Maduneme_Draft

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Data Source

The `afrobarometer_ngr` data is a publicly available data set from **Afrobarometer**, an non-profit African survey organization based in Ghana. According to their website, they "conducts public attitude surveys on democracy, governance, the economy, and society." The data set is part of their many data sets from African countries.

Specifically, the `afrobarometer_ngr` data set is a 2022 8th round comprehensive survey on several topics from perceptions of democracy, elections and the media to attitudes towards different institutions in Nigeria

```
## Importing Data
afrobarometer_ngr <- import(here("data", "afrobarometer_release-data_nig_r8_en_2021-03-31.sav"),
       setclass = "tbl_df")
```

For the purpose of this class, I intend to select only data points that pertain to the questions that I am interested in. This new data frame is called `selected_afrob`. I am still working on the data and will rename and perform other EDA eventually.

```
selected_afrob <-  afrobarometer_ngr %>%
  select(RESPNO, REGION, Q101:Q103, Q13:Q15C, Q16A, starts_with("Q41"), Q50A:Q50P_NIG, Q55A:Q56)
```

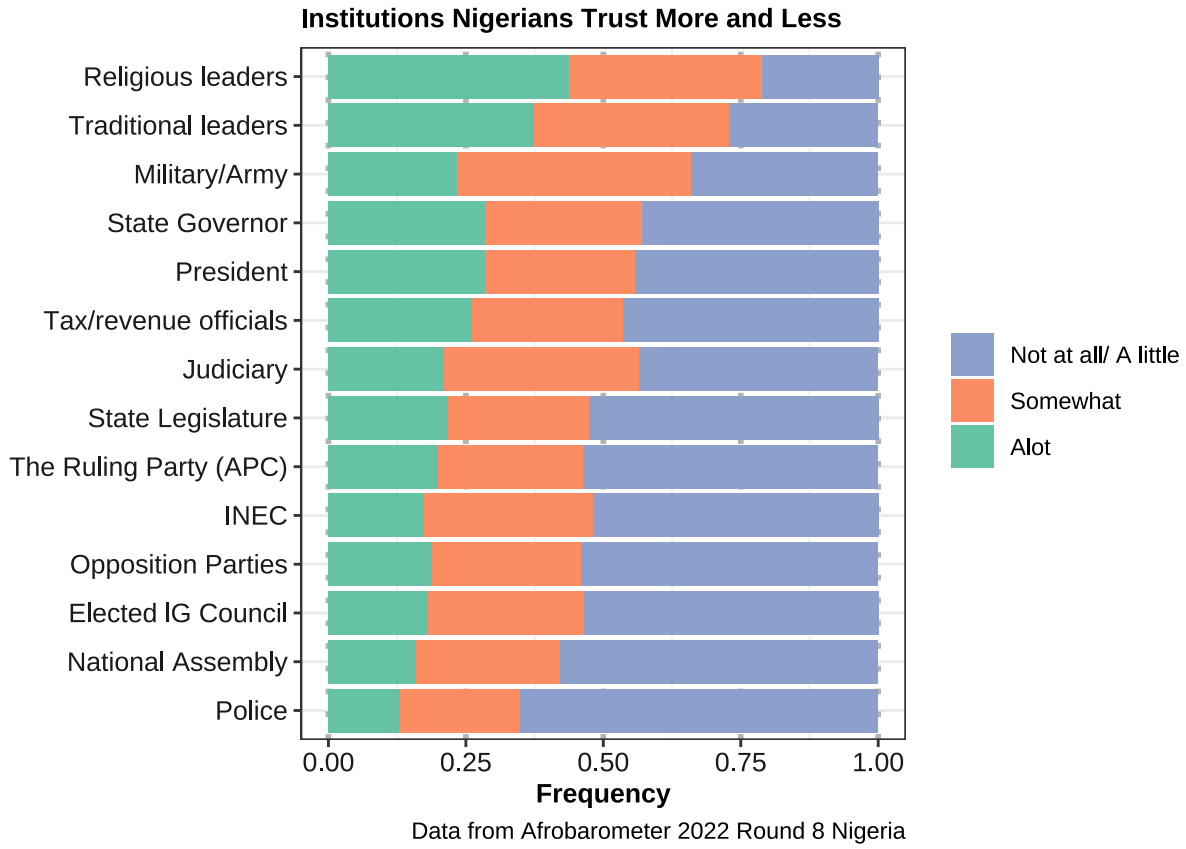
```
## Recode Variables Trust

#   Missing    Not at all Just a little      Somewhat        A lot      Don't know
#       NA             0             1             2             3             4

temp <- selected_afrob[,12:25]
temp[temp== -1] <- NA
temp[temp==8] <- NA
temp[temp== 9] <- 4
temp[temp==0 ] <- 0
temp[temp==1] <- 1
temp[temp==2] <- 2
temp[temp==3] <- 3

temp <- set_labels(temp, labels = c( "Don't know" = 4, "Not at all" = 0,"Just a little" = 1, "Somewhat"
selected_afrob[,12:25] <- temp

temp %>%
  characterize() %>%
  view()
```

```r
## look_for(selected_afrob)  This dislays all the labels


## Create Subset of dataset on Trust
temp2 <- selected_afrob %>%
  select(starts_with("Q41"))

## Renaming Variables Trust
temp2 <- temp2 %>%
  rename( "President" = "Q41A",  "National Assembly" = "Q41B","INEC" = "Q41C",
          "Elected lG Council" = "Q41D", "The Ruling Party (APC)" = "Q41E",
          "Opposition Parties" ="Q41F", "Police" = "Q41G",
          "Military/Army" = "Q41H", "Judiciary" = "Q41I",
          "Tax/revenue officials" = "Q41J", "Traditional leaders" = "Q41K",
          "Religious leaders" = "Q41L","State Governor" = "Q41M_NIG",
          "State Legislature" = "Q41N_NIG")

  selected_afrob[,12:25] <- temp2


  #   Missing    Not at all Just a little      Somewhat        A lot      Don't know
#       NA             0             1             2             3         4

  ## Clean data for plotting
 Trust_Manipulation <- temp2 %>%
 pivot_longer(
   cols = c(1:14),
    names_to = "institutions",
    values_to = "trust_scores") %>%
   #Not at all/ Just a little = 1, Somewhat  = 2, A lot/Don't know = 3
   mutate(trust_scores_recd = case_when(trust_scores < 1 ~ 1,
                                        trust_scores == 2 ~ 2,
                                        trust_scores > 2 ~ 3)) %>%
    group_by(institutions, trust_scores) %>%
   na.omit()

 glimpse(Trust_Manipulation)
```

```
## Rows: 16,062
## Columns: 3
## Groups: institutions, trust_scores [56]
## $ institutions      <chr> "President", "National Assembly", "INEC", "Elected l~
## $ trust_scores      <dbl> 0, 0, 0, 0, 0, 0, 0, 2, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0~
## $ trust_scores_recd <dbl> 1, 1, 1, 1, 1, 1, 1, 2, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1~
```

```r
## Stacked Bar chart for trust in different institutions
  trust_plot <- Trust_Manipulation %>%
   ggplot(aes(reorder(institutions, trust_scores_recd)))+
  geom_bar(aes(fill = as.factor(trust_scores_recd)),  position="fill") +
   coord_flip() +
    scale_fill_manual(values = c('#8da0cb','#fc8d62','#66c2a5'),
                      labels=c("Not at all/ A little", "Somewhat", "Alot")) +
    theme_bw() +
```

