



## Readability Analysis of Nigeria National Daily Newspapers

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### Abstract

Readability describes the ease with which a document can be read and its tests use mathematical formulas to assess the suitability of a document for readers at a particular literacy level. Ten national daily newspapers were collected on the same day (Thursday) and analyzed statistically to determine whether number of pages in a newspaper contributes to the readability level of Nigerian newspapers. Tables were created showing different news bulletins contained in those newspaper. Mclaughlin's Simple Measure of Gobbledygook (SMOG) readability formula used to calculate the readability of these newspapers. It emerged that the readability of these newspaper were high, indicating that readers with lower literacy level will find them difficult to read. The study further showed that newspapers with many pages are easier to read than those with fewer pages. It is also concluded that increase in readability usually leads to improvement in understanding and occasionally in compliance with information disseminated.

**Keywords:** Newspapers, readability, Nigeria, National dailies, Statistical Analysis

### 1. Introduction

Newspapers are product of professional venture, designed and packaged to serve the need to acquire information on all aspects of life both locally and internationally. A newspaper may be described as a document which is printed and published regularly and consists of news reports, articles, photographs and advertisements which are on large sheets of paper folded together but not permanently joined. Newspapers which may be published daily, weekly or fortnightly are important in the lives of people in the world because its main objective is to inform, educate, and entertain the populace (Olorunsola, 1997). In order to fulfill this need, media professionals consciously strive to gather and disseminate news in ways to attract readers' attention and thereby ensure that they read, comprehend and use it as needed. In a vast country like Nigeria, many national daily newspapers disseminate news and events happening across the country and beyond. Unfortunately, Nigeria has few in local languages, circulated only within the state. One cannot read newspaper in his native language outside the state in Nigeria while one reads Chinese, Indian or Bengali (Bangladesh) newspaper outside the country. According to the New Delhi-based Indian Newspaper Society (cited in Wharton, 2010), India has 62,000 newspapers; with a staggering 90% of them in local languages. The population of Nigeria is large and the literacy level is still below average, therefore communication is still appropriate in local language in order to get the attention of the populace. A reader needs to comprehend in order to assimilate the information dissimilated. Although English and Pidgin are national languages in Nigeria, it is still rare to get newspaper written in Pidgin English. Even when newspapers are written in English, its comprehension level is higher than average, making it difficult for readers with low standard of education to either be excluded from reading it or use dictionary while reading, thus, the need to look at the readability level of these newspapers.

According to Stephens (2000), readability tests were first developed in the 1920s in the United States to measure how easy it is to read and comprehend a document. It uses mathematical formula to determine the suitability of books for learners at different levels. The formulas are based around the average words to a sentence, and the average syllables used per word. The tests were intended to help educators, librarians and publishers make decisions about purchase and sale of books. They were also meant to save time - because before the formula was used those decisions were made on recommendations of educators and librarians who read the books (Stephens, 2000). These people were taking books already written and figuring out who were the appropriate reading groups. Readability tests provide a prediction of the reading ease for a document. It can be automated or performed manually by counting and doing a mathematical calculation. Most grammar or editing software today can perform several readability tests. This study uses Mclaughlin readability formula called Simple Measure of Gobbledygook (SMOG). Harry McLaughlin (McLaughlin, 1969) determined that word length and sentence length should be multiplied rather than added as in other formulas. In his words:

*A readability formula is simply a mathematical equation derived by regression analysis. This procedure finds the equation which best expresses the relationship between two variables, which in this case are a measure of the difficulty experienced by people reading a given text, and a measure of the linguistic characteristics of that text. This formula can then be used to predict reading difficulty from the linguistic characteristics of other texts (McLaughlin, 1969).*

Gobbledygook makes it possible to obtain good readability scores, provided the content contains short sentences made up of monosyllabic words. Sentence length and polysyllabic words do have a direct impact on the readability of documents, albeit a surface measure of the characteristics of the text.

