

Airline Services in Nigeria: An Empirical Analysis

Oluwakoya Adeniyi and Olufemi Cmilt

Department of Transport and Tourism Studies, Redeemer's University,
Redemption, Ogun State, Nigeria

Abstract: The aftermath of deregulation and liberalisation of the Nigerian aviation sector reveals itself in increasing demand for airline services at the Nigerian air terminals. The new competitive regime is seemingly a corollary of policy intervention to induce growth in quondam public dominated subsector. Such impact will no doubt attract passenger services variance levels. The methodology for this study use the primary data and the documentary searches which is the secondary data source, the hypothesis was tested using t-test, ANOVA and regression analysis to draw conclusion on the interaction of the variables of the independent and dependent variables of the airline services impacts. The study assesses the level of effectiveness, efficiency and reliability of the Nigerian air services providers in the light of the perspectives of the users of domestic terminal airline services in the country as well as the socio-economic characteristics of the traveling passengers in the country. The study revealed that indeed the reforms in the aviation industry have led to enhanced services delivery by the airline operators in the Nigerian domestic terminal.

Key words: Airline, domestic terminal, socio-economic characteristics, efficiency, reliability, Nigeria

INTRODUCTION

Certainly, there are no doubts the impacts of air transport industry to the socio-economic development of Africa. According to ATAG (2008), the air transport industry generates around 430,000 jobs in Africa and contributes USD \$9.2 billion to Africa GDP (direct, indirect and induced impacts). Similarly in its regional air traffic figures and forecast for Africa sees a 5.6 and 4.6%, respectively in economic induced increase in passengers and freight for the continent (ICAO, 2007). Also, the integration of Africa economies with the global economies has been largely enhanced through air transport. Moreover, it has buoyed the comparative advantage of most African countries and especially Nigeria on some special economic activities as tourism and allied industry. Tourism developments in Nigeria have been reliably linked to the development of air services to tourism destinations in Nigeria (Ogunkoya, 2008).

Remarkably, airline services are seen as a veritable instrument of globalization and market expansion, political and cultural integrated and destination value enhancement (ATAG, 2008). Air services make possible multinational institutions, corporations and companies to expand rapidly growing distant markets. It facilitates competition among industries leading to efficiency, innovations, entrepreneur development, revenue enhancement and increased productivity. It has changed

the global supply chain and facilitates rapid and realizable movement of goods and services worldwide. Similarly, political and cultural integration of the nations of the world have been greatly enhanced through open skies treaties among nations of the world creating political and cultural interference and optimal diplomacy. The values of numerous destinations across the globe have been greatly enhanced because accessibility of destinations has been greatly enhanced.

Notably, policy interventions and innovations as deregulation and liberalization, recapitalization, institutional framework as well as globalization have impacted on the airline services in Nigeria. For instance, the deregulation of the air transport services has brought reality to air transport services in Nigeria (Akpoghomeh, 1999; Adeniji, 2000). Similarly, the institutional restructuring and reforms of government's agencies have created a regime of efficiency and effectiveness which have impinged on air services operations in Nigeria (Ogunkoya, 2008). Also, the re-capitalization policy of the federal government on all airlines operating in the country resulted in the consolidation of the investment portfolio of most airlines operations leading to merger and acquisition of airline. The effects led to acquisition of brand new aircraft, route expansion and capital base enlargement.

However, the laudable policy intervention and globalization have impacted positively on the airline

services in Nigeria. No doubt, it brought a new paradigm of competition, innovation which has impacted on service delivery among the airline operators in Nigeria. But the empirical analysis of passenger's perception of the airline services in Nigeria is yet studied. In this light, this study examines the empirical investigation of the airline services in Nigeria and ascertains the impacts on the users of the services in Nigeria.

Conceptual framework: There is no doubt, the importance of airlines services in the enhancement of the movement of passengers, freight and development of the passenger in Nigeria. Remarkably, an airline service has indeed improved generally in Nigeria. This improvement is generally tied to the concept of deregulation and globalization that induce competition regime among the airline operators. Wensveen (2007) identified a 3 phases period that characterized the level of airlines services and responsiveness of consumers. These 3 phases are production, sales and consumer oriented period. The contextual argument for transition reliably holds in emergence of changing and dynamics of services and market structure of airline services to attract market share in a competitive regime. Indeed, it is worthy to say that airline services have benefited from twin concept of globalization and deregulation in Nigeria.

Prior to deregulation, the Nigeria airline services are characterized of irregular and ineffective services and were generally shambolic in nature (Ogunkoya, 2008). The consumer were left with Hobson's choice as alternatives do not exist there were limited participant and no options offered irrespective of the quality of services rendered (Adeniji, 2000). These were the prevalent features which characterized the airline services in Nigeria prior to deregulation.

