RESEARCH REPORT

Public Discourses and Engagement on Governance of Covid-19 Response in Ekiti State, Nigeria

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Executive Summary

ABOUT THE RESEARCH

Numerous studies have emerged so far on Covid-19 (SARS-CoV-2) across different disciplines. There is virtually no facet of human experience and relationships that have not been studied. In Nigeria, these studies include knowledge and attitude, risk perception, public perception of Covid-19 management, e-learning, palliatives, precautionary behaviours etc.[1,2,3] Studies have also been carried out on public framing of Covid-19 discourses in Nigeria; these have explored both offline and online messaging and issues from the perspectives of citizens towards government's policy responses such as palliative distributions, social distancing and lockdown. The investigators of these thematic concerns deployed different methodological tools in their studies. These tools include policy evaluations, content analysis, sentiment analysis, discourse analysis, survey questionnaires, focus group discussions, in depth-interviews as well as machine learning.[4,5]

These studies nearly always focus on the national government policy response, with little or no focus on the constituent states. In many of the studies, the researchers work with newspaper articles for analysis of public opinions while others use social media generated contents such as tweets) as sources for analysis of sentiments and opinions. Although there are others who rely on the use of survey questionnaires and other tools outlined above; the limitations of these approaches necessitated the research plan adopted by this study.

Most of the social media users in Nigeria are domiciled in cities and their demography comprises the middle class (socio-economic) who are more likely to be literate with access to internet technologies. Hence, the opinions of a majority of the population who are most likely rural dwellers with limited access to internet technologies are very often excluded. This is not in any way to disparage social media content analysis findings; because the opinions expressed by opinion leaders usually represent the larger subset of opinions prevalent in the society. Analysing public perception using questionnaires is also fraught with its challenges, as well as reliance on newspaper articles. A lot of the newspapers and news media organisations in Nigeria are politically hinged; some of them have active politicians and their associates as their proprietors. Getting unbiased opinions from these sources might be difficult. The news articles are also most likely to reflect and amplify official positions through press releases and interviews which usually privilege elite actors.

These gaps motivated this collaboration between Ekiti State Government and the African Leadership Centre at King's College London to embark on research that will primarily assess public perceptions of government leadership response to Covid-19 in Ekiti State. The timeframe of the study covers the first phase of the pandemic in Ekiti State (March/April to August 2020).

1 Eranga, I. O. E. (2020). Covid-19 Pandemic in Nigeria: Palliative Measures and the Politics of Vulnerability. *International Journal of Maternal and Child Health and Aids,* 9(2), 220.
2 Todd, A., Akhter, N., Cairns, J. M., Kasim, A., Walton, N., Ellison, A., ... & Bambra, C. (2018). The Pain Divide: A Cross-Sectional Analysis of Chronic Pain Prevalence, Pain Intensity and Opioid Utilisation in England. *BMJ Open*, 8(7), e023391.
3 Ufua, D. E., Osabuohien, E., Ogbari, M. E., Falola, H. O., Okoh, E. E., & Lakhani, A. (2021). Re-Strategising Government Palliative Support Systems in Tackling the Challenges of Covid-19 Lockdown in Lagos State, Nigeria. *Global Journal Of Flexible Systems Management*, 22(1), 19-32.
4 Adamu, H., Lutfi, S. L., Malim, N. H. A. H., Hassan, R., Di Vaio, A., & Mohamed, A. S. A. (2021). Framing Twitter Public Sentiment on Nigerian Government COVID-19 Palliatives Distribution Using Machine Learning. *Sustainability,* 13(6), 3497.
5 Oleribe O., Ezechi O., Osita-Oleribe P., et al.

SUMMARY OF METHODOLOGIES AND METHODS

To achieve the key objectives and to address some of the gaps missed by existing literature on the subject of interest, we used a multi-pronged approach involving multiple methods. This research is split into four independent sub-studies. The first part is about spatial and vulnerability mapping of at-risk populations in Ekiti State using Facebook Data for Good datasets and QGIS.

The second part explores social media analysis of the public perception of Government Covid-19 response in Ekiti State using quantitative content analysis. The third part assesses public perceptions and opinions on Covid-19 governance in Ekiti State through traditional news media using content analysis, correspondence analysis, and co-occurrence thematic network analysis.

The final part examines public perspectives and opinion dimensions on government leadership response to Covid-19 in Ekiti state using Stakeholder mapping and Q-methodology. More explanations for each of the methodologies and methods used in this research report are provided in the various study parts.

Key Research Objectives

- To Map the thematic network and the narrative discourse terrain on issues surrounding Covid-19 leadership response in Ekiti State.
- To identify critical stakeholders and actors that can help shape government response in future health emergencies.
- To aggregate and cluster perspectives on Covid-19 policy measures in Ekiti State
- To collate existing local knowledge and memories from Governmental and Non-governmental actors' relationships during the first phase of the pandemic in Ekiti State.
- To derive policy recommendations from the research findings.

SUMMARY OF KEY FINDINGS

Spatial and vulnerability mapping of at-risk people in Ekiti State

- Part of the measures to control the spread of Covid-19 in Ekiti and Nigeria during the first phase of the pandemic outbreak was movement restrictions. To fully have an overview of the pattern of movement of the at-risk populations (Elderly: ages 60+) in the state, we used the Facebook Data for Good datasets which include Facebook's high-resolution population density data, Facebook's movement range dataset, and GADM shapefile polygon dataset together with QGIS 3.18.2 and the GRID3 GIS database.[6,7] These datasets and tools helped to do Covid-19 risk-vulnerability mapping of vulnerable populations in Ekiti State during the timeframe of study (i.e., between April and August of 2020).