Another issue that bothers newspaper readers is making choice of newspaper to buy on a particular day of the week. For instance, on a day like Thursday, which newspaper a sports lover should buy in order to get qualitative sports news? This work also looks at different news bulletin covered by each newspaper and determines the one that has more coverage on particular news bulletin than the other. Based on these, this study answers the following research questions:

- a) What is the level of readability of Nigerian newspapers and what class of people do these newspapers focus on?

- b) On a particular day like Thursday, which article should mostly attract readers' attention?  
c) Which newspaper has more detailed information than others?

## 2. Research Methodology

On Thursday 20<sup>th</sup> December 2012, ten Nigerian National daily newspapers were bought and used to create tables based on contents of interest of the study commonly found in typical newspapers. Data gathered for the study were quantitatively analysed based on the Grounded Theory (Strauss & Corbin, 1998).

Wherever it was essential to establish the statistical significance of the similarities and differences in the content of the dailies across various content categories, the data was subjected to correlation test of significance. That being the case, sampled dailies has been compared and contrasted as such to describe their news programming practices. In analyzing the result, McLaughlin SMOG (Simple Measure of Gobbledygook) and descriptive analysis are used. He published the SMOG formula as follows:

SMOG grading = 3 + square root of polysyllable count.

where: polysyllable count = number of words of more than two syllables in a sample of 30 sentences.

## 3. Findings and Result

Table 1: Readability using McLaughlin's SMOG formula

| Newspaper        | Polysyllables count | Calculation  | Readability |
|------------------|---------------------|--|-------------|
| The Guardian:    | 104                 | SMOG grading = 3 + square root of 104<br>= 3 + 10.2 = 13.2     | 13.2        |
| The Vanguard     | 66                  | SMOG grading = 3 + square root of 66<br>= 3 + 8.124038 = 11.1  | 11.1        |
| The Punch        | 132                 | SMOG grading = 3 + square root of 132<br>= 3 + 11.48913 = 14.5 | 14.5        |
| Daily Sun        | 97                  | SMOG grading = 3 + square root of 97<br>= 3 + 9.848858 = 12.8  | 12.8        |
| Nigerian Compass | 165                 | SMOG grading = 3 + square root of 165<br>= 3 + 12.84523 = 15.8 | 15.8        |
| The Nation       | 78                  | SMOG grading = 3 + square root of 78<br>= 3 + 8.831761 = 11.8  | 11.8        |
| National Mirror  | 128                 | SMOG grading = 3 + square root of 128<br>= 3 + 11.31371 = 14.3 | 14.3        |
| Nigerian Pilot   | 123                 | SMOG grading = 3 + square root of 123<br>= 3 + 11.09054 = 14.1 | 14.1        |
| Leadership       | 102                 | SMOG grading = 3 + square root of 102<br>= 3 + 10.0995 = 13.1  | 13.1        |
| This Day         | 128                 | SMOG grading = 3 + square root of 128<br>= 3 + 11.31371 = 14.3 | 14.3        |

From table 1 above, the 30 sampled sentences in The Guardian newspaper have 104 polysyllables count given a readability level of 13.2; The Vanguard, with 66 polysyllables gave a readability of 11.1, which is the least of all. The 30 sampled sentences in The Punch newspaper have 132 polysyllables count given a readability level of 14.2; while The Daily Sun, with 97 polysyllables gave a readability of 12.8. After taking sample 30 sentences in The Nigerian Compass newspaper they gave 165 polysyllables count during the calculation given a readability level of 15.8 giving the highest of all; but The Nation have 78 polysyllables only given a readability level of 11.8. The National Mirror has 128 polysyllables count with a readability of 14.3 while the Nigerian Pilot has 123 polysyllables count with readability level of 14.1. The Leadership and This Day newspapers have 102 and 128 polysyllables counts with 13.1 and 14.3 readability level respectively.