However after deregulation, the airline services in Nigerian witnessed a new era of growth and advancement. The deregulation regime offered an increased interest and investment in the more dormant Nigerian aviation industry. As more airlines entered the market, an enhanced investment in fleets of aircraft to retire the old and risky fleet also to imbue confidence in the market. The services offered witnessed a turnaround as market driven innovations came to bear to attract more passengers. The corollary of this is the emergent of varieties of services to suit all categories of air travelers which were never a feature of the industry.

In addition, the air service in the domestic and international terminal recorded tremendous changes as compared to the old. Also, foreign airlines use the nation's terminals as hubs for flights operations within and without the continents. On the other hand, the

domestic operations of airline services benefited from deregulation and privatization as consortium invested in terminal development. The improved facilities and amenities offered in the new terminal engendered improved services to the passengers.

Indeed, the airline services in Nigeria after deregulation witnessed an improved, standardized services compared to the period before deregulation.

MATERIALS AND METHODS

The study area: The study area is MMA2, the busiest air terminal in West Africa located in Ikeja, Lagos state, Nigeria. These terminals constitute the Lagos domestic traffic about 36% of national domestic passenger traffic and 32% of domestic aircraft movements (Babalakin, 2008). The new terminal is the 54 members of ACI-Africa. The new terminal (MMA2) was built in few years under the public private partnership. The Bi-Courtney aviation services limited were awarded the concession in 2003 by the federal government of Nigeria to design, build and operate the A2 and ancillary facilities on a land area of 20,000 m². In addition, the MMA2 is appropriately, complemented by a 250 rooms four star hotel and a conference centre comprising a 1,500 seat auditorium and meeting rooms (both are under construction and are linked to the terminal building by a sky walk). They will be managed by intercontinental hotels under the crown plaza brand. The MMA2, therefore has been planned to be a conference and events destination.

Data source: The cross-sectional survey and self completion method were used for this study. It involves the collection of data at one point in time over a large number of identifiable groups which constitute a fraction of the total population.

The questionnaire was divided into two sections. The 1st section elicits information on the socio-economic characteristics of airline services users in MMA2. The socio-economic characteristics are an important factor of evaluating service levels preference across airline services providers among the users of the services. The 2nd section of the questionnaire elicits information on the airline services characteristics such as boarding, checking-in, in-flight services, fare, etc., of the airline service providers and the trip patterns among the different categories of travellers surveyed.

The target population for this study which is the complete group from which data was collected was chosen from the domestic terminal regular travellers who have benefitted from airline services or have used such

services. The elements of this group include the various groups of the Lagos travellers which make use airline services for daily commute which cut across different socio-economic strata. The sampling units include the tourists, government officials, businessmen and corporate personnel, etc., making use of the MMA2, the domestic terminal to access airline services in Nigeria. According to Punch Newspaper, the terminal handled 2 million passengers in 2008. The sampling frame include the daily average of about 6000 passengers' traffic.

A simple random sampling method technique was adopted for this study and a total of 200 questionnaires were administered to the respondents which represent a worthy representation of the sampling frame. The total questionnaires retrieved from the respondents were 159 with some of the variable unanswered. This is tandem with Bruton (1975) who recommended a sample size of 10% for population of area under 50,000 and 1% for areas having $\geq 1,000,000$ people. Similarly, Richardson asserts that it is the number of observations in the sample rather than the sample size as a percentage of the population which determines the precision of the parameter estimates. The observation in the sample was carefully taken to ensure validity of the research design and procedure. However, the cost of procuring survey material and skilled staff for the survey was also responsible for this choice. This in no way does affect the parameter estimate and the results of the research.

In the analysis to be discussed later, simple t-test, ANOVA and multiple regression analysis were employed on the dependent and the independent variables for the analysis.

Hypothesis testing:

H₀: There is no significant difference in access to airline services at all times of the day

H₁: There is a significant difference in access to airline services at all times of the day

RESULTS AND DISCUSSION

Table 1 shows the one sample t-test of the access to airline services without delay variable is compared with the hypothesis that the mean is 50. The finding of significance indicates that the sample mean is significantly different from the 50. The mean difference of -48.575700 means the sample mean was $50 + (-48.575700) = 1.425$. That is the sample mean of 1.425 is found to be significantly different from the hypothesized mean of 50 being tested. The parameter estimate, access to airline services without delay was tested against socio-economic grouping of the sex. As shown in Table 1, the hypothesis

Table 1: The one sample t-test

| Test value = 50 | | | | | |
|-----------------|-----------|-----|-----------------|-----------------|---|
| Samples | t-value | df | Sig. (2-tailed) | Mean difference | 95% confidence interval of the difference |
| | | | | | Lower Upper |
| ACEAS | -1208.511 | 159 | 0.000 | -48.57500 | -48.6544 -48.4956 |