- Facebook's movement range data maps provide information about population response to physical social distancing measures using two metrics: Change in Movement and Stay Put. The former presents 'how much people are moving around and compares it with a baseline period that predates most social distancing measures'; while the latter 'looks at the fraction of the population that appear to stay within a small area during an entire day.'[8,9] We also used the Geo-Referenced Infrastructure and Demographic Data for Development (GRID3) for GIS shapefiles on Ekiti State health facilities and infrastructure. One limitation of the Facebook Movement Map is that it depends on user activation of their location and other proximity features; hence, most rural areas are excluded from the data capture. To this end, Only Irepodun/Ifelodun Local Government and Ado-Ekiti Local Government Areas of Ekiti State had enough Facebook mobility data for the risk vulnerability analysis. Ado-Ekiti is the capital city of Ekiti State.

- The collection of maps in figure 2 (on pp. 19-20) depict the Covid-19 vulnerability score for at-risk individuals (age 60+) in Ado-Ekiti and Irepodun/Ifelodun local government areas of Ekiti state between March and August of 2020. Between March and April 2020, the risk vulnerability scores were (extremely low: 0-8) and (mildly high: 60-69) for Irepodun/Ifelodun and Ado-Ekiti local government areas respectively. It must be clarified that these scores do not show infection or confirmed cases neither do they indicate the severity of infection.

6 Humanitarian Data Exchange. (2020). *Facebook's Data for Good*. Retrieved 31 August 2020, from https://data.humdata.org/organization/facebook

7 GRID3 (n.d.). *Ekiti Health Care Facilities (Primary, Secondary and Tertiary)*. Retrieved 25 July 2020, from https://grid3.gov.ng/dataset/ekiti-health-care-facilities-primary-secondary-and-tertiary#

8 Humanitarian Data Exchange. (2020). *Movement Range Maps*. Retrieved 31 August 2020, from https://data.humdata.org/dataset/movement-range-maps?

9 Ibid.

News Articles Analysed

- 54% of the materials (articles, blogposts etc.) with gender attribution analysed (N=790) were written by male authors, while 18% were written by female authors. The remaining 28% did not have any gender attributions.

- The news publications (N=761) with the most coded extracts are The Nation (n = 157: 21%), Premium Times (n = 126: 17%), The Sun (n = 100: 13%), and Nigerian Tribune (n = 97: 13%). All these news organs are print media except Premium Times that is an online news publication. These publications provided more coverage on Covid-19 in Ekiti State during the first phase of the outbreak than the other publications.

- Of the 554 coded extracts belonging to opinion leaders (interviewed) by gender attribution, (n = 318: 57%) are male actors or personalities, only (n = 56: 10%) are female actors. The remaining (n = 180: 33%) have no indicated gender attribution.

- The News reports on Covid-19 privileged organisational leaders more than the opinions of private citizens. Most of the news actors interviewed were affiliated with political or government agencies. Other public opinion leaders such as traditional monarchs, academics, youth leaders, and religious leaders have less sufficient representations in the mainstream media during the first months of the Covid-19 disease outbreak in Ekiti State. Most of the news discourse on Covid-19 in Ekiti State from March to August 2020 were in publications located in capital cities such as Lagos (n = 97: 13%), Abuja (n = 54: 7%), and Ado-Ekiti (n = 96: 13%). The implication of this is the exclusion of voices from rural communities.

- The co-occurrence network maps of the mainstream media show that their thematic narratives surround the

Social Media Analysis

- The dominant themes of the Covid-19 social media messaging (Twitter) on Ekiti State Covid-19 during the first phase of the outbreak starting from March to August of 2020 were more about updates and confirmation of cases. By April, the messages were about the provision of advice, and clarifications right after communication of confirmation and update. This messaging pattern suggests active Ekiti State Government leadership of the crisis communication narratives on social media.

- Ekiti Covid-19 social media discussions were led mainly by texts made, shared, or amplified by accounts linked to government and pro-government interests.

- The Covid-19 themes on social media in Ekiti State are consistent with the direction of mainstream media. Government sources (both state and federal e.g., press releases, NCDC updates etc.) accounted for most of the information distributed on social media (Twitter) and newspapers.

subjects of updates, awareness, confirmation, and information dissemination.

- In the conversation graphs in the newspapers and other mainstream media, anti-government sentiments, partisan criticisms, and protests were sparsely covered by the publications.

Q-Methodology (Public Perceptions)

- The public perspectives on Covid-19 in Ekiti State are clustered around Four (4) viewpoints and discourse dimensions. They are: (i) Distributive engagements and Socio-economic Access (Factor I), (ii) Disease Surveillance, Intervention assessments, Information and Education access (Factor II), (iii) Palliatives and social supports issues (Factor III), and (iv) Crisis communication, collaborative response, and protests (Factor IV). These Factors described the grouped perspectives expressed by the participants in the Q-sorting. Their pattern of aggregating the opinions in Ekiti Covid-19 conversation space.

- There are 37 opinions (Statements) in the conversation space. They are collected into 7 different criteria thematic categories.

