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Methodology Article

Establishing the Concept of Research Hypothesis Through the Relationship Between Demand in Nigeria International Air Passenger Traffic and Economic Variables

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Abstract: The purpose of this paper is to gaudily examine the following; concept of research hypothesis; basic steps involved in hypothesis testing; characteristics of hypothesis; and interpretation of results. Furthermore, the following hypotheses are tested using computed test and establishing the Null Hypotheses which states that there is no statistical significant relationship between % change in International Air Passenger Traffic (Annual) and % change in Consumer Inflation Price (CPI); and there is no statistical significant relationship between % change in International Air Passenger Traffic (Annual) and % change in Naira Value to Dollar (parallel market). The first and the second hypotheses were not rejected which gives a basis for the alternate hypotheses not to stand. The fact that the two variables involved in the first and second hypotheses are not statistically significant is a very good sign for a very weak explanation, very weak causal relationship and very weak description. From the research hypotheses conducted, it is quite obvious that independent variables cannot affect the dependent variable, this is a sign that increase or decrease in other indices determining the situation of the economy cannot affect the demand of International Air Passenger traffic. This can be attributed to the high importance of air transport, the derived nature of transport, and the unique characteristics of airline products (services).

Keywords: Research Hypothesis, Null Hypothesis, Alternate Hypothesis, Transportation

1. Introduction

Originally, raw data are obtained from survey, they are referred to as primary data because they are yet to undergone any form of statistical analysis. The essence of statistical analysis is to determine if variables are significant or not, based on this, the importance of hypothesis testing cannot be overemphasized. Hypothesis is usually considered as the principal instrument in research. Its main function is to suggest new experiments and observations. In fact, many experiments are carried out with the deliberate object of testing hypotheses. Decision-makers often face situations wherein they are interested in testing hypotheses on the basis of available information and then take decisions on the basis of such testing. In social science, where direct knowledge of population parameter(s) is/are rare, hypothesis testing is often used for deciding whether a sample data offer such support for a hypothesis that generalization can be made.

When one talks about hypothesis, it simply means a mere assumption or some supposition to be proved or disproved. But for a researcher, hypothesis is a formal question that he intends to resolve. Thus a hypothesis may be defined as a proposition or a set of proposition set forth as an explanation for the occurrence of some specified group of phenomena either asserted merely as a provisional conjecture to guide some investigation or accepted as highly probable in the light

of established facts.

Quite often, a hypothesis is a predictive statement, capable of being tested by scientific methods, that relates an independent variable to some dependent variable. Thus, we may conclude that a hypothesis states what we are looking for and it is a proposition which can be put to a test to determine its validity.

Hypothesis testing is alternatively called significance testing. Also, a hypothesis is some testable belief or opinion, and hypothesis testing is the process by which the belief is tested by statistical means. The hypothesis to be tested is termed Null Hypothesis designated H_0. [1]

1.1. Research Aim and Objectives

The aim of this paper is to establish the concept of research hypothesis using % change in International Passenger Traffic (Annual) and % change in selected economic variables. The objectives are;

(1) To examine if there is a relationship between % change in International Passenger Traffic (Annual) and % change in Consumer Inflation Price (CPI); and
(2) To determine if there is a relationship between % change in International Passenger Traffic (Annual) and % change in Naira Value to Dollar (parallel market).

1.2. Research Hypotheses

The following hypotheses will be tested using computed test;

H_0: There is no statistical significant relationship between % change in International Passenger Traffic (Annual) and % change in Consumer Inflation Price (CPI).

H_0: There is no statistical significant relationship between % change in International Air Passenger Traffic (Annual) and % change in Naira Value to Dollar (parallel market).