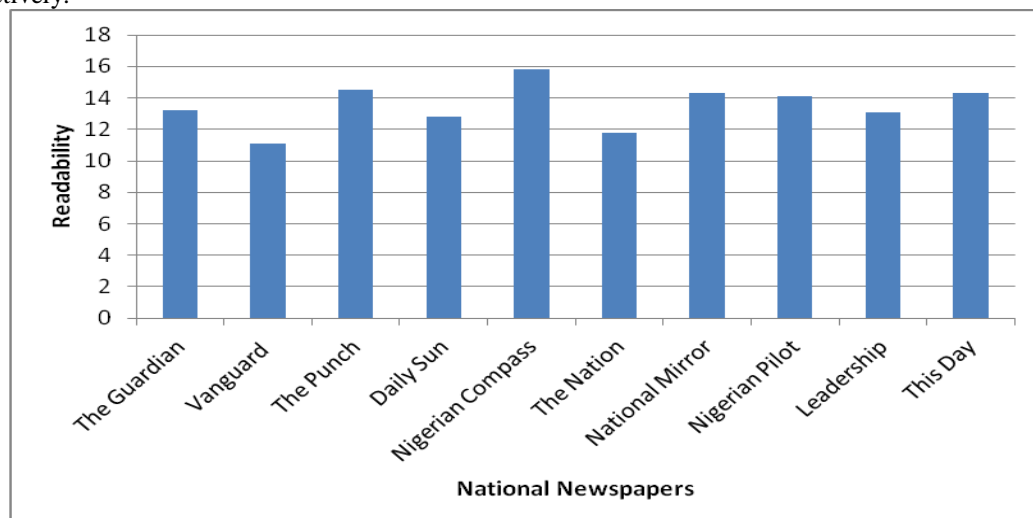


Fig 1: National newspapers and their readability.

The average readability of Nigerian newspaper is 13.5 given 22.3% while British newspapers have readability level of 9.9 given 57.2% in score. Of all the papers analysed, *The Vanguard* has the lowest readability level of 11.1 while the *Nigerian Compass* has the highest readability level of 15.8. This means that those with lower educational level will need a dictionary while reading newspapers. The *Nation and Daily Sun* newspapers have 11.8 and 12.8 readability level respectively, while others have between 13.1 and 14.5.

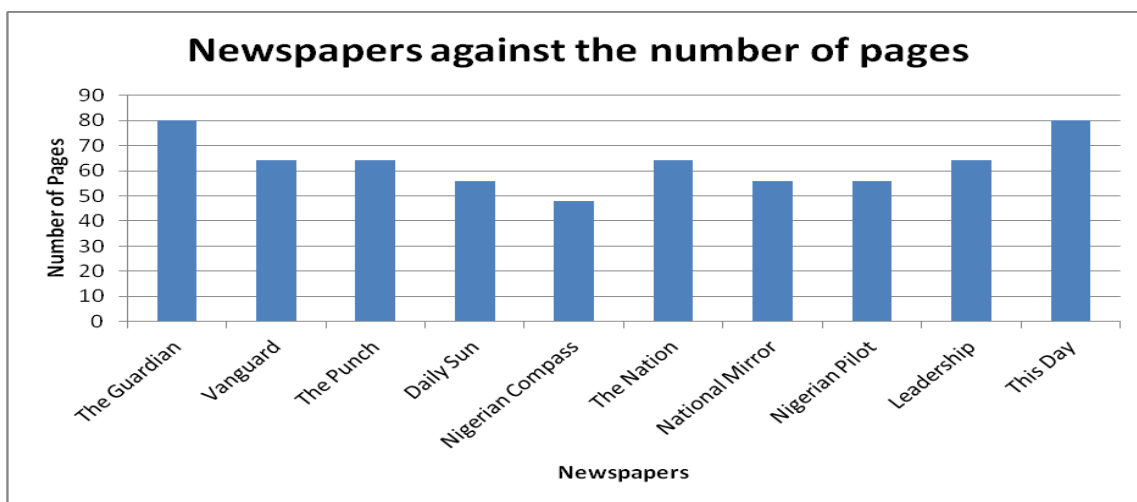


Fig 2: The different national newspapers with the total number of pages of each.

