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AN EVALUATION OF GOVERNMENT'S PERFORMANCE IN NIGERIA USING THE FUZZY LOGIC TECHNOLOGY.

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Introduction

Governance is the manner in which power is exercised in the management of a country's economic and social resources. Governance can be viewed as the use of State resources and power in an accountable way to achieve and promote the well-being of the citizenry. (1)Governance is expected to be open, transparent, accountable, equitable and responsive to the yearning and aspirations of the people. When government activities are conducted an open, transparent, accountable, equitable and responsive manner, we can say that governance is good. Good governance has become became the reducible criteria for assessment of government under the 1999 Constitution and this is due to the negative effect of military rule, the activities of civil society and the pressures of international financial institutions such as the World Bank, IMF and UNDP(2). When governance is good, it facilitates the creation of a reliable enabling environment, which in turn promotes broad-based economic growth and helps reduce poverty(3). Good governance is integral to economic growth, the eradication of poverty and hunger, quality education and sustainable development(3).According to the former United Nations Secretary General Kofi Annan, "Good governance is perhaps the single most important factor in eradicating poverty and promoting development" (4). This implies that governance aids citizens to have access to sufficient food, health care services, quality education, state of the art infrastructures and constant electricity supply, all which help to reduce poverty and enhance the general well-being the citizens. Unfortunately, Nigerians are yet to feel the impact of governance in the country. For instance, infrastructural development is at its lowest ebb in Nigeria. The transportation infrastructure which include roads, air transport facilities, railways, maritime infrastructure (inland waterways and ports) and urban transportation are not in good condition. Nigeria has a national road network of about 200,000km. Of this total, federal roads make up 18 per cent (about 35,000km), state roads 15 per cent (about 17,000km) and local government roads 67 per cent (about 150,000km). Over 90 per cent of the local government roads are unpaved and over 50 per cent are not motorable(5). Nigerians have been experiencing increase epileptic power supply in recent times. The current status of electricity generated in Nigeria with regard to its population is grossly inadequate. It has been discovered that for the Nigerian Electricity Supply Industry (NESI) to cover 24/7 hours of power supply to the citizens, it will need to invest more than $100 billion in the next 20 years (6). This implies that Nigerians still need to suffer epileptic power supply for many more years before the situation will get better. Nigerians have not also enjoyed quality education. The standard of education in Nigeria is known to be deteriorating on daily basis. The ugly state of Nigeria's education could be attributed to underfunding, low quality teaching personnel, lack of teaching facilities amongst others. Nigeria is far from UNESCO funding threshold for education pegged at 26 per cent of any budget cycle (Editorial Board, 2019). The consequences of this are under paid teachers, unhealthy learning environment and the absence of commitment and passion by persons who work in the educational sector. The problem is also responsible for the frequent industrial actions in the education sector often led by the Academic Staff Union of Universities (ASUU). For Nigeria to develop there is need for government to give adequate attention to education. According to(7) many developed nations of the world are today successful because of the position they accorded education. Without education, the dream of developing Nigeria will only remain a mirage. Nigerians have not also enjoyed quality healthcare system. In 2000 according to World Health Organization (WHO), Nigeria's overall health system performance was ranked 187th position among 191 member States (8). In Nigeria, the Primary Health Care (PHC), which is the bedrock of the national health system, has remained comatose and this is due to gross under funding,

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mismanagement, corrupt practices and lack of capacity at the local government level(8). The Nigerian health care system is characterised with inadequate health facilities such as health centers, personnel, and medical equipments, particularly in rural areas. This has been responsible for the high mortality rate in children, maternal and even adults over the years in the country. The agricultural sector in Nigeria has not lived up to expectation. About 90 per cent of Nigeria's total food production comes from small farms and at least 60 per cent of the country's population earns their living from these small farms with farm sizes generally less than 2 hectares (9). Unfortunately, these small scale farmers are subsistence farmers and use crude and traditional production techniques. Subsidies for farm implements have remained grossly inadequate. Consequently, farmers find it difficult carrying out farming on a large scale. All these have contributed to the poor performance of the agricultural sector in Nigeria. It appears governance in Nigeria has been poor since the resources of the nation have not been properly utilized for the well-being of Nigerians.