Characteristics of hypothesis

[2] Hypothesis must possess the following characteristics:

(1) Hypothesis should be clear and precise. If the hypothesis is not clear and precise, the inferences drawn on its basis cannot be taken as reliable.
(2) Hypothesis should be capable of being tested. In a swamp of un-testable hypotheses, many research programmes have bogged down. Some prior study may be done by researcher in order to make hypothesis a testable one. A hypothesis is testable if other deductions can be made from it which, in turn, can be confirmed or disproved by observation.
(3) Hypothesis should state relationship between variables, if it happens to be a relational hypothesis.
(4) Hypothesis should be limited in scope and must be specific. A researcher must remember that narrower hypotheses are generally more testable and should develop such hypotheses.
(5) Hypothesis should be stated as far as possible in most simple terms so that the same is easily understandable by all concerned. But one must remember that simplicity of hypothesis has nothing to do with its significance.
(6) Hypothesis should be consistent with most known facts i.e., it must be consistent with a substantial body of established facts. In other words, it should be one which judges accept as being the most likely.
(7) Hypothesis should be amenable to testing within a reasonable time. If the same cannot be tested in reasonable time, one cannot spend a life-time collecting data to test it.
(8) Hypothesis must explain the facts that gave rise to the need for explanation. This means that by using the hypothesis plus other known and accepted generalizations, one should be able to deduce the original problem condition. Thus hypothesis must actually explain what it claims to explain; it should have empirical reference.

Basic concepts concerning the testing of hypotheses

Basic concepts in the context of hypotheses testing are:

1. Null hypothesis and
2. Alternative hypothesis

In the context of statistical analysis, we often talk about Null Hypothesis and Alternative Hypothesis. If method 1 is to be compared with method 2 about its superiority and the assumption that both methods are equally good, then this assumption is termed as the Null Hypothesis. Ideally, one method must be superior to the other; therefore Null Hypothesis is the particular statement that is assumed to be disproved. As against this, it can be assumed that the method 1 is superior or the method 2 is inferior, then stating what is termed as Alternative Hypothesis. The Null Hypothesis is generally symbolized as H_0 and the alternative hypothesis as H_a or H_1.

If sample results do not support this Null Hypothesis, it can be concluded that something else is true. The conclusion on rejecting the Null Hypothesis is known as Alternative Hypothesis. In other words, the set of alternatives to the Null Hypothesis is referred to as the Alternative Hypothesis. If the Null Hypothesis cannot be rejected, then the Alternate Hypothesis will be rejected, and if Null Hypothesis is being rejected, then Alternate Hypothesis will be accepted.

The Null Hypothesis and the Alternative Hypothesis are chosen before the sample is drawn (the researcher must avoid the error of deriving hypotheses from the data that he collects and then testing the hypotheses from the same data). In the choice of Null Hypothesis, the following considerations are usually kept in view:

(1) Alternative Hypothesis is usually the one which one wishes to prove and the Null Hypothesis is the one which one wishes to disprove. Thus, a Null Hypothesis represents the hypothesis to be rejected, and Alternative Hypothesis represents all other possibilities.
(2) If the rejection of a certain hypothesis when it is actually true involves great risk, it is taken as Null Hypothesis because the probability of rejecting it when it is true is α (the level of significance) which is chosen very small.
(3) Null Hypothesis should always be specific hypothesis

i.e., it should not state about or approximately a certain value.

Generally, in hypothesis testing we proceed on the basis of Null Hypothesis, keeping the Alternative Hypothesis in view. Why so? The answer is that on the assumption that Null Hypothesis is true, one can assign the probabilities to different possible sample results, but this cannot be done if we proceed with the Alternative Hypothesis. Hence the use of Null Hypothesis (at times also known as statistical hypothesis) is quite frequent.

The level of significance: This is a very important concept in the context of hypothesis testing.It is always some percentage (usually 5% or 1%) which should be chosen with great care, thought andreason. In case the significance level is taken at 5% then this implies that Null Hypothesis will be rejected when the sampling result (i.e., observed evidence) has a less than 0.05 probability of occurring if Null Hypothesis is true. In other words, the 5% level of significance means that researcher is willing to take as much as a 5% risk of rejecting the Null Hypothesis when it (H_0) happens to be true. Thus the significance level is the maximum value of the probability of rejecting H_0 when it is true and is usually determined in advance before testing the hypothesis.