- The disease surveillance policy measure by Ekiti State during the timeframe of the investigation was the Forward contact tracing approach. This entailed the isolation of known cases to forestall further transmission. However, this approach is susceptible to missing asymptomatic cases *(Criteria I: Disease surveillance and face covering).*

- There was a noteworthy acknowledgement of the impacts of the enforcement of movement restrictions, random testing protocol and the expansion of Ekiti State's only isolation centre on the mitigation of the spread of the virus *(Criteria II: Movement restriction and testing).*

- The collaboration between state and non-state local actors was not sufficient enough to significantly impact the management of Covid-19 in Ekiti State during the first phase of the pandemic *(Criteria III: Collaborative response and citizen engagements).*

- Regular updates, clarifications and case confirmations were provided by the Ekiti State government on Covid-19 to curtail misinformation. Awareness and information campaigns strategy of the state government aimed at bus and tricycle drivers on social and physical distancing helped stemmed the spread of the virus during the first phase of the pandemic in the state *(Criteria IV: Information, updates, and awareness).*

- There are views that provision and distribution of palliatives during the lockdown were not enough. There were also concerns about the transparency in the distribution of welfare support packages and palliatives *(Criteria V: Palliative, social, and welfare support).*

- Despite government directives on social and physical distancing, many businesses and markets operated without observing these measures in Ekiti State. Economic sustenance is a primary reason for this infraction.

- Education access was also was hindered by the lockdown. The alternatives provided such as the use of internet technologies, radio and television could not fully ameliorate the access limitation because of some of the factors discussed earlier including digital literacy, affordability; others include poor or inadequate virtual education teaching methods and curriculum, inadequate electricity supply etc. *(Criteria VI: Economic, education, and access to justice).*

RECOMMENDATIONS (POLICY)

On Social Media

- Have a more distributed messaging strategy involving identifying private or non-government social media influencers who are resident within, and outside Ekiti State who could have attracted more retweets and spread. A multi-layered crisis strategic online communication should be more diffused and distributed to include non-state actors with relevant influence.

- The social media crisis communication strategy for the Ekiti State should be complementary and inclusive of traditional offline communication infrastructure due to the place of Ekiti as a low internet access/ penetration state.

- Although mega and macro-influencers (mainly non-resident actors with large followership) are important for mass appeal; but, since all disaster events are local, it is crucial to engage more with micro and nano-influencers (residents) because they have a more focused message process with higher relevance factor. Their inclusion in the information dissemination process by tagging, mentioning, and sharing their messages (relevant) will add to the quality and reach of the communication process.

On News Media

- Ekiti State Government should engage more with local community publications in future communication planning of the state for emergency events.

- Government communication strategy during a crisis should be reformed to be more horizontal (i.e., peer-to-peer) especially among the various responsible agencies instead of the hierarchical (command-and-control) structure.

- Having the different agencies own their part of the communication process is more beneficial than solely centralised, top-down information. Aside from the Ekiti Commissioner for Health, the Director of the Ekiti State Emergency Management Agency Ministry, Ekiti State University Teaching Hospital should also be empowered to participate in the communication process. This will distribute the conversation further.

- Ekiti State Ministry of Information should work with the State Union of Journalists to train journalists and reporters on inclusive journalism to accommodate the underreported voices (e.g., women, youths, and rural dwellers).

On Q-Methodology (Public Perceptions)

- In future disease surveillance interventions, bidirectional contact tracing protocol should be deployed to complement available disease surveillance infrastructure including proximity-detection digital applications. Bidirectional approach 'uses "reverse-tracing" to identify the parent case who infected a known case, then continues tracing to iteratively discover other cases related to the parent.'[10]

- More Rapid SARS-CoV-2 (COVID-19) Diagnostic Antigen Testing kits be made accessible to citizens, and we also recommend the provision of more mobile testing facilities. A collaboration with local scientists could help in the development of cheaper alternatives to the more expensive kits and facilities.

- More collaborative intervention and policy initiatives between Ekiti State Government and local non-governmental actors should be emplaced. These collaborative relationships should cut across different socio-economic segments of the society and should reflect active citizen engagements.

- Mistrust of government policies around the distribution of palliatives can be averted by the enactment of measures that will encourage distributed engagements with citizens and transparency in the distribution of provisions and palliatives. Open communication and inclusive decision making on relief distributions can also prevent hoarding and corruption on the distribution chain.

- Virtual education, internet and mobile learning pedagogies should be developed by the state. Teachers should be trained on digital teaching methods to provide education access in situations where physical lessons are non-practicable.

10 Bradshaw, W. J., Alley, E. C., Huggins, J. H., Lloyd, A. L., & Esvelt, K. M. (2021). Bidirectional contact tracing could dramatically improve COVID-19 control. *Nature Communications,* 12(1), 1-9, 2.

Part 1: Spatial Analysis and Vulnerability Mapping of At-Risk Populations (to Covid-19 movement restriction measures) in Ekiti State Nigeria

Part of the measures to control the spread of Covid-19 in Ekiti and Nigeria during the first phase of the pandemic outbreak was movement restrictions. To fully have an overview of the pattern of movement of the at-risk population (Elderly: ages 60+) in the state, we used the Facebook Data for Good datasets which include Facebook's high-resolution population density data, Facebook's movement range dataset, and GADM shapefile polygon dataset together with QGIS 3.18.2 and the GRID3 GIS database.[11,12] These datasets and tools helped to do Covid-19 risk-vulnerability mapping of vulnerable populations in Ekiti State during the timeframe of study (i.e., between April and August of 2020).

