hypotheses H_{03} , H_{06} , H_{09} focus on the relationships between physical evidence factors and profitability SPSS outputs on stepwise regression – coefficients (Appendix 9), summarize the computation of the t statistics and related ρ -values for testing the significance of the intercept and β of each of the physical evidence variables in the regression model: 1.

$$\text{Profitability} = \beta_0 + \beta_a A + \beta_{pc} PC + \beta_{ssd} SSD + \epsilon \quad \dots\dots\dots \text{Model 3.}$$

We were testing the null hypothesis that:

$$\beta_a, \beta_{pc}, \text{ or } \beta_{ssd} = 0$$

As shown in Appendix 9, $\beta_0 = 0.104$, intercept /t profitability/ = 0.166 with a ρ -value of 0.868. The results of analyses with SPSS are shown in Table 4.2.

Based on our test results as empirically established, we have very strong evidence that the intercept β_0 is significant and that ambience, personnel competence, and service systems design in the regression equation, significantly and are related to profitability in the regression equation. Thus, the resulting model becomes:

$$\text{Profitability} = 0.104 + 0.418A + 0.262PC + 0.34SSD + \epsilon \quad \dots\dots\dots \text{Resulting model 3.}$$

The “F” and “sig” values in model 3 in Appendix 8 are $F(\text{model}) = 83.116$ with $\rho = 0.000$. Since $F(\text{model})$ is greater than $F(\alpha) = F_{0.05}$, the F -statistic (83.116) is significant at ρ -values of 0.05 and 0.01. Thus, our resulting regression model 3 is useful such that ambience, personnel competence and service systems design have significant association with profitability.

Table 4.2: Results of Test of Physical Evidence and marketing Performance Specific Hypotheses

Physical Evidence Dimensions	Statistics	Marketing Performance		
		Sales Growth	Market Share	Profitability
Ambience (A)	Hypothesis	H ₀₁	H ₀₂	H ₀₃
	t _{critical} value	2.836	2.455	4.049
	β_a	0.368	0.245	0.418
	ρ -value	0.005	0.016	0.000
	Decision	Accept H_{a1}	Accept H_{a2}	Accept H_{a3}
Personnel Competence (PC)	Hypothesis	H ₀₄	H ₀₅	H ₀₉
	t _{critical} value	1.992	3.477	3.313
	β_{pc}	0.204	0.274	0.345
	ρ -value	0.049	0.001	0.001
	Decision	Accept H_{a4}	Accept H_{a5}	Accept H_{a9}
Service Systems Design (SSD)	Hypothesis	H ₀₇	H ₀₈	H ₀₉
	t _{critical} value	1.940	4.291	3.313
	β_{ssd}	0.254	0.433	0.345
	ρ -value	0.055	0.000	0.001
	Decision	Accept H_{a7}	Accept H_{a8}	Accept H_{a9}

Source: SPSS Output Result of Hypotheses Testing on Research Collected, February-May, 2012.

5. Discussion of Findings

Traveling by air is prone to risks of occurrence of airline hijacking and air traffic accidents (Netjasav and Janic, 2008). Air travelers need to be assured of their safety, convenience and comfort before they patronize an airline. This paper is of the view that physical evidence, can provide such assurance and through tangibilized physical evidence, that can most likely result in a better marketing performance. The focus of this study therefore, was to determine if physical evidence dimensions such ambience, personnel competence, and service systems design substantially correlate with marketing performance of airline operators in Nigeria. Analyses of primary data collected from 110 respondents representing 29 Nigeria-based airline operators revealed that physical evidence is significantly associated with marketing performance measures such as sales growth, market share and profitability in the aviation industry. Ideally, infrastructure such as aircrafts with high powered automation, need to have tangible signals of potency, safety, and comfort in order to elicit patronage. Servicing and of aircrafts as at, and when due, no doubt, increases their performance. Evidence of this policy in an airlines service systems design is likely to win air passengers patronage, which leads to increase in sales, market share and profitability.