Decision rule: Given a hypothesis H_0 and H_a, a rule is made which is known as decision rule according to which cannot reject H_0 (i.e., reject H_a) or reject H_0 (i.e., accept H_a). This basis is known as decision rule. The decision rule for calculated test statistics is quite different from the decision rule for the computed test statistics.

If the calculated value of the test statistics is more than the table value, we reject the Null Hypothesis; this will be the basis to accept the Alternate Hypothesis. Also, if the calculated value of the test statistics is less than the table value, the Null Hypothesis cannot be rejected; this will be the basis to reject the Alternate Hypothesis.

If the significance level of the computed statistics is less than critical region (commonly 0.05), Null Hypothesis will be rejected; this will be the basis to accept the Alternate Hypothesis. Also, if the significance level of the computed statistics is more than critical region (commonly 0.05), we cannot reject the Null Hypothesis; this will be the basis for the Alternate Hypothesis to be rejected.

Type I and type II errors: In hypothesis testing, there are basically two types of errors we can make. H_0 may be rejected when H_0 is true and accept H_0 when in fact H_0 is not true. The former is known as Type I error and the latter as Type II error. In other words, Type I error means rejection of hypothesis which should have been accepted and Type II error means accepting the hypothesis which should have been rejected. Type I error is denoted by α (alpha) known as α error, also called the level of significance of test; and Type II error is denoted by β (beta) known as β error. If we fix the significance level at 1%, hence, the maximum probability of committing Type I error would only be 0.01.

Two-tailed and one-tailed tests: A two-tailed test rejects the Null Hypothesis if, say, the sample mean is significantly higher or lower than the hypothesized value of the mean of the population. Such a test is appropriate when the Null Hypothesis is a specified value and the Alternative Hypothesis is a value not equal to the specified value of the Null Hypothesis.

Procedures for hypothesis testing

To test a hypothesis means to tell (on the basis of the data the researcher has collected) whether or not the hypothesis seems to be valid. In hypothesis testing the main question is: whether not to reject the Null Hypothesis or to reject the Null Hypothesis? Procedure for hypothesis testing refers to all those steps that we undertake for making a choice between the two actions i.e., rejection and non-rejection of a Null Hypothesis. The various steps involved in hypothesis testing are:

(1) Making a formal statement: The step consists in making a formal statement of the Null Hypothesis (H_0) and also of the Alternative Hypothesis (H_a or H_1). This means that hypothesis should be clearly stated, considering the nature of the research problem.
(2) Selecting a significance level: The hypotheses are tested on a pre-determined level of significance and as such the same should be specified. Generally, in practice, either 5% level or 1% level is adopted for the purpose.
(3) Deciding the distribution to use: After deciding the level of significance, the next step in hypothesis testing is to determine the appropriate sampling distribution. The choice generally remains between normal distribution and the t-distribution.
(4) Selecting a random sample and computing an appropriate value: Another step is to select a random sample(s) and compute an appropriate value from the sample data concerning the test statistic utilizing the relevant distribution. In other words, draw a sample to furnish empirical data.
(5) Calculation of the probability: One has then to calculate the probability that the sample result would diverge as widely as it has from expectations, if the Null Hypothesis were in fact true.
(6) Comparing the probability: Yet another step consists in comparing the probability thus calculated with the specified value for the significance level. If the calculated probability is equal to or smaller than the value in case of one-tailed test (and a/2 in case of two-tailed test), then reject the Null Hypothesis (i.e., accept the Alternative Hypothesis), but if the calculated probability is greater, then cannot reject the Null Hypothesis.

Generally, there are five steps involves in hypothesis testing, they are;

(1) State the assumptions. The assumptions are: Null Hypothesis H_0 (there is no statistical significant relationship between the dependent variable(s) and the independent variable(s). Also, Alternate Hypothesis H_1 (there is a statistical significant relationship between the dependent variable(s) and the independent variable(s).
(2) Determine the table value from the Degree of Freedom and at the already set critical region or significance level

(0.05, or 0.01, or 0.025). There are different Degrees of Freedom for each test, either parametric or non-parametric test.