Thus, this paper seeks to examine the performance of Nigeria's government, using President Buhari's administration (2015 – 2019) as case study in government. However, this paper presents a model for evaluation of government performance in projects implementation using fuzzy logic.

2.0 EXISTING GOVERNMENT EVALUATION APPROACHES.

In order to investigate citizens' perspective in evaluating government performance towards projects implementation, it is required that an appropriate research approach is chosen which considers the main focus of this paper. Government investment on delivering government services is usually huge. Many developed and developing countries have put considerable financial resources, estimated to be greater than 50 percent of GDP, behind the development of government. In order to make such investments worthwhile, government should have the ability to justify these investments, which typically requires evaluation(8). The most commonly used evaluation approaches are traditional ones (9). These evaluation approaches run the risk of not identifying all the hidden costs and intangible benefits generated from general public(5). A model for evaluating government performance services with citizen-centric approach was developed and tested. The model can also serve as a tool for understanding why government performance succeed or fail to help citizens find the services they required(4) .Another approach for evaluating government performance that takes into account the social and political context of the social services and its value for citizens was proposed by(5). The function of this model is to evaluate the openness of government which the researchers described as a social-technical toolkit that contains three different parts: internal characteristics, elements to capture the social and political context of the information; and assumptions about the roles of citizens and government. Technology Acceptance Model (TAM) and Diffusion of Innovation (DOI) theory were among the existing evaluation techniques adoption of government performance evaluation(10).

Government has structures for its operations and every government agency has their mandates. It is therefore acceptable to access government via its operational arms, such as the Ministries, Agencies and Parastatals(4). Their study identified twelve factors that influence the citizen's perspective of government services. These factors include: Economy, Health, Education, Security, Youth Development (Employment), Road Infrastructure, Power (Electricity), Agriculture, Water Supply and security.

3.0 Fuzzy Set Theory

Fuzzy logic was introduced by Zadeh in 1965. Fuzzy provides a remarkably simple way to draw definite conclusions from vague, ambiguous or imprecise information(11). In a sense, fuzzy logic resembles human decision making with its ability to work from approximate data and find precise solution. Fuzzy set is an extension of the concept of an ordinary set usually referred to as crisp set. For a crisp set X, an element either belongs to X, represented by logic 1, or does not and is represented by logic 0. The fuzzy linguistics variables for government Performance can be categorized as: Poor, Below Average, Average, Above Average and Excellence. Each category is called a linguistic modifier. This modifier is linked to a numeric value on a scale as shown in figure 1. The scale ranges from 0 to 7 and fuzzy sets are used to characterize the government Performance. On the scale, the membership value of each linguistic modifier has a real number in closed interval [0,1]. The fuzzy linguistic variable "Performance" here denotes government Performance. Figure 1 represents a typical way of constructing fuzzy sets for linguistic variables where five fuzzy sets are used to evaluate government performance in the Southern Path of Nigeria.

3.1 Analysis of fuzzy sets structure and operation.

A fuzzy set is a class of objects with a continuum of grades of membership, such a set is characterized by a membership function which assigns to each object a grade of membership ranging between [0, 1].

To understand a fuzzy set, let X be a space of points with a generic element X denoted by x,

$$A = \{x, \mu_A(x) / x \varepsilon X\} \text{----------(1)}$$

where $\mu_A(x)$ represents the grade of membership function of element x of X in fuzzy set A. Element x may show a full, partial or no membership in A. Its membership grade would be considered to be full if $\mu_A(x) = 1$; partial if μ_A is between 0 and 1 ie $0 < \mu_A(x) < 1$; and there is no membership if $\mu_A(x) = 0$.