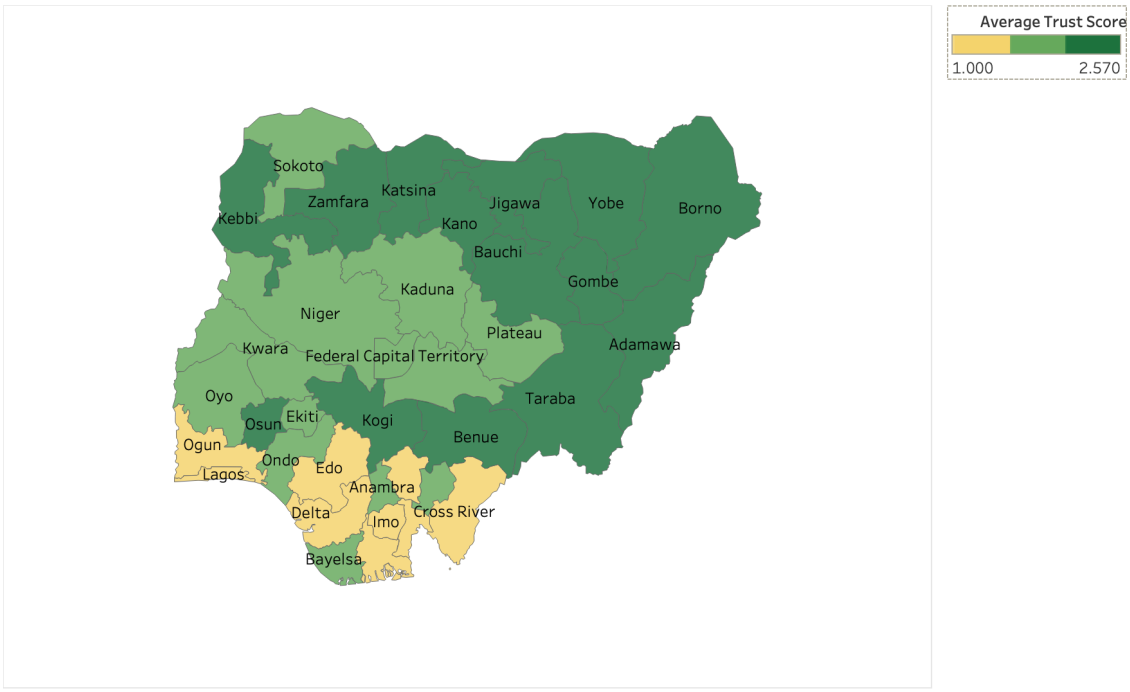
```
    theme(axis.text.y = element_text(size = 10, color = "grey10"),
          axis.text.x = element_text(size = 10, color = "grey10"),
        panel.grid.major.x = element_line(color = "grey70",
                                          size = 1.0,
                                          linetype = 3),
        legend.title=element_blank()) +
    labs(title = "Institutions Nigerians Trust More and Less",
        x = "",
        y = "Frequency",
        caption = "Data from Afrobarometer 2022 Round 8 Nigeria") +
   theme(plot.title=element_text(family="Times", face="bold", size=10),
          axis.title.x  = element_text(family = "Comic Sans MS", face="bold", size=10),
          axis.title.y  = element_text(family = "Times New Roman", face="bold"))
  trust_plot
```