(3) Calculate or compute the test statistics using either the parametric test or the non-parametric test.

(4) State the decision rule. The decision rule for the calculated test states that if the calculated value of the test statistics is more or greater than the table value, we reject the Null Hypothesis but it the calculated value of the test statistics is less than the table value, the Null Hypothesis cannot be rejected. The decision rule for the computed test states that if the significance level of the computed test statistics is less than the critical region commonly 0.05, Null Hypothesis is been rejected but it the significance level of the computed test statistics is more than the critical region commonly 0.05, Null Hypothesis cannot be rejected.

(5) If the calculated value is compared with the table value and based on the decision rule, it can be concluded. Also the significance level of the computed test statistics is compared to the chosen critical region, based on the decision rule, it is therefore concluded.

Hypothesis testing determines the validity of the assumption (technically described as Null Hypothesis) with a view to choose between two conflicting hypotheses about the value of a population parameter. Hypothesis testing helps to decide on the basis of a sample data, whether a hypothesis about the population is likely to be true or false. Statisticians have developed several tests of hypotheses (also known as the tests of significance) for the purpose of testing of hypotheses which can be classified as:

(1) Parametric tests or standard tests of hypotheses; and

(2) Non-parametric tests or distribution-free test of hypotheses.

Parametric tests usually assume certain properties of the parent population from which we draw samples. Assumptions like observations come from a normal population, sample size is large, assumptions about the population parameters like mean, proportions, variance, etc., must hold good before parametric tests can be used. A common example of parametric test is regression analysis. But there are situations when the researcher cannot or does not want to make such assumptions, in such situations, statistical methods is used for testing hypotheses which are called non-parametric tests because such tests do not depend on any assumption about the parameters of the parent population. Besides, most non-parametric tests assume only nominal or ordinal data, whereas parametric tests require measurement equivalent to at least an interval or ratio scale. A common example of non-parametric test is Chi-square test. For more emphasis, this paper critically examines parametric test, whereby both calculated test and computed test will be examined side-by-side.

Advantages of non-parametric tests

(1) No assumptions need be made about the underlying distributions.

(2) They can be used on data ranked in some orders.

(3) The mathematical concepts are simpler than for parametric tests.

Disadvantages of non-parametric tests

1. They are less discriminating than parametric tests, therefore, they are more prone to errors and less powerful.
2. Although simple, the arithmetic may take a long time.

Univariate, bivariate and multivariate population

In the context of univariate population, that means the population consist of measurement of only one variable. But if the population consists of measurement of two variables, it is said to be a bivariate population and if the data happen to be on more than two variables, the population is referred toas multivariate population. For every measurement of a variable X, there is a corresponding value of a second variable Y. Hence, the resulting pairs of values are called bivariate population.

In addition, there may also be a corresponding value of the third variable Z, or even the fourth variable P, and so on. The resulting pairs of values are called a multivariate population. In case of bivariate or multivariate populations, the relation of the two and/or more variables may be known in the data to one another. For instance, whether the number of Aviation passengers is related to passenger income, consumer price inflation (CPI) and other similar factors.

[2] There are methods of determining the relationship between variables, but no method can tell us for certain that a correlation is indicative of causal relationship. Thus we have to answer two types of questions in bivariate or multivariate populations:

(1) Is thereany form of association or correlation between the two (or more) variables? If yes, what is the extent or degree of association or correlation?

(2) Is there any cause and effect relationship between the two variables in case of the bivariate population or between one variable on one side and two or more variables on the other side in case of multivariate population? If yes, what is the extent or degree and in which direction?

The first question is answered by the use of correlation technique and the second question is answered by the technique of regression. There are several methods of applying the two techniques, but the important ones are;

In case of bivariate population: Correlation can be studied through

(1) Cross tabulation;

(2) Charles Spearman's coefficient of correlation;

(3) Karl Pearson's coefficient of correlation; whereas cause and effect relationship can be studied through simple regression equations.

In case of multivariate population: Correlation can be studied through

(1) Coefficient of multiple correlation;

(2) Coefficient of partial correlation; whereas cause and effect relationship can be studied through multiple regression equations.