DESCRIPTION OF GEOSPATIAL DATASETS

Facebook's high-resolution population density data proves useful in areas with difficult census data especially in countries with unreliable demographic data. Unlike the other demographic datasets, these Facebook data maps are high resolution (30-meter resolution) in contrast with the available maps which are only available at a resolution of 100 meters. This means the dataset used by Facebook is clearer and is closer to the surface than the others. Artificial intelligence and advanced computer vision technologies were used by Facebook's Spatial Computing team and researchers at the Center for International Earth Science Information Network (CIESIN) at Columbia University to identify buildings from the high-resolution data maps. The eventual result of their research is the development of the 'world's most accurate population datasets.' These data maps provide reliable demographic data of difficult-to-reach places.[13] These maps combined with existing population demographic data (e.g., Gridded Population of the World) were used to categorise the population by gender and age.[14]

11 Humanitarian Data Exchange. (2020). *Facebook's Data for Good.*
12 GRID3 (n.d.)
13 Facebook Data for Good. (2020). *Population Density Maps*. Retrieved 31 August 2020, from https://dataforgood.fb.com/tools/population-density-maps/
14 Facebook Data for Good. (2020). *Methodology: High Resolution Population Density Maps + Demographic Estimates*. Retrieved 31 August 2020, from https://dataforgood.fb.com/docs/methodology-high-resolution-population-density-maps-demographic-estimates/

Research Report | Part 1: Spatial Analysis and Vulnerability Mapping

Figure 1: A sample tiled image from Facebook's satellite image and their high-resolution data map with the grid system

Facebook's movement range data maps provide information about population response to physical social distancing measures using two metrics: Change in Movement and Stay Put. The former presents 'how much people are moving around and compares it with a baseline period that predates most social distancing measures'; while the latter 'looks at the fraction of the population that appears to stay within a small area during an entire day.'[15,16]

We also used the Geo-Referenced Infrastructure and Demographic Data for Development (GRID3) for GIS shapefiles on Ekiti State health facilities and infrastructure.

Strengths and Limitations of the Geospatial datasets

The high-resolution dataset is very useful for this purpose because it accurately maps buildings and uses neural networks artificial intelligence to estimate with a very high degree of accuracy the population in a place. You cannot claim there are 5 million people in a place where the satellite image of that location indicates that there are only 20 small huts. This data map can also help resolve conflicts over claims of inflation of census figures prevalent in political discourse in Nigeria. On the other hand, the Facebook Movement Map is limited because it depends on user activation of their location and other proximity features; hence, most rural areas are excluded from the data capture. To this end, Only Irepodun/Ifelodun Local Government and Ado-Ekiti Local Government Areas of Ekiti State had enough Facebook mobility data for the risk vulnerability analysis. Ado-Ekiti is the capital city of Ekiti State.

15 Humanitarian Data Exchange. (2020). *Movement Range Maps.*
16 Ibid.

METHODOLOGY FOR THE COVID-19 GEOSPATIAL VULNERABILITY RISK ASSESSMENT

We adapted the risk methodology used in identifying at-risk populations by Facebook Data for Good on their website. We applied the same approach with slight modifications to develop this risk and vulnerability analysis for Ekiti State. We started by filtering the Facebook movement range data to the specific timeframe of interests - April to August of 2020. Using QGIS, we calculated a weighted risk score for Ekiti State by computing the 'relationship between the percentage of the population that is elderly and the percentage of people staying at or around home, all weighted by sum of the elderly population in the area.'[17]

17 Facebook Data for Good. (2020). *Identification of At-Risk population using publicly available Facebook Data for Good datasets and QGIS.* Retrieved 18 September 2020, from https://dataforgood.facebook.com/dfg/docs/tutorial-identification-of-at-risk-populations#calculate-a-weighted-risk-score

RESULTS OF THE GEOSPATIAL ANALYSIS

After this, we scaled the risk score and then symbolised the map with inverted colour spectral derived from the scaled scores. We then classified the score and graduated symbols (colour) into 10 classes.Figure 2 shows the map of Ekiti state indicating the population density using the Facebook high-resolution satellite map. From the GRID3 government health facilities data for the state, it is obvious that the facilities are located around populated areas. The denser a location is on the map, the more likely the location is well-populated – a town or city. Villages, hamlets are sparsely populated. Ado-Ekiti is the capital city of Ekiti city; it is very populated as shown by the clusters of dots on the map, there are clusters of government public facilities in the city too.

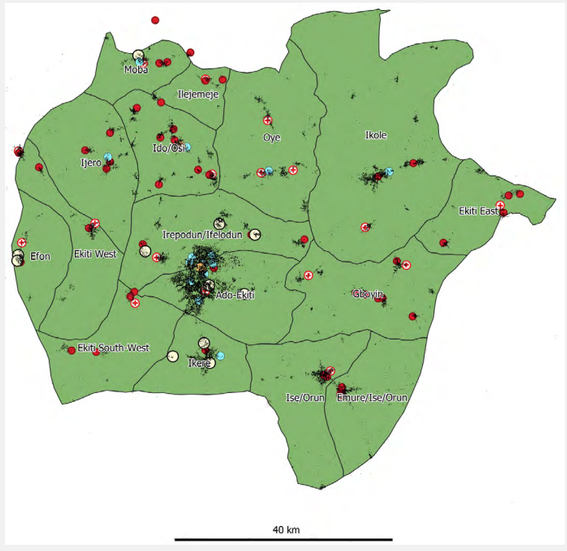

Figure 2: Population density map of Ekiti State

The collection of maps in Figure 3 depicts the Covid-19 vulnerability score for at-risk population individuals (age 60+) in Ado-Ekiti and Irepodun/Ifelodun local government areas of Ekiti state between March and August of 2020. As discussed earlier, we used the Facebook movement range map to compute Covid-19 risk-prone areas. Between March and April 2020, the risk vulnerability scores were (extremely low: 0-8) and (mildly high: 60-69) for Irepodun/Ifelodun and Ado-Ekiti local government areas respectively. It must be clarified that these scores do not show infections or confirmed cases neither do they indicate the severity of infections. The scores help to understand the movement behaviour of people aged 60 and above with the understanding that the more mobile people are, the more vulnerable they are to be infected and to spread the virus. It must also be clarified that people in the age category without access to Wi-Fi, the internet and Facebook are not captured by the mobility range data.