Here is a map plot of overall Trust in Institutions by State

```
knitr::include_graphics(here( "final draft graphics", "Overall Trust in Institutions By State.png"))
```

Trust in Institutions By state



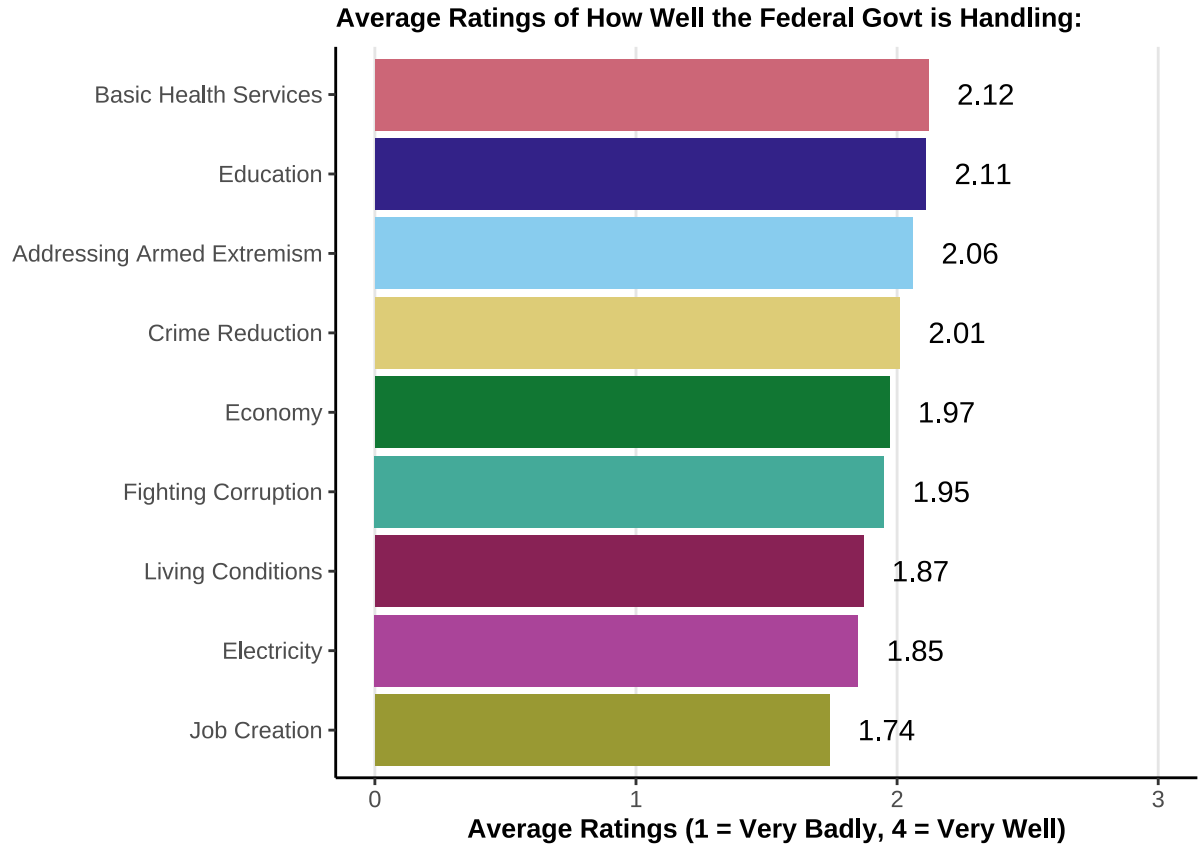
Map based on Longitude (generated) and Latitude (generated). Color shows maximum of Trust Scores Recd. The marks are labeled by State. Details are shown for Country and State. The data is filtered on Country (Country by Media.csv), which keeps Nigeria. The view is filtered on State, which excludes Null.