Cross tabulation

This approach is specifically useful when the data are in nominal form. Under it we classify each variable into two or more categories and then cross classify the variables in these subcategories. Then we look for interactions between them which may be symmetrical, reciprocal or asymmetrical.

(1) A symmetrical relationship is one in which the two variables vary together, but weassume that neither variable is due to the other.
(2) A reciprocal relationship exists when the two variables mutually influence or reinforce each other.
(3) Asymmetrical relationship is said to exist if one variable (the independent variable) is responsible for another variable (the dependent variable).

In the case of correlation, this approach can be used when data happen to be either ordinal or interval or ratio scale data. Correlation can be determined using the following;

Charles spearman's coefficient of correlation (or rank correlation)

This technique is used to determine the extent or degree of correlation between two variables in case of ordinal data whereby ranks are given to the different values of the variables. The main objective of this coefficient is to determine the extent to which the two sets of ranking are similar or dissimilar.

Karl pearson's coefficient of correlation (or simple correlation)

This technique is the most widely used method of measuring the degree of relationship between two variables. This coefficient assumes the following:

(1) There is linear relationship between the two variables;
(2) The two variables are casually related which means that one of the variables is independent and the other one is dependent; and
(3) Large number of independent causes operating in both variables so as to produce a normal distribution.

Interpretation of correlation values

Karl Pearson's coefficient of correlation is also known as the product moment correlation coefficient. The value of 'r' lies between ± 1. Positive values of r indicate positive correlation between the two variables (changes in both variables take place in the statement direction) also negative values of 'r' indicate negative correlation (changes in the two variables taking place in the opposite directions). A zero value of 'r' indicates that there is no association between the two variables. [2]

When r = (+) 1, it indicates perfect positive correlation and when r = (–) 1, it indicates perfect negative correlation, meaning thereby that variations in independent variable (X) explain 100% of the variations in the dependent variable (Y). We can also say that for a unit change in independent variable, if there happens to be a constant change in the dependent variable in the same direction, then correlation will be termed as perfect positive. But if such change occurs in the opposite direction, the correlation will be termed as perfect negative. The value of 'r' nearer to + 1 or – 1 indicates high degree of correlation between the two variables. [2]

Simple regression analysis

Regression is the determination of a statistical relationship between two or more variables, it measures the extent or degree of explanation (the extent at which the dependent variable is well explained by the predictors or independent variables). In simple regression, we have only two variables, one variable (defined as independent) is the cause of the behavior of another one (defined as dependent variable). Regression can only interpret what exists physically i.e., there must be a physical way in which independent variable X can affect dependent variable Y. Thus, the regression analysis is a statistical method to deal with the formulation of mathematical model depicting relationship amongst variables which can be used for the purpose of prediction of the values of dependent variable, given the values of the independent variable.

2. Methodology

This data for this study is obtained from secondary sources especially published materials, journal articles, and other documents of relevant government institutions and agencies in Nigeria. The statistical analysis is inferential.

Study Area

Nigeria is located in the West Africa sub-region. It is bounded in the north by Niger Republic, south by Atlantic ocean, east by Cameroon and Chad and west by Benin Republic. She is the most populous country in Africa. With respect to NPC, 2006, Nigeria accounted for more than 140 million and by August, 2011 estimated to be about 167 million. Nigeria is located within the longitude 30E and 150E and latitude 40N and 140N of the equator. [3]

As at now, Nigeria has about eight (8) major International and the most functional among them are MurtalaMuhammed Airport, Lagos, NnamdiAzikwe International Airport, Abuja and MallamAminu Kano International Airport, Kano. MMA is the busiest international Airports in Nigeria that always account for more than 80% of the international airport service operation in Nigeria follow by MAKIA. Five of the International Airport was located in the northern part of the country while the rest were in the southern. Those in the north mostly perform even not up to the standard during the Islamic pilgrimage. [3]

The table below illustrates the spatial and geographical location of International Airports in Nigeria.