In May 2020, Irepodun/Ifelodun remained low-risk (extremely low: 0-8), while Ado-Ekiti climbed (extremely high 94-100). By June, the former experienced an increase in the vulnerability risk score for at-risk population individuals (low: 23-33) while the latter had a slight drop. Though the vulnerability risk score was still very high: 88-94. The scores remained the same for July. By August the vulnerability score for the at-risk population in Ado-Ekiti local government had started dipping (high: 54-67).

Government Heath facilities Keys	Comprehensive Health Center	Specialist Hospital	Educational Clinic	General Hospital	Teaching Hospital
GRID3					

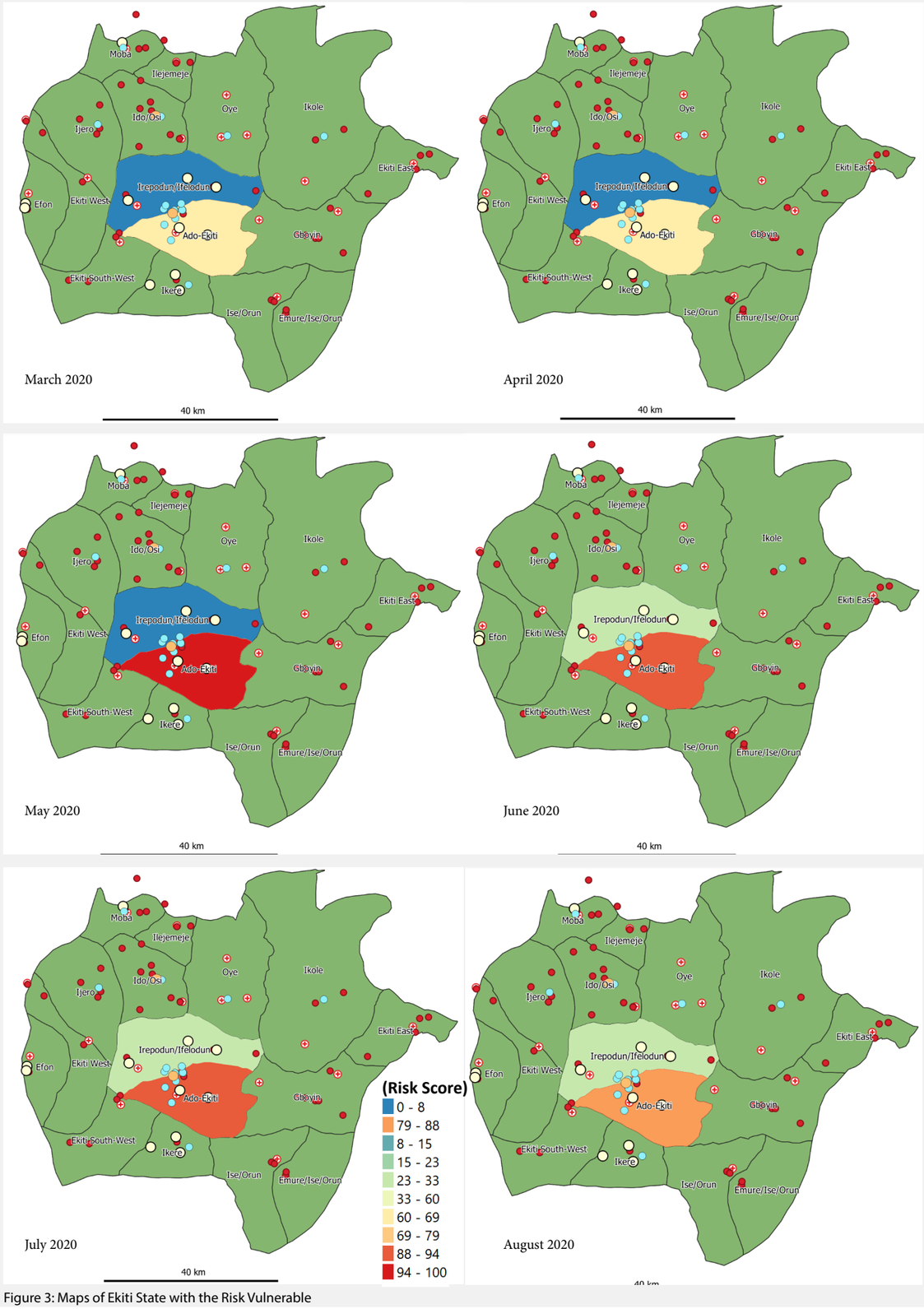

Figure 3: Maps of Ekiti State with the Risk Vulnerable

Part 2: Social media analysis of Public Perception of Ekiti State Government response to Covid-19

METHODOLOGY (SOCIAL MEDIA ANALYSIS)

A total of 168,314 tweets were collected between April 1 and August 31st, 2020 (See Table 1). These are tweets mined from Twitter with R statistical software using the search query terms: “Covid OR Corona* OR Covid-19” with user location set to Nigeria. Only 3220 (1.9%) of these tweets include the term Ekiti. Of these tweets (texts), only 117 (3.6%) were created by users located in Ekiti. Although, the location of tweets was derived from the user device location set to active. Given that most users rarely enabled their location when posting tweets, the next viable option was to use the user location to approximate their location. This is convenient since most travels were restricted during the coronavirus lockdown periods. It is only valid to assume that not much migration took place during this period.

Another point worth noting is that assessing the public perception of government leadership response to Covid-19 using social media alone may not be sufficient because Ekiti State has relatively low internet access and penetration compared with other states with more access. Despite the attention generated on social media on Covid-19, only a very few of these tweets were made by those located in Ekiti. Even the results in Table 1 show that most of the texts are retweets (amplification) of tweets made by others: 71 Retweets to 47 original tweets. Both were considered for further content analysis with advanced textual analytics for interpretive insights.