Perceptions of Issues in Nigeria In the next plot, I explored the media perceptions of Nigerians about the state of the country. Especially, how well or badly they rated the Federal Government's handling of select issues.

```
## First I created a subset of data that included all the issues interest.
percep <- selected_afrob %>%
  select(starts_with("Q50"))


## I then recoded the variables so they can be calculated.
percep[percep== -1] <- NA
percep[percep==8] <- NA
percep[percep== 9] <- 5
percep[percep==0 ] <- 0
percep[percep==1] <- 1
percep[percep==2] <- 2
percep[percep==3] <- 3
percep[percep==4] <- 4


## These are the new values:

## Missing   Very badly Fairly badly  Fairly well    Very well  Don't know
#  NA           1         2             3                 4     5

percep <- set_labels(percep, labels = c("Missing" = NA,
                                        "Very badly" = 1,
```

```
                                        "Fairly badly" = 2,
                                        "Fairly well" = 3,
                                        "Very well" = 4,
                                    "Don't know" = 5))

## I then joined it to the original dataset
selected_afrob[,26:41] <- percep



## Here I renamed the subset created so they are identifiable

percep2 <- percep %>%
  rename("Economy" = "Q50A",
          "Living Conditions" = "Q50B", "Job Creation" = "Q50C",
          "Keeping Prices" = "Q50D",
          "Narrowing Income Gap" ="Q50E",
          "Crime Reduction"  = "Q50F",
          "Basic Health Services" = "Q50G",
          "Education" = "Q50H",
          "Water and Santiation" = "Q50I",
          "Fighting Corruption" = "Q50J",
          "Infrastructure" = "Q50K",
          "Electricity" = "Q50L",
          "Resolving Violent Crime" = "Q50M",
          "Needs of Youths" = "Q50N",
          "RIghts & Opportunities for Disabled People" = "Q50O",
          "Addressing Armed Extremism" = "Q50P_NIG")


## I pivot longer in order to have the columns as values
percep3 <- percep2 %>%
    select(1:3, 6, 7, 8, 10, 12, 16) %>%
    pivot_longer(
   cols = c(1:9),
    names_to = "Issues",
    values_to = "ratings")

## This was a bit redundant but.... yeah.
j <- percep3 %>%
    group_by(Issues) %>%
    summarize(avg_score = round(mean(ratings), digits = 2)) %>%
    arrange(desc(avg_score))

## Here I began plotting the first bar chart
issue_ratings <- j %>%
  group_by(Issues) %>%
  ggplot(aes(reorder(Issues, avg_score), avg_score)) +
 geom_col(aes(fill = Issues),size=4) +
   ylim(0.0, 3.0) +
  coord_flip() +
  geom_text(aes(label = avg_score),  hjust = -0.5) +
  scale_fill_manual(values = c("#88CCEE", "#CC6677", "#DDCC77", "#117733", "#332288", "#AA4499", "#44AA
```

```
  theme_classic() +
  theme(panel.grid.major.x = element_line(color = "grey90",
size = 0.5,
linetype = 1)) +
  labs(title = "Average Ratings of How Well the Federal Govt is Handling:",
    x = "",
          y = "Average Ratings (1 = Very Badly, 4 = Very Well)" ) +
   theme(legend.position="none",
        plot.title=element_text(family="Times", face="bold", size=10),
        axis.title.x  = element_text(family = "Comic Sans MS", face="bold", size=10),
        axis.title.y  = element_text(family = "Times New Roman", face="bold"))

issue_ratings
```