Table 1. *Location Map of International Airports in Nigeria.*

Airport	State	Geopolitical Zone
Murtala Muhammed International Airport	Lagos	South West
Nnamidi Azikwe International Airport	Abuja	North Central
Ilorin International Airport	Kwara	North Central
Maiduguri International Airport	Bornu	North East
Sadiq Abubakar International Airport	Sokoto	North West
Mallam Aminu Kano International Airport	Kano	North West
Port Harcourt International Airport	River	South South
Margaret Ekpo International Airport	Cross River	South East

Source: [3]

Apart from these international airports, today, Federal Airport Authority, Nigerian Airspace Management Agency and Nigeria Civil Aviation Authority under the ministry of aviation manage not less than twenty (20) local airports. However, some international also function as local airports. Existing local airports are: Akure, Benin, Enugu, Ibadan, Imo, Jos, Kaduna, Kastina, Makurdi, Minna, Yola and Zaria. [3]

Hypothesis testing of the variables in the table below

In the table below, the dependent variable is % change in International Air Passenger Traffic (Annual) and the independent variables are % change in Consumer Inflation Price (CPI) and % change in Naira Value to Dollar in Parallel market. We want to examine if there will be a relationship and statistical significance between the collected data. Also, we want to examine the extent at which the independent variable affects the dependent variable and also appreciates the data. The hypothesis will be tested using both calculation and computation.

Table 2. *Total International Air Passenger Movement in Nigeria.*

YEAR	NUMBER OF PASSENGERS	% CHANGE
2010	3,217,876	
2011	3,586,742	0.12
2012	4,440,930	0.24
2013	5,463,528	0.23
2014	3,881,633	-0.29
2015	4,335,343	0.12
TOTAL	24,926,052	

Source: [4]; [5]; [6]

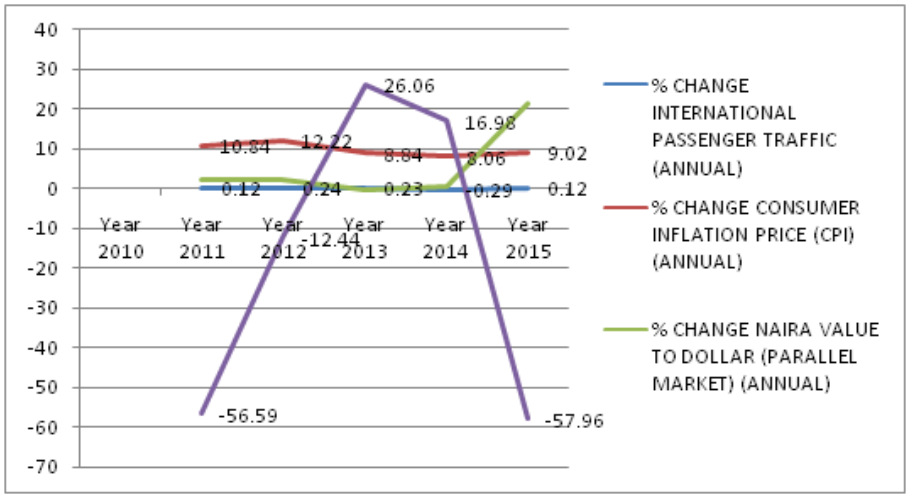
The data ranges from 2010 to 2015 as shown in the table 3 below

Table 3. *Depict of % change in International Air Passenger Traffic (Annual), % change in Consumer Inflation Price (CPI), % change in Naira Value to Dollar in Parallel market, and % change in Gross Domestic Product.*

YEAR	% CHANGEINTERNATIONAL PASSENGER TRAFFIC (ANNUAL)	% CHANGECONSUMER INFLATION PRICE (CPI) (ANNUAL)	% CHANGENAIRA VALUE TO DOLLAR (PARALLEL MARKET) (ANNUAL)	% CHANGEGROSS DOMESTIC PRODUCT (GDP) (ANNUAL)
2010				
2011	0.12	10.84	2.37	-56.59
2012	0.24	12.22	2.37	-12.44
2013	0.23	8.84	-0.12	26.06
2014	-0.29	8.06	0.79	16.98
2015	0.12	9.02	21.38	-57.96
TOTAL	0.42	48.98	26.79	-83.95