Table 2: The ANOVA table

| Tests between subjects effects | | | | | |
|--------------------------------|-------------------------|-----|-------------|---------|-------|
| Sources | Type III sum of squares | df | Mean square | F-test | Sig. |
| Corrected model | 2.004 ^a | 1 | 2.004 | 8.089 | 0.005 |
| Intercept | 174.437 | 1 | 174.437 | 704.048 | 0.000 |
| ASMEE | 2.004 | 1 | 2.004 | 8.089 | 0.005 |
| Error | 38.403 | 155 | 0.248 | - | - |
| Total | 360.000 | 157 | - | - | - |
| Corrected total | 40.408 | 156 | - | - | - |

Dependent variable: ACEAS; ^aR² = 0.050 (adjusted R² = 0.043)

testing revealed that there is a significant relationship between socio-economic variable; sex and access to access to airline services without delay. Therefore, researchers reject the null hypothesis and accept the alternative hypothesis indicating a positive impact of access to airline services at all time of the day.

Table 2 shows the between-subject effect and univariate Analysis of Variance (ANOVA) for the dependent and the independent variables. Table 2 shows the analysis between two groups of the dependent and the independent variables. The dependent variable was ACEAS and the independent variable ASMEE. From Table 2 which shows the overall analysis of the model with the input of the criterion and the predictor, it shows the model is significant at 0.05. The independent variable is significant at 0.05 which means that airline operators rendering airline services at MMA2 have been able to satisfy the mobility needs of the people through the airline services rendered. It shows these services have been efficient, effective and reliable to the users of airline services at MMA2. However, the variance of the overall model and intercept which is the dominant effect of the independent variable on the dependent variable when it is zero is significant at 0.000; in other words, the impact of airline services is positive at MMA2. The impulse is as a result of *laisse-faire* regime introduced into the Nigerian aviation market. Though, more still need to be done for optimum passenger satisfaction and wellbeing. Also, the R² is 0.050 and the adjusted R² which show the amount of variance accounted for by the actual predictors use in the overall model is 0.43 which is still well off very positive indication of the significance of the predictors use in the model.

Table 3 shows the paired sample of the variables with a mean of 0.29299 and a standard deviation value of 0.54610 is significant at 0.000 at 0.05 level of significance

Table 3: The paired sample t-test

| Characteristics | Values |
|--|-----------|
| Paired differences | |
| Mean | 0.92990 |
| SD | 0.54610 |
| SEM | 0.43580 |
| 95% confidence interval of the difference | |
| Lower | 0.20690 |
| Upper | 0.37908 |
| t-value | 6.72300 |
| df | 156.00000 |
| Sig. (2-tailed) | 0.00000 |

Table 4: The model summary^b of the regression table

| Model | R | R ² | Adjusted R ² | Std. error of the estimate |
|-------|--------------------|----------------|-------------------------|----------------------------|
| 1 | 0.353 ^a | 0.124 | 0.085 | 0.49382 |

^aPredictors: (Constant), FPP, INC, NOTE, ASM, TRIP90; ^bDependent variable: ACEAS

and the pair sample of ACEAS and ASMEE with a t-test value of 6.723 which is significant at 0.000 at 0.05 level of significance. In other words, this shows that there is a significant difference in the impacts in the access of airlines services among user's at MMA2.

Table 4 showing the model summary revealed that the R² for the amount of variance in the regression table is 0.124 and the adjusted R² for the number of predictors added in the model with variance of 0.085 is still positive and significant which still corroborate the significant improvement in access of airline services at the Nigerian MMA2.

Table 5 shows the analysis of variance of the regression analysis, the dependent variable is ACEAS which is the access of airline services without delay and the independent variables are FPP, INC, NOTE, ASM and TRIP 90. The F ratio of the regression model is 3.185 and can be shown from Table 5, the overall model is significant at 0.002, i.e., the variance for the predictors in the model is significant. In other words, the improved access of airline services is noticeable at MMA2.

Similarly, the coefficients of the dependent and independent variable in the regression analysis revealed that the independent variable FPP and the model constant which shows the overall effects of the independent variables on the dependent variable when $y = 0$ is very significant. Table 6 containing the coefficients of the individual contribution of the independent variable to dependent variable in the model shows that some independent coefficient variable seems not to be very significant however, the impact of the overall independent variable on the dependent variable is very significant. Invariably, an airline services impact on passenger movement in Lagos MMA2 is very positive and as such increased the level of airline services at MMA2.