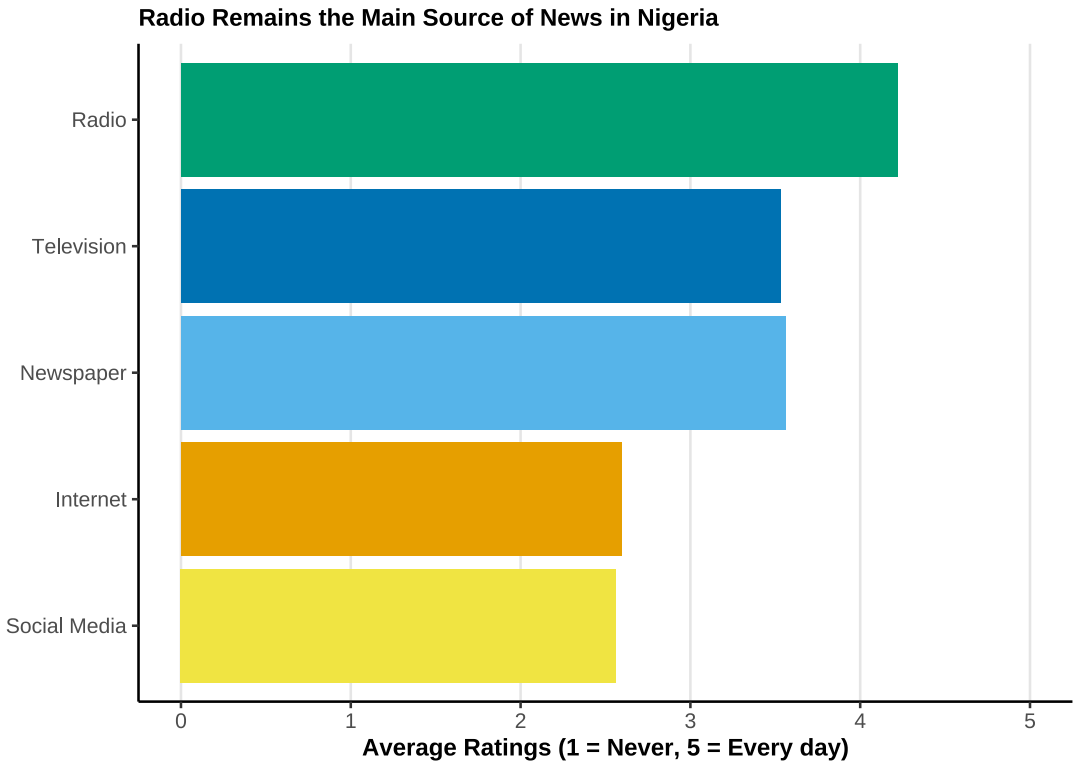
Next I explored the media use in Nigeria. First, I wanted to know which media is predominant and how media is used by different states.

```
## As previously noted, a subset of media use columns, but but first, I changed the name
selected_afrob <-  selected_afrob %>%
  mutate(states = REGION)

## Then... the subset...
media_use <- selected_afrob %>%
    select(Q55A:Q55E)
```