The pages of the dailies are compared showing that *The Guardian* and *This Day* newspapers have the largest number of 80 pages each and *Nigerian Compass* has the least number of 48 pages. One questions the rational of assigning the same prices ₦150 to all the newspapers irrespective of the number of pages contained and their content.

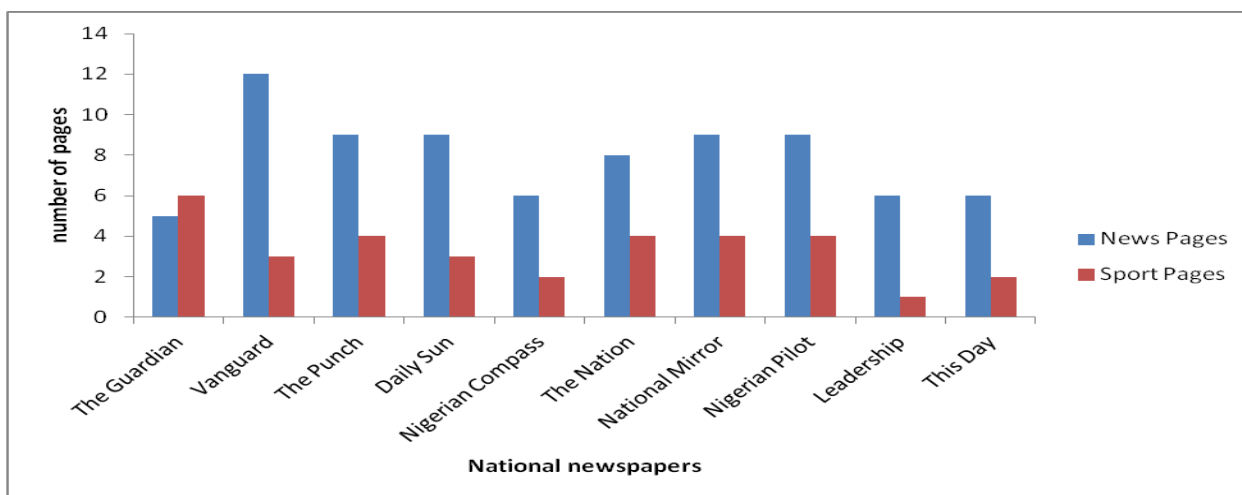


Fig 3: National newspapers with the different number of pages dedicated for sports and news.

The content analysis of the dailies showed that *the Vanguard newspaper* had devoted more space for news in comparison with *sports* as depicted in Fig. 3; the total news spaces in *National Mirror and Nigerian Pilot* were little more than 55 per cent of the total spaces. These two newspapers have the same percentage devoted to Sports, though *The Guardian* has more pages devoted to sports on Thursday than any other newspaper. In general newspapers devote more space to news than the sports on Thursday; therefore sports readers should read *The Guardian* on Thursday to get detailed sports news.