Table 7 shows the respondents perception of airline services compared to other mode of transport. From Table 7, it reveals that 28.8% of the respondent asserts a

Table 5: The regression ANOVA^b

| Model | Sum of squares | df | Mean square | F-test | Sig. |
|------------|----------------|-----|-------------|--------|-------|
| Regression | 3.883 | 5 | 0.777 | 3.185 | 0.010 |
| Residual | 27.312 | 112 | 0.244 | - | - |
| Total | 31.195 | 117 | - | - | - |

^aPredictors: (Constant), FPP, INC, NOTE, ASM, TRIP90; ^bDependent variable: ACEAS

Table 6: Coefficient of the regression table

| Model | Unstandardized coefficients | | Standardized coefficients | | Sig. |
|------------|-----------------------------|-------|---------------------------|---------|-------|
| | Beta | SE | Beta | t-value | |
| (Constant) | 0.864 | 0.178 | - | 1.859 | 0.000 |
| NOTE | 0.029 | 0.019 | 0.527 | 1.545 | 0.125 |
| ASM | 0.007 | 0.060 | 0.010 | 0.112 | 0.911 |
| TRIP90 | -0.033 | 0.021 | -0.528 | -1.529 | 0.129 |
| INC | 0.044 | 0.026 | 0.156 | 1.683 | 0.095 |
| FPP | 0.298 | 0.101 | 0.282 | 2.950 | 0.004 |

^aDependent variable: ACEAS

Table 7: The air services compared to other mode

| | Services | Frequency | Percent | Valid (%) | Cumulative (%) |
|---------|-----------|-----------|---------|-----------|----------------|
| Valid | Very high | 47 | 28.8 | 30.1 | 30.1 |
| | High | 75 | 46.0 | 48.1 | 78.2 |
| | Medium | 26 | 16.0 | 16.7 | 94.9 |
| | Low | 7 | 4.3 | 4.5 | 99.4 |
| | Very low | 1 | 0.6 | 0.6 | 100.0 |
| | Total | 156 | 95.7 | 100.0 | - |
| Missing | System | 7 | 4.3 | - | - |
| Total | - | 163 | 100.0 | - | - |

Table 8: The socio economics characteristics of the respondents

| Characteristics | Statistics |
|-----------------|---|
| Sex | Male (59.2%), female (46.5%) |
| Age | <18 years (14.7%) 18-60 years (78.6%), >60 years (6.7%) |
| Marital status | Single (49%), married (51%) |
| Education | Formal (91.4%), informal (9.6%) |
| Income | High incomes (70.7), middle (20.3%), low (9%) |

very high level of service compared to other mode while 46.0% (high), 16.0% (medium), 4.3% (low) and 0.6% (very low). It is important to note that the deregulation and liberalisation of the Nigeria aviation, attracted investment that facilitated the bouleversement of the industry, improve services delivery and offered varieties of services delivery in the new competitive regime.

Table 8 shows the demographic statistics of the respondents, 59.2% of the respondents are male while 46.5% of the respondents are female. This is reflective of the status of male as the bread winner in virtually all African settings. So, it is not an exception in the air transport mode in Nigeria. The age demographic characteristics shows that 14.7% of the respondents are of <18, 78.6% is of the age bracket 18-60 years, this shows that airline services are enjoyed by trip makers within this age bracket and lastly, 6.7% of the respondents have a >60 years age brackets. The marital status shows that 49% of the respondents are female and 51% are married. Also, the education background shows that 91.4% had formal education but 9.6% of the respondents do have informal

education. Lastly, the income status of the respondent shows that 70.7% of the respondents falls within the range of high income earners and 20.3% of the respondent falls within the middle income earner and 9% of the respondents falls in the low range of income earners.

Challenges of airline services in Nigeria: In spite of all the improvement and innovation accompanying the deregulation and privatization of airline services in Nigeria however, there are some challenges still prevalent in the system. For instance, some challenges as inadequate stand for airline users, flight information and public address systems echoes, poor customer relations, flight delay, missing luggage and personal items and security issues.

The Nigerian airline industry needs huge investment in both infrastructure and operational characteristics to further buoy the growth in the industry because most of the facilities at the airports to enhance airline services are dilapidated. The air navigation services and equipment need complete overhauling and replacement with modern devices to improve airline services in the country. Similarly, the existing metrological equipment ought to be modernised to impinge efficient airline services in the country. The institutional reform ought to fully capture the entire segments of the Nigerian aviation industry. The present intervention does not cover the entire segments of the industry. In this light, there is need for the bouleversement of all the institutions regulating the Nigerian aviation industry for optimal airline services and the development of the Nigerian aviation industry.

CONCLUSION

Remarkably, the impacts of the airline services under the present reform in the Nigerian aviation industry cannot be overemphasised when compared to the

prevalent situation prior the reforms in the Nigeria aviation industry. Indeed, the sector has witnessed a tremendous innovation in airline services delivery. Moreover, the sector has attracted investments leading to infrastructure and facilities refurbishment, competition induced service products varieties to catch the attention of consumers and all travellers alike making use of airline services in MMA2 in Nigeria.

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