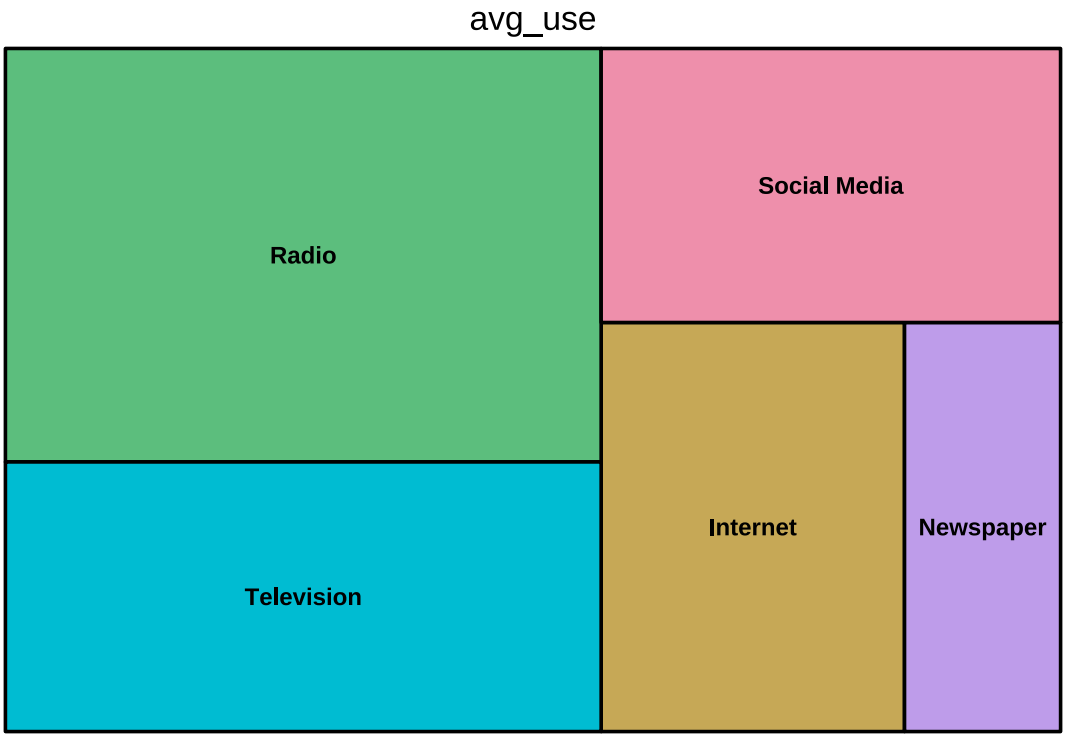
```r
## Recoding values
media_use[media_use== -1] <- NA
media_use[media_use==8] <- NA
media_use[media_use== 9] <- 5
media_use[media_use==0 ] <- 0
media_use[media_use==1] <- 1
media_use[media_use==2] <- 2
media_use[media_use==3] <- 3
media_use[media_use==4] <- 4


## Changed labels
media_use <- set_labels(media_use, labels = c("Missing" = NA,
                                              "Never" = 0,
                                        "Less than once a month" = 1,
                                        "A few times a month" = 2,
                                        "A few times a week" = 3,
                                        "Every day" = 4,
                                    "Don't know" = 5))

## Used this code to check the labels
### val_lab(media_use$Q55A)


## Renamed the columns
media_use <- media_use %>%
  rename("Radio" = "Q55A",
         "Television" = "Q55B",
         "Newspaper" = "Q55C",
         "Internet" = "Q55D",
         "Social Media" = "Q55E")

## Joined back to the original
selected_afrob[,42:46] <- media_use

### Some data wrangling in preparation for the plot.
media_use_main <- selected_afrob %>%
  select(1, 2, 48, 42:46) %>%
  rename("ID" = "RESPNO",
         "REGION" = "REGION",
         "states" = "states",
         "Radio" = "Q55A",
         "Television" = "Q55B",
         "Newspaper" = "Q55C",
         "Internet" = "Q55D",
         "Social Media" = "Q55E") %>%
  to_character(REGION, states)

## Changed the state names to a sentence case
 media_use_main$states <-  str_to_sentence(media_use_main$states)


   ### Some more data wrangling so I can plot the data in Tableau.
```

```
  media_use_main <- media_use_main %>%
   mutate(states = case_when(states == "Fct abuja" ~ "Federal Capital Territory",
                             states == "Abia" ~ "Abia",
                             states == "Cross river" ~ "Cross River",
                             TRUE ~ (states)),
          state = states)


p_load(naijR)
# Create a data frame and view top rows
ss <- states()
numStates <- length(ss)
vv <- sample(LETTERS[1:5], numStates, TRUE)
Nigerian_states <- tibble(states = ss, letter = vv)
dd <- data.frame(state = ss, letter = vv)
#(search for useful packages scripts to find full_set)
full_set <- merge(x = dd, y = media_use_main, by = "state")
## Some more wrangling in preparation for plotting as well as for Tableau
full_set2 <-  full_set %>%
 select(1, 6:10) %>%
  pivot_longer(
    cols = c(2:6),
    names_to = "media_type",
    values_to = "rating"
  ) %>%
  mutate(usage = case_when(rating == 5 ~ 1,
                           rating == 0 ~ 0,
                           rating == 1 ~ 2,
                           rating == 2 ~ 3,
                           rating == 3 ~ 4,
                           rating == 4 ~ 5)) %>%
    group_by(media_type, state) %>%
  summarise(avg_use = round(mean(usage, na.rm = T), digits = 3),
            media_type = as.factor(media_type)) %>%
  add_column(Country = "Nigeria") %>%
  select(4, everything())




## Wrangling some more data, essentially, converting columsn into rows, recoding values, adding the cou
mediatype_state <- full_set %>%
 select(1, 6:10) %>%
  pivot_longer(
    cols = c(2:6),
    names_to = "media_type",
    values_to = "rating"
  ) %>%
  mutate(usage = case_when(rating == 5 ~ 1,
                           rating == 0 ~ 0,
                           rating == 1 ~ 2,
                           rating == 2 ~ 3,
```

```
                            rating == 3 ~ 4,
                            rating == 4 ~ 5)) %>%
  mutate(media_type = as.factor(media_type)) %>%
  add_column(Country = "Nigeria") %>%
  select(-3)



## A plot to discover which media is most used
media_by_state <- full_set2 %>%
  ggplot(aes(fct_rev(fct_relevel(media_type, "Radio", "Television",
                          "Newspaper",  "Internet", "Social Media")), avg_use)) +
  geom_col(aes(fill = media_type)) +
    ylim(0.0, 5.0) +
 # facet_wrap(~ state) +
  scale_fill_OkabeIto(name = "media_type") +
    coord_flip() +
    theme_classic() +
  theme(legend.position = "none",
        panel.grid.major.x = element_line(color = "grey90",
                                          size = 0.5,
                                          linetype = 1)) +
  labs(title = "Radio Remains the Main Source of News in Nigeria",
       x = "",
          y = "Average Ratings (1 = Never, 5 = Every day)") +
   theme(legend.position="none",
        plot.title=element_text(family="Times", face="bold", size=10),
        axis.title.x  = element_text(family = "Comic Sans MS", face="bold", size=10),
        axis.title.y  = element_text(family = "Times New Roman", face="bold"))


media_by_state
```




```
### Tree map
 tree_try_media_use <- treemap(full_set2,
            index="media_type",
            vSize="avg_use",
            type="index",
          fontsize.labels= 10
            )
```