For instance, fuzzy linguistic variable Performance can the categorized as Poor, Below Average, Average, Above Average and Excellence. In the figure 1 below, five fuzzy sets are used to evaluate government performance on a scale of 0 to 7 with each linguistic modifier having membership value from 0 to 1

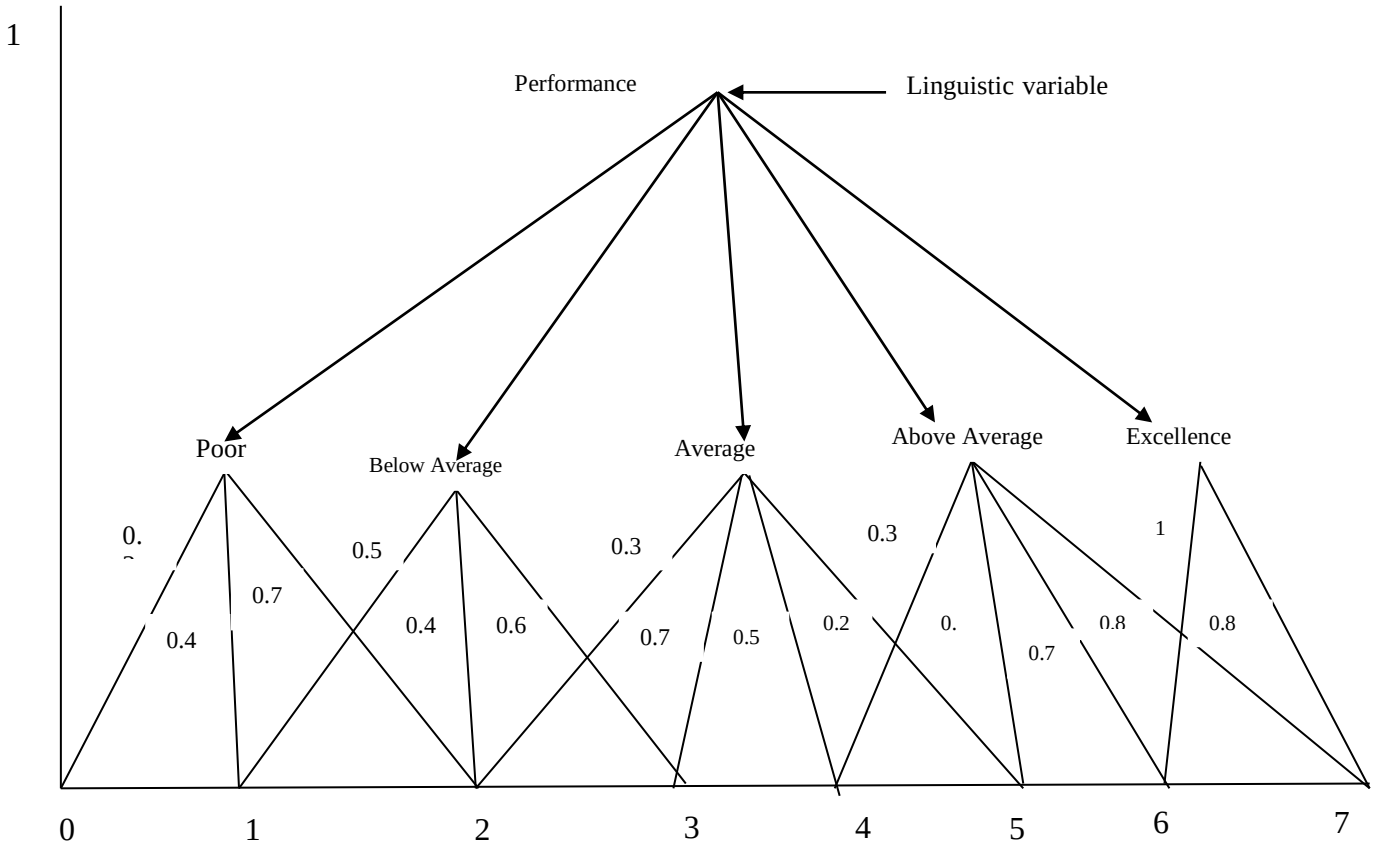

Figure 1. Fuzzy set structure for Performance rating

The fuzzy linguistic variable standard in this research work represents the proposed software application standard developed.

The interpretations of the five fuzzy sets are as follows:

Poor Performance = {0|0.3,1|0.4,2|0.7,3|0.0,4|0.0,5|0.0,6|0.0,7|0.0}

Below Average Performance = {0|0.0,1|0.5,2|0.4,3|0.6,4|0.0,5|0.0,6|0.0,7|0.0}

Average Performance = {0|0.0,1|0.0,2|0.3,3|0.7,4|0.5,5|0.2,6|0.0.7|0.0}

Above Average Performance = {0|0.0,1|0.0,2|0.0,3|0.0,4|0.3,5|0.6,6|0.7,7|0.8

Excellence Performance = {0|0.0,1|0.0,2|0.0,3|0.0,4|0.0,5|0.0,6|1.0,7|0.8}

Each linguistic modifier is linked to a numerical value on a scale from 0 to 7 that represents government Performance.