Also regular training of service personnel increases their competence to meet the changes in the global aviation industry (cf. Asiegbu et al, 2011). This will enable the airline achieve good customer service delivery and thus, avoid customer switching behavior elicit customer confidence and encourage patronage. Ambience provides air passengers with friendly environment and thus, can bring about patronage.

Our findings are supported by Duncan (1996), which maintains that service environment increases customer satisfaction and that within service environments customers can be exposed to numerous stimuli which potentially affect how they act, buy, and their satisfaction with the service experience. The findings are also supported by Kotler (1973), which upholds that a good atmosphere provides discriminative stimuli to buyers that enable them to recognize service differences as bases for selecting a service provider. Consumers prefer environments which offer a pleasant atmosphere and extend a feeling of acceptance (Martineau, 1958) and comfort. This makes us concur with Kandampully (1998) that physical environment in which customers experience service facilities for a long time, evoke visceral reaction that influence purchase from the foregone discussion, we conclude that physical evidence affects marketing performance of airlines in Nigeria.

6. Conclusion and Implication

Our data analyses results and findings, led us to conclude that physical evidence provided by airline operators in Nigeria aviation industry affects their marketing performance. Specifically, ambience, personnel competence, and service systems design positively correlate with their sales growth, market share, and profitability. The Nigerian business environment offers airline investors unlimited opportunities for business success using tangibilized physical evidence.

The implication is that airlines in Nigeria can enhance their marketing performance and, hence their competitive strength by improving the physical evidence of their structures, procedures and processes. For commercial airlines operating in Nigeria to leverage themselves from competitive pressures, they must ensure continuous improvements in their marketing performance. This study has revealed that this is achievable by increasing air passenger value, confidence and comfort; and reducing their fears and risks. We therefore, recommend innovations in the provision of ambience, constantly engaging personnel of high job repute and competence, and putting in place air traveler – friendly service systems designs. As these will require a lot of capital, we recommend integration instruments such as strategic airline alliances, acquisitions, and franchising as suggested by Sezgin and Kozak (2012). It has been noted that brand equity can lead to brand preference and purchase intention (Chen and Chang, 2008), we therefore, recommend that airlines in Nigerian can make sponsorship agreements with top sport names, famous soccer clubs and most valuable players in Nigeria through which they can showcase their airlines as the best in providing ambience, competent personnel and air passenger-based service systems design.

7. Limitations and Suggestions for Further Studies

The data analyzed that lead us to our findings were collected from commercial airlines operating in Nigeria. Thus, the findings are limited to these airlines alone. Further studies can be conducted in other service-based areas such as hospitality and tourist industries. Also self-assessment data were used in measuring sales growth, market share, and profitability, further studies can use secondary data from annual financial statements of these commercial airlines.

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Appendices**Appendix 1: Sales Growth and Physical Evidence Dimensions: Model Summary^d**

Model				
	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.655 ^a	.429	.424	1.28930
2	.688 ^b	.473	.463	1.24496
3	.701 ^c	.491	.476	1.22920

Dependent Variable: Sales growth

Source: SPSS Output Result of Hypotheses Testing on Research Collected, February-May, 2012.

Appendix 2: Sales Growth and Physical Evidence Dimensions: ANOVA^d

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	135.026	1	135.026	81.228	.000 ^a
	Residual	179.529	108	1.662		
	Total	314.555	109			
2	Regression	148.712	2	74.356	47.974	.000 ^b
	Residual	165.843	107	1.550		
	Total	314.555	109			
3	Regression	154.397	3	51.466	34.062	.000 ^c
	Residual	160.158	106	1.511		
	Total	314.555	109			

Dependent Variable: Sales growth

Source: SPSS Output Result of Hypotheses Testing on Research Collected, February-May, 2012.