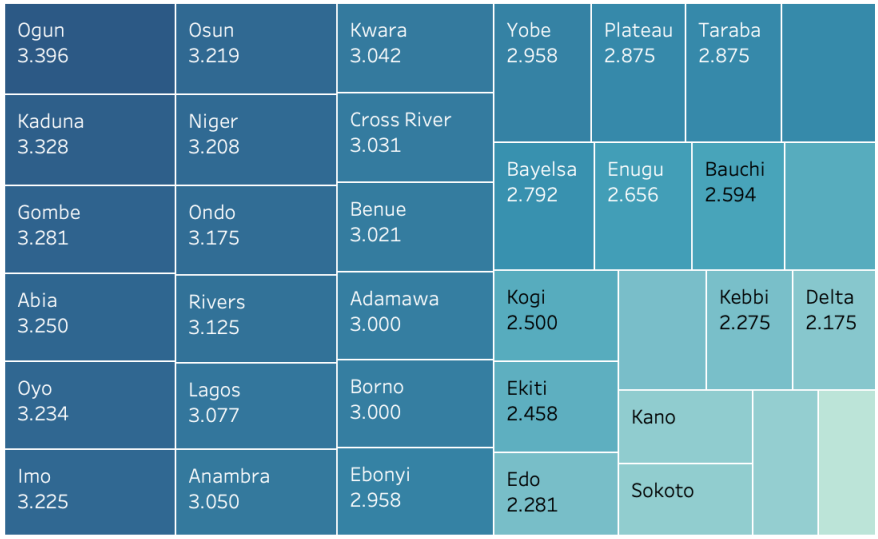


I also plotted the average media use overall by state on Tableau. It shows FCT which is the capital of Nigeria, Lagos, Borno and Kaduna states had more media use when all platforms are combined into an index.

Average Media Use By State

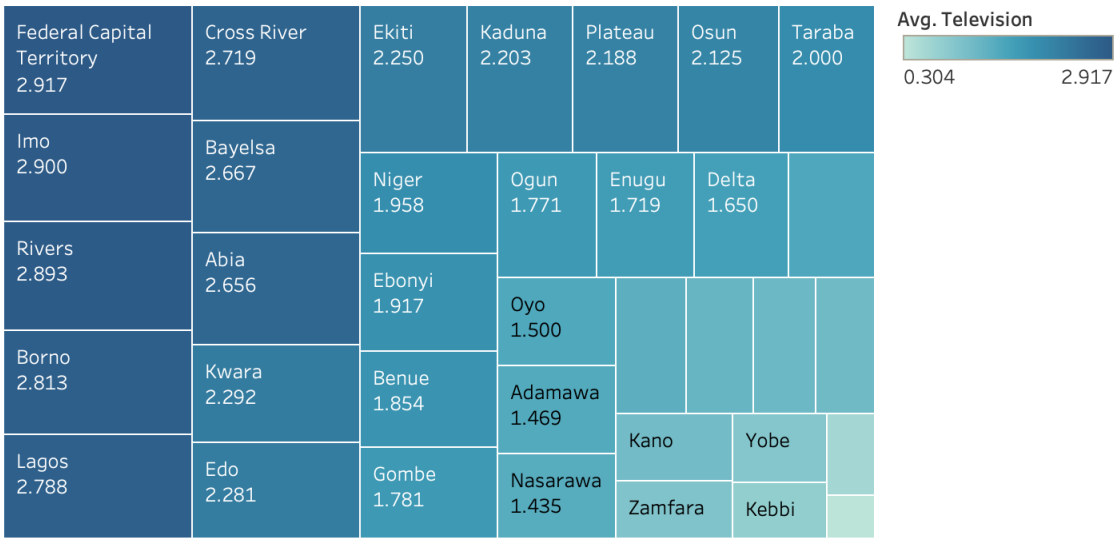
Map based on Longitude (generated) and Latitude (generated). Color shows average of Usage. The marks are labeled by State. Details are shown for Country and State.