RESULTS AND DISCUSSIONS (SOCIAL MEDIA ANALYSIS)

Despite the sparsity of the relevant tweets, the pattern of the total tweets for each month resembles the Covid-19 data distribution of cases for the same period as shown in Figure 5a below. From Table 1, the volume of tweets increased from April, May, then peaked in June before declining from July to August of 2020. This data behaviour tallies with the Google Trend distribution in Figure 4. This is an acknowledgement of the representativeness of the sampled tweets collected for this study notwithstanding their paucity.

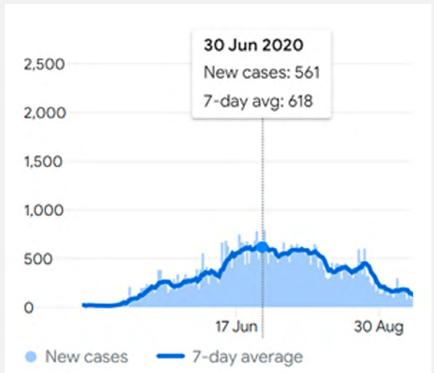

Figure 4: Distribution of Covid-19 cases for Nigeria from March 2020 to August 2020[18]

18 Chart obtained from Google based on the data repository for the 2019 Novel Coronavirus Visual Dashboard operated by the Johns Hopkins University Center for Systems Science and Engineering (JHU CSSE).

Table 1: Twitter search results (COVID-19 and Ekiti)

Month	Tweets: [a] including the term “Ekiti” n (%) [b] - with user location from “Ekiti” n (%)[c]	Retweet/Tweet[d]	Theme: n (%)[e]
April	44341: 1467 (3.3) - 51 (3.48)	41/10	Advice: 4 (7.84) Awareness: 2 (3.92) Bereavement: 1 (1.96) Clarification: 4 (7.84) Collaboration: 1 (1.96) Confirmation: 3 (5.88) Donation: 1 (1.96) Governmental: 2 (3.92) Irrelevant: 2 (3.92) Lockdown Issue: 1 (1.96) Request: 2 (3.92) Update: 28 (54.90)
May	43972: 1496 (3.4) - 31 (2.07)	19/12	Commendation: 1 (3.23) Confirmation: 4 (12.90) Donation: 1 (3.23) Education Access: 1 (3.23) Geographic information system: 1 (3.23) Irrelevant: 1 (3.23) Prayer and Supplication: 1 (3.23) Testing and Molecular Laboratory: 1 (3.23) Update: 20 (64.52)
June	45061: 119 (0.26) - 17 (14.29)	11/6	Testing and Molecular Laboratory 8 (47.06) Confirmation 4 (23.53) Irrelevant 1 (5.88) Palliative 1 (5.88) Update 3 (17.65)
July	33530: 57 (0.17) - 13 (22.81)	N/13	Awareness: 1 (7.69) Commendation: 1 (7.69) Despair: 1 (7.69) Health: 2 (15.38) Irrelevant: 1 (7.69)
August	1410: 81 (5.74) - 5 (6.17)	N/6	Update: 5 (100)
Total	168,314: 3220 (1.9) – 117 (3.6)	71/47	

Note: [a] Number of Tweets from the search query terms: “Covid OR Corona* OR Covid-19” by users in Nigeria for each month. [b] Number of Tweets from the collection above which contain the term “Ekiti” (Proportion or percentage of these tweets relative to the total collection above). [c] Number of Tweets from users located in Ekiti (Proportion of these tweets relative to the collection of tweets that contain the term “Ekiti”). [d] Retweets and Original Tweets. N = No Retweets. [e] Thematic codes (Proportion of the themes relative to the total themes for each month).

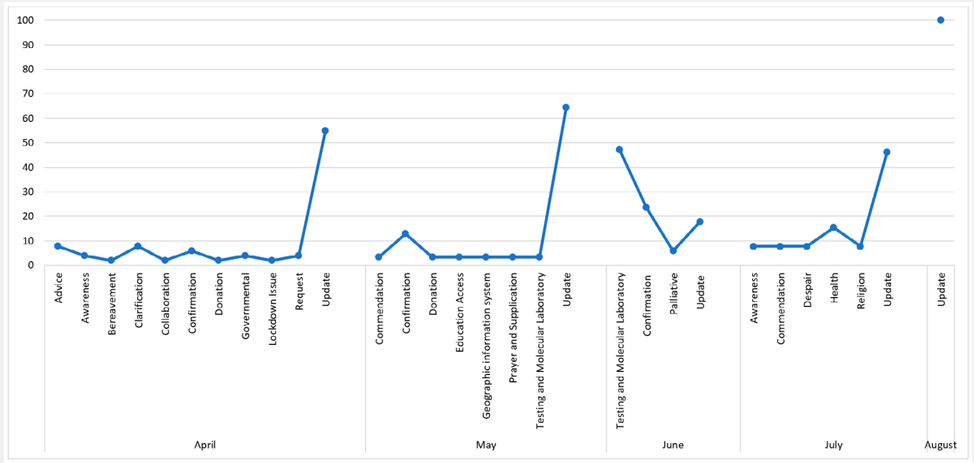

Figure 5a: Trend Chart of Thematic Codes (Tweet) by Month

Figure 5a shows the trend chart based on the data in Table 1. The percentage of code to total original tweets was used to construct this chart. For example, the original tweets for April (51 in total) has 4 tweets coded as Advice. The percentage for this code is therefore 4/51 x 100 = 7.84 (See Table 1). From this chart, it becomes clear that *Update* and *Confirmation* thematic codes dominated the entire tweets' corpus.