Appendix 3: Sales Growth and Physical Evidence Dimensions: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.819	.769		6.265	.000
	Ambience	.739	.082	.655	9.013	.000
2	(Constant)	4.707	.744		6.329	.000
	Ambience	.487	.116	.432	4.195	.000
	Personnel competence	.282	.095	.306	2.972	.004
3	(Constant)	4.144	.790		5.247	.000
	Ambience	.368	.130	.327	2.836	.005
	Personnel Competence	.204	.102	.220	1.992	.049
	Service Systems	.254	.131	.222	1.940	.055
	Design					

Dependent Variable: Sales growth

Source: SPSS Output Result of Hypotheses Testing on Research Collected, February-May, 2012.

Appendix 4: Market Share and Physical Evidence Dimensions: Model Summary^d

Model				
	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.733 ^a	.538	.533	1.13840
2	.795 ^b	.632	.625	1.02042
3	.829 ^c	.686	.678	.94633

Dependent Variable: Market share

Source: SPSS Output Result of Hypotheses Testing on Research Collected, February-Ma, 2012.

Appendix 5: Market Share and Physical Evidence Dimensions: ANOVA^d

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	162.801	1	162.801	125.623	.000 ^a
	Residual	139.963	108	1.296		
	Total	302.764	109			
2	Regression	191.349	2	95.675	91.884	.000 ^b
	Residual	111.414	107	1.041		
	Total	302.764	109			
3	Regression	207.837	3	69.279	77.361	.000 ^c
	Residual	94.927	106	.896		
	Total	302.764	109			

Dependent Variable: Market share

Source: SPSS Output Result of Hypotheses Testing on Research Collected, February-May, 2012.

Appendix 6: Market Share and Physical Evidence Dimensions: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.703	.679		2.507	.014
	Ambience	.811	.072	.733	11.208	.000
2	(Constant)	1.541	.610		2.528	.013
	Ambience	.447	.095	.404	4.702	.000
	Personnel Competence	.408	.078	.450	5.236	.000
3	(Constant)	.581	.608		.956	.341
	Ambience	.245	.100	.222	2.455	.016
	Personnel Competence	.274	.079	.302	3.477	.001
	Service Systems Design	.433	.101	.386	4.291	.000

Dependent Variable: Market share

Source: SPSS Output Result of Hypotheses Testing on Research Collected, February-May, 2012.

Appendix 7: Profitability and Physical Evidence Dimensions: Model Summary^d

Model				
	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.776 ^a	.602	.598	1.11788
2	.819 ^b	.671	.665	1.02111
3	.838 ^c	.702	.693	.97661

Dependent Variable: Profitability

Source: SPSS Output Result of Hypotheses Testing on Research Collected, February-May, 2012.

Appendix 8: Profitability and Physical Evidence Dimensions: ANOVA^d

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	203.955	1	203.955	163.209	.000 ^a
	Residual	134.963	108	1.250		
	Total	338.918	109			
2	Regression	227.353	2	113.677	109.026	.000 ^b
	Residual	111.565	107	1.043		
	Total	338.918	109			
3	Regression	237.819	3	79.273	83.116	.000 ^c
	Residual	101.099	106	.954		
	Total	338.918	109			

Dependent Variable: Profitability

Source: SPSS Output Result of Hypotheses Testing on Research Collected, February-May, 2012.

Appendix 9: Profitability and Physical Evidence Dimensions: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.015	.667		1.522	.131
	Ambience	.908	.071	.776	12.775	.000
2	(Constant)	.869	.610		1.425	.157
	Ambience	.578	.095	.494	6.078	.000
	Personnel Competence	.369	.078	.385	4.737	.000
3	(Constant)	.104	.627		.166	.868
	Ambience	.418	.103	.357	4.049	.000
	Personnel Competence	.262	.081	.274	3.230	.002
	Service Systems Design	.345	.104	.291	3.313	.001

Dependent Variable: Profitability

Source: SPSS Output Result of Hypotheses Testing on Research Collected, February-May, 2012.