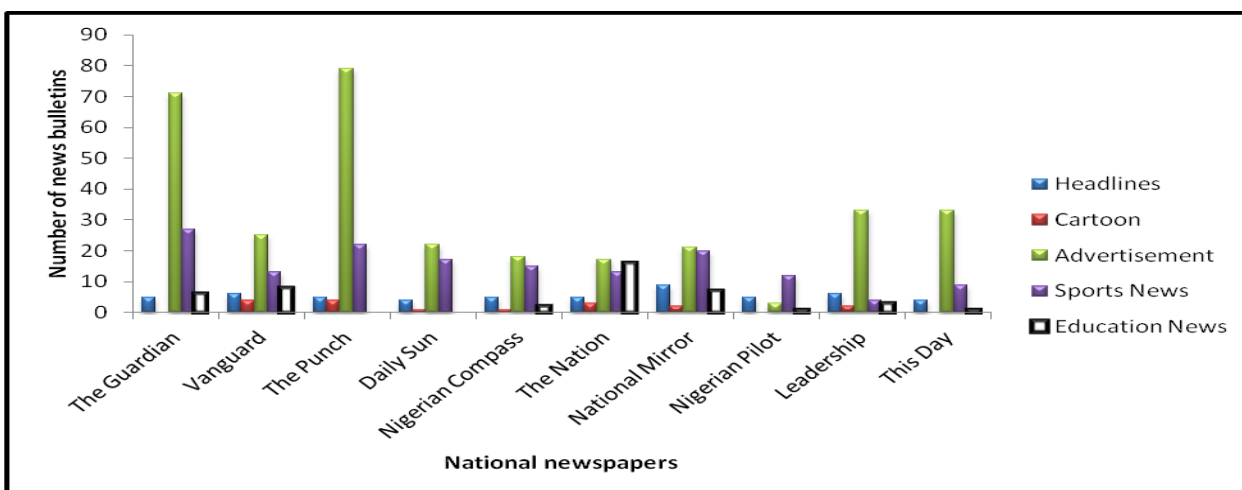


Fig 4: National newspapers with the different number of news bulletins

The *Guardian* and *The Punch* newspapers devoted more time to advertisement (61% and 64% respectively in Table 6) to the extent that *The Guardian* has no space for Cartoon; indicating that these two dailies must have gained more from advertisement than from sales of the newspaper itself. If a reader wants information on sports news on Thursdays, it is advisable for the reader to read *The Guardian* and the *Nigerian Pilot* that devoted 44% of its news content to Sports News. But for education news, the *Nation* and *the Vanguard* are preferable.

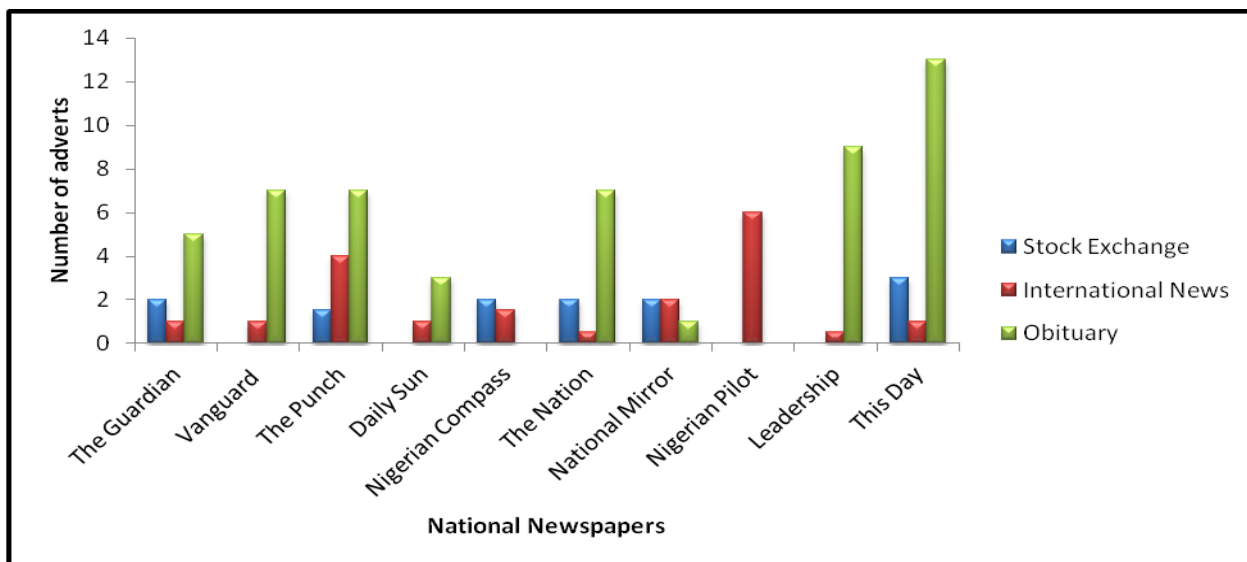


Fig 5: National newspapers with the different number of news bulletins (Fig 4 and 5 could be merged).