3.2 Operations on fuzzy sets.

Fuzzy sets can be manipulated using one of the four standard fuzzy sets operations, union, intersection, complement and implication operations

For instance, let $\mu_{\mathbf{B}}(y)$ and $\mu_A(x)$ represents two fuzzy sets with membership functions,

$_A(x) = \{1,3,4,6,8\}$ and $\mu_{\mathbf{B}}(y) = \{1,2,5,8.9\}$.

The two fuzzy sets $\mu_{\mathbf{B}}(y)$ and $\mu_A(x)$ are equal written as $\mu_{\mathbf{B}}(y) = \mu_A(x)$,

if and only if $\mu_{\mathbf{B}}(y) = \mu_A(x)$,for all x in X.

In an example $\mu A(x) \neq \mu B(y)$ *for all xin X*

The union of $\mu_{\mathbf{B}}(y)$ and $\mu_A(x)$ with respective membership function $\mu_{\mathbf{B}}(y)$ and $\mu_A(x)$ is a fuzzy set, written as C = $A \cup B$. A fuzzy sets union is performed by applying the maximum function to the elements of two sets.

$\mu_{c(z)} = \mu_A(x) = \{1,3,4,6,8\}$ U $\mu_{\mathbf{B}}(y) = \{1,2,5,8.9\}$

$\mu_{c(z)} = \{0,3,5,8,9\}$

The intersection is performed by applying the minimum function to the element of the fuzzy sets.

$\mu_{c(z)} = \mu_A(x) = \{1,3,4,6,8\} \cap \mu_{\mathbf{B}}(y) = \{1,2,5,8.9\} = \{0,2,4,6,8,\}$

The complement of a set is computed by subtracting each element of the set from its maximum possible value. $\mu_a(x) = \{8-\mu_A(x) = \{7,5,4,2,0\}$

The implication function is employed to decide if a particular set is true, to what extent does it implies the other set can be said to be true? Implication operation can be illustrated by computing

$s\mu_A(x) \cup \mu_B(y) = \mu_A(x) \cup \mu_B(y)$

$\mu_A(x) \cup \mu_B(y) = \{7,5,4,2,0\} \cup \{1,2,5,8.9\} = \{7,5,5,8,9\}$

Table 1: Fuzzy linguistic Variables and Membership grades

Evaluation metrics	Representation (w)	Membership Grade fY(w)
Economy	E1	0.1
Health	E2	0.2
Education	E3	0.3
Security	E4	0.4
Youth development	E5	0.5
Road Infrasture	E6	0.6
Power (Electricity)	E7	0.7
Agricultural sector	E8	0.8
Water Supply	E9	0.9
Fight corruption	E10	1.0

Linguistic Variables	Fuzzy Values
Poor	0<= x<=2.0
Below Average	I <=x<=3.0
Average	2 <=x =5.0
Above Average	4 <=x <=7.0
Excellence	6 <=x <=7.0

3.3 Modeling the evaluation of Government Performance

The model was simulated and tested for evaluations taking into consideration feedback from stakeholders that were drawn from twelve (12) State of Southern part of Nigeria. Opinions of the stakeholders regarding the proposed model were randomly sampled and analyzed for the purpose of evaluation .The ten metrics for evaluation are Economy, Health, Education, Security, Youth Development (Employment), Road Infrastructure, Power (Electricity), Agriculture, Water Supply and fight corruption. The researcher therefore, formed a fuzzy set Y which takes values in a universe W in the interval of [0,1], such that:

Y = {W/fY(w),w € W

fY(w) = {1.0, 0.1 0.2,0.3,0.4,0.5,0.6,0.7,0.8,0.9}

However, the metrics used for the government performance evaluation as well as the weight of each of these metrics was defined through an expert's ideas as shown in Table 2

Table 2: Evaluation metrics and their membership grade

From Table 2, evaluation metric is assigned a membership grade between 0 and 1. Each evaluation metric is assigned a qualitative judgment to determine the degree of the performances for the selected metric category. These qualitative judgments are called linguistic variables and are shown in Table 2 .The linguistic variables are symbolized with two or more letters in the Table 3 and each variable assigned a numerical value within a close interval {0,1}

Table 3: Linguistic variables employed for the qualitative judgments.