Radio Use By State



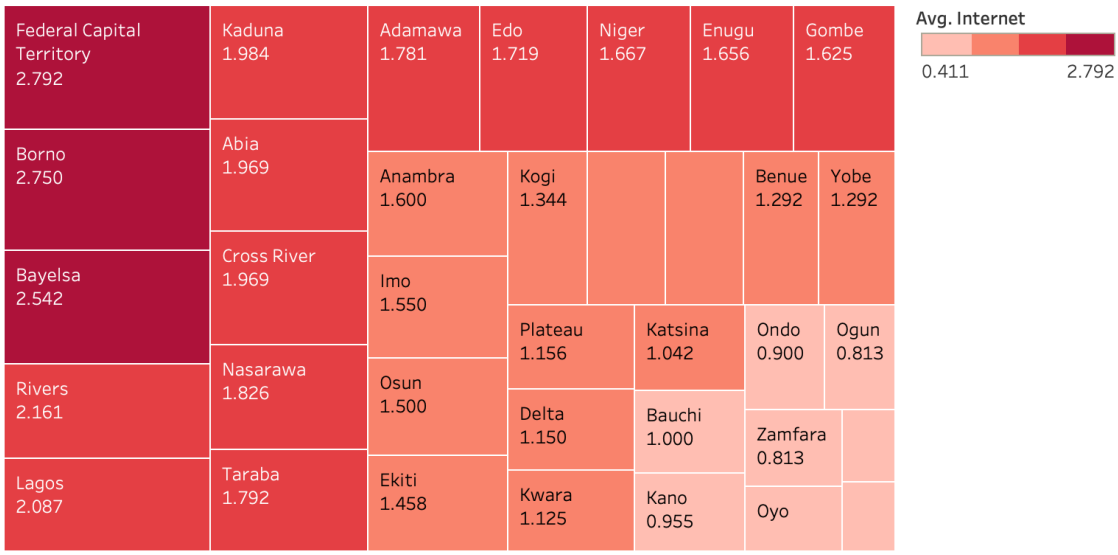
States and average of Radio. Color shows average of Radio. Size shows average of Radio. The marks are labeled by States and average of Radio.

Television Use By State



States and average of Television. Color shows average of Television. Size shows average of Television. The marks are labeled by States and average of Television.

Internet Use By State



States and average of Internet. Color shows average of Internet. Size shows average of Internet. The marks are labeled by States and average of Internet.

```
## Just for Tableau: Attaching geographic data to media usage in order to create graphs on Tableau

tablaeu <- full_set %>%
   add_column(Country = "Nigeria") %>%
 rename(Social_Media = "Social Media") %>%
 select(1, 6:9, 11) %>%
   pivot_longer(
    cols = c(2:5),
    names_to = "media_type",
```

```
    values_to = "ratings") %>%
  mutate(ratings_c = as.character(ratings))
```

```
Trust_by_states <- selected_afrob %>%
  select(48, 12:25) %>%
  to_character(states) %>%
   rename( "President" = "Q41A",  "National Assembly" = "Q41B","INEC" = "Q41C",
          "Elected lG Council" = "Q41D", "The Ruling Party (APC)" = "Q41E",
          "Opposition Parties" ="Q41F", "Police" = "Q41G",
          "Military/Army" = "Q41H", "Judiciary" = "Q41I",
          "Tax/revenue officials" = "Q41J", "Traditional leaders" = "Q41K",
          "Religious leaders" = "Q41L","State Governor" = "Q41M_NIG",
          "State Legislature" = "Q41N_NIG")


Trust_by_states$states <-  str_to_sentence(Trust_by_states$states)


Trust_by_states <- Trust_by_states %>%
 mutate(State = case_when(states == "Fct abuja" ~ "Federal Capital Territory",
                          states == "Abia" ~ "Abia",
                          states == "Cross river" ~ "Cross River",
                          TRUE ~ (states))) %>%
   add_column(Country = "Nigeria")

Trust_by_states %>%
  select(1, 16, everything()) %>%
  pivot_longer(
   cols = c(3:16),
    names_to = "institutions",
    values_to = "trust_scores") %>%
  group_by(institutions, states, Country) %>%
  summarise(trust_scores_recd = round(mean(trust_scores), digits = 2)) %>%
#   Missing    Not at all Just a little      Somewhat        A lot      Don't know
#       NA             0             1             2             3         4
  arrange(desc(trust_scores_recd))
```

Research Questions

With Nigerians preparing for its general elections between February and March 2023, it becomes expedient to evaluate public opinion and perceptions of the pressing issues of governance in the country and how it relates to the media. The goal of this visualization would be to evaluate the perceptions of Nigerians about the state of the country, how that relates to their trust in political institutions. Finally, what roles the media plays in relation to trust in elections and attitudes towards political institutions. Hence, the following questions?

1. What are the perceptions of Nigerians about Ethe National government?
2. How trusting are Nigerians of the political institutions?
3. How is the media related to trust in the National government?

Identification of the intended audience for each visualization

The audience intended for the visualization are made up of two sets of people: the general Nigeria public who are going to vote in an election between February and March. It would provide some insights on how they perceive the political institutions and electoral system they are voting for.

The second type of audience would be advertisers and businesses who are looking to understand the media ecosystems; the data provides insights on what type of media people rely on for information and how they feel about those platforms. This will also help guide business goals and decisions on ad spending and placement. In addition, it should also present them with a quick scan of public opinion on socio-political issues in Nigeria.