The largest number of news items belongs to Advertisement followed by Sports news in Fig.4, while Stock Exchange news accounted for lower percentage (0% in most dailies). From the aggregate data, *The Nation*, *Vanguard*, and *National Mirror* reported Education news, while *The Punch* and *Daily Sun* have no news on education on Thursday. In Fig. 5, International news is reported more in *Nigerian Pilot* with 22% but *The Guardian*, *The Nation*, and *Leadership* only have 1% each.

Table 2: ANOVA

| Data           | Sum of Squares | df  | Mean Square | F     | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | 62.113         | 9   | 6.901       | 1.409 | .183 |
| Within Groups  | 1499.266       | 306 | 4.900       |       |      |
| Total          | 1561.380       | 315 |             |       |      |

Further, the difference between the regression (between groups) value of 62.113 and within groups (residual) value of 1499.266 indicates that there is a large difference between what was expected and what was observed in the study. This also supports the appropriateness of the regression model in analysing the data. The error sum of square (within groups) is calculated by deducting sum of square due to regression from the total sum of square that is 1561.38-1499.266=62.113. Again, a measure of the unexplained variation in Y (readability) after regressing or explaining Y on X can be calculated by simply dividing the error sum of square by n-k (316-9=306). Statistically, this can be represented thus  $\sigma^2 = 1499.266/306= 4.9$ , as can be seen on the above table. The Significant value is greater than 0.05 (.183) hence conclude that there is no significant difference in the readability of the different Nigerian newspapers.

Table 3: Correlations determining the relationship between readability and newspaper pages

|                          |                     | number of pages | readability of the paper |
|--------------------------|---------------------|-----------------|--------------------------|
| number of pages          | Pearson Correlation | 1               | -.499                    |
|                          | Sig. (2-tailed)     |                 | .142                     |
|                          | N                   | 10              | 10                       |
| readability of the paper | Pearson Correlation | -.499           | 1                        |
|                          | Sig. (2-tailed)     | .142            |                          |
|                          | N                   | 10              | 10                       |

\*There was a significant relationship between the number of pages of a newspaper and its readability,  $r = -0.499$  (one tailed).

As Table 3 above shows, there is a negative correlation between readability and number of pages in the selected newspapers as denoted by negative correlation of -.499. Although, this relationship may be weak as indicated by their low values implying that an increase in one variable is associated with a decrease in the other variable, it is equally important to point out that the highest value of a correlation coefficient is  $\pm 1$ . A 2-tailed specifies how statistically significant a correlation between variables is. That is, increase or decrease in one variable do or do not significantly relate to increase or decrease of the other variable. When significant (2-tail) values are less than or equal to 0.05, the conclusion

is always that there is a statistically significant correlation between the variables (Cochran, 2007; Saldana, 2012). Therefore, the high significant levels of 0.142 can be interpreted to mean that a change in one variable may not necessarily indicate a change in the other as they relate to readability of newspaper. The share of various subject matter categories was found to be statistically significant (Table 3). However, the Pearson correlation co-efficient test indicated that the dailies follow more or less a similar programming policy for the subject matter categories of news. Pearson correlation (two tailed) test also indicated that readability level correlated negatively with the number of pages in each of the sampled dailies.

#### 4. Discussion

The second objective was realized by conducting a readability test on all the sampled dailies. By correlating the data of the content analysis with the data of the readability, the objective was examined. However, on analyzing the distribution of content news across pages it was found that all the dailies had no set pattern. The readability of these newspapers was of concern as none of them pass readability test using SMOG. Yet it can be argued that long sentences and difficult words are merely signals that the text is not written for ease of understanding. The number of pages of the newspapers is nearly the same except for The Guardian and the Nigerian Compass whose number of pages are 84 and 48 respectively. The newspapers are all tabloids and no broadsheet. This means that the national dailies consider the well-educated members of the society in its coverage, thereby neglecting those citizens with lower level of education. The colour of the newspapers was not considered because only the National Mirror uses different colours in its sport pages, others were on black and white print.