Membership Grade	Symbols	Linguistic variable
0.2	P	Poor
0.4	BA	Below Average
0.6	A	Average
0.7	AA	Above Average
1.0	E	Excellence.

These linguistic variables therefore formed another fuzzy set Z which takes values in a universe of discourse W in the interval of [0,1], such that

Z = { W/fZ (w), w € W

fZ (w) = {0.2, 0.4, 0.6, 0.7, 1.0}

The next step is to assess the standard of each State by each evaluation metric that is based on the fuzzy opinion of the evaluator or decision maker

Table 4 Performance rating across the selected State across Nigeria

	Edo	Delta	River	Imo	Anambra	Ondo	Ekiti	Abia	C/River	Ebonyi	Enugul	Bayelsa
E1	**P**	**BA**	**A**	**P**	**A**	**AA**	**P**	**A**	**BA**	**P**	**BA**	**A**
E2	**BA**	**BA**	**A**	**A**	**A**	**A**	**AA**	**A**	**BA**	**BA**	**A**	**E**
E3	**A**	**A**	**BA**	**A**	**A**	**BA**	**AA**	**BA**	**A**	**BA**	**P**	**A**
E4	**P**	**P**	**P**	**BA**	**P**	**P**	**AA**	**BA**	**A**	**P**	**A**	**A**
E5	**A**	**P**	**A**	**P**	**BA**	**A**	**AA**	**BA**	**P**	**P**	**A**	**A**
E6	**A**	**A**	**A**	**A**	**A**	**BA**	**AA**	**A**	**P**	**BA**	**A**	**BA**
E7	**BA**	**BA**	**A**	**BA**	**BA**	**P**	**AA**	**AA**	**BA**	**A**	**AA**	**BA**
E8	**AA**	**E**	**AA**	**AA**	**AA**	**AA**	**AA**	**E**	**AA**	**E**	**AA**	**AA**
E9	**BA**	**BA**	**A**	**BA**	**P**	**A**	**A**	**AA**	**BA**	**P**	**A**	**BA**
E10	**E**	**AA**	**A**	**AA**	**AA**	**AA**	**AA**	**E**	**A**	**A**	**A**	**AA**

The Table 4 gives the relative importance of metrics 1 to 10 across the twelve (12) State of Southern part of Nigeria where the opinion was sampled.

The results of these decisions however constitute twelve (12) different fuzzy sets

Z1, Z2, Z3……Z12, with membership functions

fz1(w), fz2(w) , fz3(w), ……..fz12(w).

For instance, from Table 5, the fuzzy set and membership function of the first State Edo and second Delta State is:

Fg1(w) = {0.2, 0.4, 0.6, 0.2, 0.6, 0.6, 0.4, 0.7, 0.4, 1.0}

Fg2(w) = {0.4, 0.4, 0.6, 0.2 ,0.2, 0.6, 0.4, 1.0, 0.4, 0.7}

The numerical value was used to replace the linguistic variable symbols.

The Table 5 gives the relative importance of metrics 1 to 10 across the southern state of Nigeria where the opinion was sampled.