Source: [6]; [7]; Authors' Survey

From the above table, the data of the following variables (% change of International Air Passenger Traffic, % change of Nigeria Consumer Inflation Price (CPI), and % change of Naira Value to Dollar on Parallel Market), it can be deduced that in the year 2015, % change of CPIwas high at 9.02, % change of Naira value was very high at 21.8 and % change of GDP fell very low at -57.96, all these have little effect in the drop of international air traffic. The table 3 can be appreciated in the figure 1 below;



Source: Microsoft Excel, 2007 Version

Figure 1. *Line graph of % change of International Air Passenger Traffic, % change of Nigeria Consumer Inflation Price (CPI), and % change of Naira Value to Dollar on Parallel Market.*

In other to test the two research hypotheses, it must be in-line with the procedures below;

1. State the assumptions. The assumptions are:

H_0: There is no statistical significant relationship between % change in International Passenger Traffic (Annual) and % change in Consumer Inflation Price (CPI).

H_0: There is no statistical significant relationship between % change in International Passenger Traffic (Annual) and %

change in Naira value to Dollar.

2. Determine critical region or significance level.

The critical region is 0.05

3. Calculate or compute the test statistics using either the parametric test (Regression and Pearson Product-Moment Correlation Coefficient).

Computed test statistics

Table 4. *Regression analysis table.*

S/N	YEAR	Y	X_1	X_2
1	2011	0.12	10.84	2.37
2	2012	0.24	12.22	2.37
3	2013	0.23	8.84	-0.12
4	2014	-0.29	8.06	0.79
5	2015	0.12	9.02	21.38
	TOTAL	0.42	48.98	21.79

Source: Authors' Survey

Table 5a. *Correlations.*

		% CHANGE INTERNATIONAL AIR PASSENGER TRAFFIC	% CHANGE CONSUMER PRICE INFLATION	% CHANGE NAIRA VALUE TO DOLLAR
Pearson Correlation	% CHANGE INTERNATIONAL AIR PASSENGER TRAFFIC	1.000	-.157	-.367
	% CHANGE CONSUMER PRICE INFLATION	-.157	1.000	-.660
	% CHANGE NAIRA VALUE TO DOLLAR	-.367	-.660	1.000
Sig. (1-tailed)	% CHANGE INTERNATIONAL AIR PASSENGER TRAFFIC	.	.400	.272
	% CHANGE CONSUMER PRICE INFLATION	.400	.	.113
	% CHANGE NAIRA VALUE TO DOLLAR	.272	.113	.
N	% CHANGE INTERNATIONAL AIR PASSENGER TRAFFIC	5	5	5
	% CHANGE CONSUMER PRICE INFLATION	5	5	5
	% CHANGE NAIRA VALUE TO DOLLAR	5	5	5

Source: SPSS 15.0

Table 5a depicts that the correlation between % Change in International Air Passenger Traffic and % Change in Consumer Price Inflation is -0.157, while the correlation between % Change in International Air Passenger Traffic and % Change in Naira Value to Dollar is -0.367. The two independent variables are negative and very weak correlation. This means that air transport movement cannot be described by economic variables and there is no cause and effect relationship between them. This also means that the effect of downturn economic variables cannot cause any change in the demand of international air travel.

Table 5b. *Model Summary.*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change	R Square Change	F Change	df1	df2
1	.646(a)	.418	-.164	1.82924	.418	.718	2	2	.582

aPredictors: (Constant), % change naira value to dollar, % change consumer price inflation
Dependent Variable: % change international air passenger traffic
Source: SPSS, Version 15.0

Table 5b depicts that the regression between % Change in International Air Passenger Traffic as dependent variable and % Change in Consumer Price Inflation and % Change in Naira Value to Dollar as independent variables is 0.418. This means that the two independent variables can best explain the dependent variable by 41.8%. The coefficient of explanation is strong.