This observation is consistent throughout the months from April to August of 2020. In April, *Advice, Clarification,* and *Confirmation* were prevalent right after *Update*. This is not surprising because the government and public messaging during this month were focused on providing information on the virus to stem its spread. Other thematic categories include *Awareness, Donation Governmental, Lockdown issue,* and *Request*.

Considered together, these are expected pervasive opinions and narratives regarding emergency events of this nature. The public expects information from government actors. The various measures introduced by the Ekiti State government distinctly, or in conjunction with the federal government came out in the codes during this month.

Although there was active dissemination of information, mainly updates by the government (Ekiti) and pro-Government social media accounts (Twitter); a close inspection of the tweets reveals a sharing or amplification of the hashtags, mentions and posts by these accounts (@ekitistategov, @KFSOrganization, @Ekiti_COVID19). A more distributed messaging strategy involving identifying private or non-government social media influencers who are resident within, and outside Ekiti State could have attracted more retweets and spread.

This behaviour might have engendered public trust which could have helped crisis communication better during the first wave period of the Covid-19 outbreak. Mentioning and retweeting co-governmental user account such as the Nigeria Centre for Disease Control @NCDCGov is strategically important for message validation because of the remit of the agency, however, the inclusion of non-state actors could have aided the communication spread. While we recognise the need to include these non-state actors in future online crisis communication planning, we also recognise that more attention should be focused on the traditional mode of communication to complement social media messaging because Ekiti State has a more rural population with limited internet technology access. This factor is highlighted in findings reported in later sections of this report.

Although the engagement of influencers is benevolent to a significant degree, their involvement during crisis or disaster must be done carefully and selectively. The default position of most corporate or government institutions is to engage mega-influencers with a big reputation and large follower count online. This strategy may not work because their intervention might be misconstrued as an attempt by the government or the corporate organisation to manipulate public opinion since most of them are beginning to morph into influencer marketing these days.[19,20] Their opinions may not be trusted as they could be purchased. This is especially relevant given the recent influencers-for-hire scandal in Nigeria wherein some influencers were contracted to sway public opinion in support of an alleged 'money launderer'.[21]

Moreover, the recommendation and opinion of an influencer who is based outside Ekiti State commenting may not resonate with the residents of the state compared with the opinions of local influencers also known as nano-influencers or micro-influencers. This factor is a leadership issue because the tendency to court big names or arrogate automatic leadership to elite figures during emergencies is very high; in reality, the nodes or spheres of real influence may lie with little-known actors.

Mega and Macro influencers are important for mass appeal, but since all disaster events are local, it is crucial to engage micro and nano influencers who are more focused and with

19 WARC. (2020, October 14). *Should you use social media influencers in crisis comms?* Retrieved 22 June 2020, from https://www.warc.com/newsandopinion/news/should-you-use-social-media-influencers-in-crisis-comms/43973.

20 Singh, J., Crisafulli, B., & Xue, M. T. (2020). 'To trust or not to trust': the impact of social media influencers on the reputation of corporate brands in crisis. *Journal of Business Research*, 119, 464-480.

21 Iverman, C. (2021, April 9). Nigerian Influencers Are Being Paid To Tweet About Alex Saab. *Buzzfeed*. Retrieved 31 August 2021, from https://www.buzzfeednews.com/article/craigsilverman/nigerian-twitter-campaign-alex-saab

high relevance factors. These are social media users with specialised channels who have both offline and online reputation and followership over the years mainly specific specialisations. The list includes those vloggers and content creators with culture and lifestyle, education, religious channels on Facebook, Twitter, YouTube, Instagram. These 'small players' have more local relevance, and their opinions might be trusted more than those big names who are alienated from local experiences and realities.

They also constantly interact with their followers, actively providing feedback and responding to enquiries because of their relatively smaller sizes compared with mega-influencers with millions of followers whose size makes such engagements non-feasible. According to the Office of Strategy Communication, these nano-influencers 'are considered similar to "regular everyday people"... maybe deemed even more authentic than micro-influencers. As such, they can be influential at a local-community level.'[22] We recommend that a multi-layered crisis strategic online communication should be more diffused and distributed to include non-state actors with relevant influence. The inclusion of micro and nano-influencers in the information dissemination process by tagging, mentioning, and sharing their messages (relevant) will add to the quality and reach of the process.

Figure 5b: A sample Tweet from the Government of Ekiti State (@ekitistategov)

In May 2020, the dominant thematic codes are *Update* and *Confirmation*. Other thematic codes include *Geographical Information System and the Testing and Molecular Laboratory, Education Access, Donation, and Prayers and Supplication*. The Government of Ekiti State provided regular updates: a factor that permeated the entire discourse distribution. We noticed a consistent spike in the *Update* code.

Another significant observation is the constant presentation of a list of donors to the state's covid-19 response initiative (see Figure 5). This is an obvious marker of transparency. However, as noted earlier, the information could gain more spread and acquire more credibility if non-governmental social media accounts were engaged in the dissemination process.

Associated with *Update* is *Confirmation*. There are several confirmations of the Covid-19 cases. Since misinformation and doubt permeated the discursive space at the initial phase of the outbreak, this characteristic helped to mitigate misinformation by confirming the cases. Expressions of prayers and supplication also feature in the relevant tweets during this early cycle of the pandemic. *Geographical Information System (GIS)* and the *Testing and Molecular Laboratory* characterises opinions in the set tweets in May.