Table 5: Performance rating across the selected State across Nigeria

	Edo	Delta	River	Imo	Anambra	Ondo	Ekiti	Abia	C/River	Ebonyi	Enugul	Bayelsa
E1	**0.2**	**0.4**	**0.6**	**0.2**	**0.6**	**0.7**	**0.2**	**0.6**	**0.4**	**0.2**	**0.4**	**0.6**
E2	**0.4**	**.04**	**0.6**	**0.6**	**0.6**	**0.6**	**0.7**	**0.6**	**0.4**	**0.4**	**0.6**	**1.0**
E3	**0.6**	**0.6**	**0.4**	**0.6**	**0.6**	**0.4**	**0.6**	**0.4**	**0.6**	**0.4**	**0.2**	**0.6**
E4	**0.2**	**0.2**	**0.2**	**0.4**	**0.2**	**0.2**	**0.7**	**0.4**	**0.6**	**0.2**	**0.6**	**0.6**
E5	**0.6**	**0.2**	**0.6**	**0.2**	**0.4**	**0.6**	**0.7**	**0.6**	**0.2**	**0.2**	**0.6**	**0.6**
E6	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.4**	**0.7**	**0.6**	**0.2**	**0.4**	**0.6**	**0.4**
E7	**0.4**	**0.4**	**06**	**0.4**	**0.4**	**0.2**	**0.7**	**0.7**	**0.4**	**0.6**	**0.7**	**0.4**
E8	**0.7**	**1.0**	**0.7**	**0.7**	**0.7**	**0.7**	**1.0**	**0.6**	**0.7**	**1.0**	**0.7**	**0.7**
E9	**0.4**	**0.4**	**0.6**	**0.4**	**0.2**	**0.6**	**0.7**	**0.6**	**0.4**	**0.2**	**0.6**	**0.4**
E10	**1.0**	**0.7**	**0.6**	**0.7**	**0.7**	**0.7**	**1.0**	**0.7**	**0.6**	**0.6**	**0.6**	**0.7**

The researcher established a fuzzy implication relation between a specific voter metric and voter's in each local government area. According to [12], the fuzzy implication relationship was established by taking the complement of the performance from selected state. The complements of the evaluation metric set shown in the third column was applied to each proposed performance rating across the selected State . The Max function will be applied to each state and the complement of the evaluation metric set is show in table 6

$\underline{FY}$ (w) = {0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0}

$\underline{\overline{FY}}$(w)= {0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0.0}

$\underline{FY}Z_1$(w) = {0.9,0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0.0} ∪ {0.2, 0.4 ,0.6 ,0.2, 0.6, 0.6, 0.4, 0.7, 0.4, 1.0}
0.9, 0.8, 0.7, 0.6, 0.6, 0.6 0.4, 0.7, 0.4, 1.0 = 4

$\underline{\overline{FY}}$ Z_2 (w) = {0.9,0.8, 0.7, 0.6, 0.3, 0.4, 0.3, 0.2, 0.1, 0.0 } ∪ {0.4, 0.4, 0.6, 0.2, 0.2, 0.6, 0.4, 1.0, 0.4, 0.7}
0.9, 0.8, 0,7 ,0.6, 0.5, 0.6, 0.4, 1.0, 0.4, 0.7 = 0.4

$\underline{\overline{FY}}$ Z_3 (w) = {0.9, 0.8, 0.7, 0.6, 0.5, 0.3, 0.2, 0.1, 0.0,} ∪ {0.6, 0.6, 0.4, 0.2, 0.6, 0.6, 0.6, 0,7, 0.6, 0.6}
0.9, 0.8, 0.7, 0.6, 0.6, 0.6,0.6, 0.7, 0.6, 0.6 = 0.6

$\underline{\overline{FY}}$ Z_4 (w) = {0.9, 0.8, 0.7, 0.6, 0.5,0.4,0.3,0.2,0.1 0.0} ∪ {0.2, 0.6, 0.6, 0.4, 0.2, 0.6, 0.4, 0.7, 0.4, 0.7}
0.9, 0,8, 0.7, 0.6, 0.5, 0.6, 0.4, 0.7, 0.4, 0.7 ,= 0.4

$\underline{FY}Z_5$ (w) = {0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1 0.0} ∪ {0.6, 0.6, 0.6, 0.2, 0.4, 0.6, 0.4, 0.7, 0.2, 0.7}
$\underline{\overline{FY}}$ 0.9, 0.8, 0.7, 0.6, 0.5, 0.6, 0.4, 0.7, 0.2, 0.7 = 0.2

$\underline{FY}$ Z_6 (w) = {0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1 0.0}∪ {0.7 0.6, 0.4,0.2, 0.6, 0.4,0. 2,0.7, 0.6 ,0.7 }
$\underline{\overline{FY}}$ 0.9, 0.8, 0.7,0.6, 0.6, 0.3, 0.3.0.7, 0.2, 0.7 = 0.2