4. State the decision rule. The decision rule for the calculated test states that if the calculated value of the test statistics is more or greater than the table value, we reject the Null Hypothesis but it the calculated value of the test statistics is less than the table value, the Null Hypothesis cannot be rejected. The decision rule for the computed test states that if the significance level of the computed test statistics is less than the critical region (significance level) commonly 0.05, we reject the Null Hypothesis but it the significance level of the computed test statistics is more than the critical region commonly 0.05, the Null Hypothesis cannot be rejected.

The significance level or critical region is 5% (0.05)

5. We compare calculated value with the table value and based on the decision rule, we conclude. Also we compare the significance level of the computed test statistics to the chosen critical region, based on the

decision rule, we conclude.

The computed value of the test statistics is 0.582, also the significance level is 0.05. When comparing the computed test statistics to the significance level, the computed test statistics (0.582) is more than the significance level (0.05), hence we cannot reject the null hypothesis for the two assumptions. This is a basis for us not to reject the null hypotheses which states that there is no statistical significant relationship between % change in International Passenger Traffic (Annual) and % change in Consumer Inflation Price (CPI), also there is no statistical significant relationship between % change in International Passenger Traffic (Annual) and % change in Naira value to Dollar.

3. Discussions of Findings

From the research hypotheses conducted, it is quite obvious that Consumer Inflation Price (CPI) and Exchange rate (Naira to Dollar) cannot affect Air Passenger traffic in Nigeria, this is a sign that increase or decrease in other indices determining the situation of the economy cannot affect the demand of Air Passenger traffic. This scientific proving is attributable to the following unique characteristics of airline products (services) as confirmed by [8];

(1) The product cannot be stored or kept;
(2) The product is usually personalized (consumers feel differently about the product);
(3) There is no replacement for bad product;
(4) It is difficult to test the product before use;
(5) Delivery of product cannot be guaranteed because of unpredictable factors; and
(6) The product can be produced only in batches and not in individual units.
(7) The high importance of transport and the fact that it is a derived demand. Airline passengers are social, they are willing to pay more on the services they felt highly satisfied.

Despite the insignificance of some variables to the increase or decrease in Air passenger traffic, the following factors have been tested to have high significance on Air passenger traffic, they are:

(1) Price: This is a very important factor because travelers are very price sensitive although it depends on the category of traveler, for instance; tourism travelers are more price sensitive than business travelers. Majority of the studies that looked into the choice of airlines and other travel products too, found price to be vital factor affecting consumer behavior. The lower the price, the more people are likely to demand the transport service offered.
(2) Relative prices charged by different modes or different operators: This is the transfer of business between modes or companies in passenger transport and it is largely determined by the relative levels of fares on rail, bus and air services, and the perceived costs of car travel such as petrol prices and parking charges.
(3) Passenger income: As income increases so the amount of travelling for both business and leisure (either of trips or number of miles) will increase. This reflects a higher income household or individual having more disposable income and increasingly likely to travel further on a summer holiday, make more and longer evening and weekend leisure trips, and take an additional holiday. This category of traveler is also likely to travel as part of a job particularly with multinational, City financial and legal organizations.
(4) Speed of service: Business people travel by air because the firm or the person considers his/her time to be valuable.
(5) Quality of service: This includes frequency (this is the departure times or arrival times which the passenger requires), standard of service is met when the performance is compared or measured with the standard in terms of comfort, reliability and safety.

4. Conclusion

There is no relationship between % change in International Passenger Traffic (Annual) and % change in Consumer Inflation Price (CPI); and there is no relationship between % change in International Passenger Traffic (Annual) and % change in Naira Value to Dollar (parallel market).

Hypothesis testing is an important activity of empirical research and evidenced-based research; therefore a well worked up hypothesis is half the answer to the research question [9]. Finally, a good hypothesis must be based on a good research question. It should be simple, specific and stated in advance [10]. To better justify what Hully et al. opined, it should be of note that a good research question must naturally flow from the statement of research problem and must reflect in the objectives.

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