#### 5. Conclusion

Newspaper groups are launched regularly thanks to the deep pockets of politicians and their supporters, often businessmen with political ambitions. If readers are unable to comprehend what is written properly, how then can the politicians pass their messages? They rely mostly on television or radio to get information about what is happening around the globe, but television or radio give only headlines not detailed information as the newspaper. There is need for local language newspapers to encourage the citizen to read more. This study can further be carried out using different readability tests and can be extended to magazines.

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#### Annexure

Table 4:

| Newspaper        | Price | Page | Size (sq.cm) | Print Area (sq.cm) | News Pages | Sports Pages |
|------------------|-------|------|--------------|--------------------|------------|--------------|
| The Guardian     | ₦150  | 80   | 1114         | 895                | 5 (6%)     | 6 (8%)       |
| Vanguard         | ₦150  | 64   | 1131         | 888                | 12 (19%)   | 3 (5%)       |
| The Punch        | ₦150  | 64   | 1117         | 868                | 9 (14%)    | 4 (6%)       |
| Daily Sun        | ₦150  | 56   | 1100         | 799                | 9 (16%)    | 3 (5%)       |
| Nigerian Compass | ₦150  | 48   | 1120         | 833                | 6 (13%)    | 2 (4%)       |
| The Nation       | ₦150  | 64   | 1120         | 893                | 8 (13%)    | 4 (6%)       |
| National Mirror  | ₦150  | 56   | 1112         | 873                | 9 (16%)    | 4 (7%)       |
| Nigerian Pilot   | ₦150  | 56   | 1106         | 910                | 9 (16%)    | 4 (7%)       |
| Leadership       | ₦150  | 64   | 1148         | 882                | 6 (9%)     | 1 (2%)       |
| This Day         | ₦150  | 80   | 1190         | 982                | 6 (8%)     | 2 (3%)       |

Table 5: Categories of Content

| Newspaper        | Headlines | Cartoon | Advertisement | Sports News | Education News | Stock Exchange | International News | Obituary |
|------------------|-----------|---------|---------------|-------------|----------------|----------------|--------------------|----------|
| The Guardian     | 5 (4%)    | 0 (0%)  | 71 (61%)      | 27 (23%)    | 6 (5%)         | 2 (2%)         | 1 (1%)             | 5 (4%)   |
| Vanguard         | 6 (9%)    | 4 (6%)  | 25 (39%)      | 13 (20%)    | 8 (13%)        | 0 (0%)         | 1 (2%)             | 7 (11%)  |
| The Punch        | 5 (4%)    | 4 (3%)  | 79 (64%)      | 22 (18%)    | 0 (0%)         | 1.5 (1%)       | 4 (3%)             | 7 (6%)   |
| Daily Sun        | 4 (8%)    | 1 (2%)  | 22 (46%)      | 17 (35%)    | 0 (0%)         | 0 (0%)         | 1 (2%)             | 3 (6%)   |
| Nigerian Compass | 5 (11%)   | 1 (2%)  | 18 (40%)      | 15 (34%)    | 2 (4%)         | 2 (4%)         | 1.5 (3%)           | 0 (0%)   |
| The Nation       | 5 (8%)    | 3 (5%)  | 17 (27%)      | 13 (20%)    | 16 (25%)       | 2 (3%)         | 0.5 (1%)           | 7 (11%)  |
| National Mirror  | 9 (14%)   | 2 (3%)  | 21 (33%)      | 20 (31%)    | 7 (11%)        | 2 (3%)         | 2 (3%)             | 1 (2%)   |
| Nigerian Pilot   | 5 (19%)   | 0 (0%)  | 3 (11%)       | 12 (44%)    | 1 (4%)         | 0 (0%)         | 6 (22%)            | 0 (0%)   |
| Leadership       | 6 (10%)   | 2 (3%)  | 33 (57%)      | 4 (7%)      | 3 (5%)         | 0 (0%)         | 0.5 (1%)           | 9 (16%)  |
| This Day         | 4 (6%)    | 0 (0%)  | 33 (52%)      | 9 (14%)     | 1 (2%)         | 3 (5%)         | 1 (2%)             | 13 (20%) |