$\underline{\overline{FY}}$ Z_7 (w) = {0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1 0.0} ∪ {0.2, 0.7, 0.6, 0.7, 0.7, 0.7 ,0.7, 0.1, 0.7, 1.0,}
0.9, 0.8, 0.7, 0.7, 0.7, 0.7, 0.7, 1.0, 0.7, 1.0 = 0.7

$\underline{\overline{FY}}$ Z_8 (w) = {0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1 0.0} ∪ {0.6,0.6, 0.4,0.4,0.6,0.6,.0.7,1.0,.0,6, 0.7}
0.9, 0.8, 0.7, 0.6, 0.6, 0.6, 0.6, 0.6, 0.6, 0.7 = 0.6

$\underline{\overline{FY}}$ Z_9 (w)= {0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1 0.0} ∪ { 0.4,0.4,0.6,0.6,0.2,0.2,0.4,0.7,0.4,0.6}
$\underline{\overline{FY}}$ 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.4, 0.7, 0.4, 0.6 = 0.4

FY Z_{10} (w) = {0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1} ∪ {0.2, 0.4, 0.4, 0.2, 0.2, 0.4, 0.6, 0.6,0.2, 0.6 }
$\underline{\overline{FY}}$ 0.9, 0.8 ,0.7, 0.6, 0.5, 0.4 ,0.6, 0.6, 0.2, 0.6 = 0.2

$\underline{\overline{FY}}$ Z_{11} (w) = {0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1 0.0} ∪ {0.4,0.6,0.2,0.6,0.6,0.6,0.7,0.7,0.6,0.6 }
0.9, 0.8, 0.7 ,0, 0.6,0.6,0.6, 0.7, 0.7,0.6,0.6 = 0.6

$\underline{\overline{FY}}$ Z_{12} (w) = {0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1 0.0} ∪ {0.6,1.0,0.6,0.6,0.6,0.4, 0.4,0.7, 0.4, 0.7}
0.9,1.0, 0,7,0.6, 0.6, 0.4, 0.4, 0.7, 0.4, 0.7 = 0.4

The final step in our model is to combine various performance standard of each State in order to arrived at the final evaluations. This is done by applying the Min function to the set derived for each State in the fuzzy set union operation above. The result of this operation is shown in Table 6

Table 6: Overall rating across the selected State

State	G/Performance Rating
Edo	0.4
Delta	0.4
River	0.6
Imo	0.4
Anambra	0.2
Ondo	0.2
Ekiti	0.7
Abia	0.6
Ebonyi	0.4
C/River	0.2
Enugu	0.6
Baynasia	0.4

4.0 Discussion and Findings:

The overall results of performance evaluations across the selected State are summarized in Table 6. In this table the scores value is synonymous to relative importance of each linguistic variable in Table 6. The rating reflects the sampled opinion of stakeholder interview across the selected State in southern part of Nigeria. The interpretation in Table 6 shows that the Government performance under review in Anambra, Ondo and Cross River state were of the opinion that the Government of President Buhari performance was Poor. Also, Edo, Delta, Imo, Ebonyi, and Bayasia state respectively rated the Government of President Buhari performance to be of Below Average performance. Again, three states, Rivers, Abia, and Enugu also rated the performance to be Average. Finally, Ekiti state rated the Government performance to be Above Average.

5.0 Conclusion

In this paper, a model for evaluating the performance of President Buhari Administration using fuzzy logic technique was proposed. The result shows the opinion of various states under review. However, the evaluation shed light on the need to make some improvements.

The model is recommended to be for evaluating the standard and performance for the purpose of quality enhancement.

6.0 Data Collection and Analysis

The researcher designed questionnaire for collecting relevant data regarding the evaluation metrics which includes: Economy, Health, Education, Security, Youth Development (Employment), Road Infrastructure, Power (Electricity), Agriculture, Water Supply and fight corruption . The questionnaire designed (see Appendix) were administered to selected respondents and stakeholders in the selected states and were received back from respondents. Fuzzy logic model was used to analyzed the standard and performance in project implementation of the President Buhari Administration. The questionnaire have 5-tickable options scale consist of below: Poor, Below Average, Average, Above Average and Excellence.

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