Ekiti State Government launched its COVID-19 Response Hub, a Geographic Information System-based portal for tracking information on the virus in the state. The government also announced its partnership with 54gene in the installation of a testing and molecular laboratory at the Ekiti State University Teaching Hospital (EKSUTH).[23] Between May and June of 2020, these measures featured in public discussion on Ekiti and Covid-19.[24] The gradual up-trending of these thematic categories during these two months is consistent with the view that the mainstream news media drives conversations on social media.[25] By July and August, the provision of *Updates* maintained its dominance.

22 Ofcom. (2020, June 24). *Online Nation 2020 Report.* Retrieved 20 July 2020, from https://www.ofcom.org.uk/__data/assets/pdf_file/0027/196407/online-nation-2020-report.pdf

23 Government of Ekiti State. (2020). *COVID-19: Ekiti Molecular Lab Commences Pilot Testing.* Retrieved 31 August 2021, from https://www.ekitistate.gov.ng/covid-19-ekiti-molecular-lab-commences-pilot-testing-2/

24 Ojomoyela, R. (2020, May 9). Ekiti set to establish own COVID -19 laboratory. *Vanguard*. Retrieved 22 June 2020, from https://www.vanguardngr.com/2020/05/ekiti-set-to-establish-own-covid-19-laboratory/

25 Newman, N. (2011, Septmember). Mainstream media and the distribution of news in the age of social discovery: How social media are changing the production, distribution and discovery of news and further disrupting the business models of mainstream media companies. *Reuters Institute for the Study of Journalism*. Retrieved 22 June 2020, from https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2017-11/Mainstream%20media%20and%20the%20distribution%20of%20news%20in%20the%20age%20of%20social%20discovery.pdf

Part 3: Assessment of Public Perceptions (using News media) Regarding Covid-19 Governance in Ekiti State, Nigeria

METHODOLOGY (NEWSPAPER CONTENT ANALYSIS)

For the next phase of the study, we sourced public perception materials from newspaper reports, interviews, Hansard reports, broadcast, blog posts, Ekiti Covid-19 Response Committee reports, etc. (See Table 2). For the news articles, we consulted the LexisNexis newspaper archives database using keywords 'Covid-19' and 'Coronavirus'. The results were filtered to retrieve only articles published between February 2020 and August 2020 from Nigerian newspaper publications, blogs, newsletters, etc. We were able to initially collect gather 2,030 items.

We could not get any relevant Hansard reports from the Ekiti State House of Assembly on Covid-19 in Ekiti. Hence, Interviews and Hansards were excluded from the review process; the former because we were able to mine governmental opinions from newspapers sources and reports, as for the latter, the reason adduced (publications inaccessibility) sufficed. After expert deliberations, we narrowed down the corpus or dataset of news articles to 1,901. This was after deduplication.

The selected news documents were uploaded to Dedoose – a software for analysing qualitative and mixed methods research. The materials were allotted to the analysts who used the codes developed through the same process outlined for social media thematic coding above. The initial steps before the coding involved the use of machine learning algorithms for advanced textual analysis to summarise the large corpus. We used clustering methods for exploring the word tokens to have a general overview of the text. Thereafter, word frequency counts and word clouds were used to visualise the strength of each term and topic. This exercise contributed more concepts or terms to the list of codes in Appendix 1.

We were also able to resolve code ties – these are codes with a similar meaning; for example, loss of employment was collapsed into the unemployment code. *Xenophobia* was dropped because it did not apply to the context of the study. Generic or first-order codes were delisted, e.g., *Health, Political, and Social. Health Provision (PPE), Handwashing and Personal Hygiene, Contact Tracing and Disease Surveillance, and Healthcare Workers* are health-related thematic codes; therefore, *Health* was removed because it is too generic. It is for this same reason that Political and Social codes were removed. All the statements coded *Irrelevant* were removed from the final analysis. In addition, Press Releases and TV Broadcast were not separately analysed since they are reproduced in the Newspaper reports.

The final codes are deductively applied to relevant excerpts from each article. The sample below is an excerpt that illustrates the thematic process. The procedure involves looking out for three main variables in each article; they are office, actor, and opinion. The actor is the person of interest referenced, interviewed, or quoted in the article. The office denotes the position or office occupied by the actor. Finally, opinions are propositional statements attributed to the actor. Other variables coded by the analysts for each excerpt (there are often more than one in a single article) include actor's organisation, actor's gender, organisation type, publication Name, publication type etc. In this excerpt, the organisation is the Ministry of Health, Ekiti State, the Office is 'Commissioner for Health and Human Services, Ekiti State'. Where there is more than one actor, the first or most prominent actor is listed as Actor 1 while subsequent actors have Actor 2, 3 and so forth respectively.

Sample Excerpt: 'The Commissioner for Health [OFFICE], Dr Mojisola Yaya-Kolade [ACTOR], revealed at the press parley that the three new cases of coronavirus recorded in Ekiti were healthcare workers who contracted the scourge from the pregnant woman that died two weeks ago. Yaya-Kolade said, "The three new persons have been evacuated from their homes and put in our isolation centre. They are currently asymptomatic, and we are very lucky because they had only four contacts. We have seen them, and their blood samples have been taken. Seven laboratory results are being awaited [OPINION/STATEMENT]."[26]

Gender	n	%
Female	101	18
Male	310	54
Not Stated	160	28
Total (N)	571	

Publication	**n**	**%**
Business Day	17	2
Daily Trust	20	3
Ionigeria	5	1
Naija 247 News	19	3
News Chronicle	20	3
Nigerian Tribune	97	13
Osun Defender	3	0
PM News	43	6
Premium Times	126	17
Spring News	5	1
Sweet Crude Reports	1	0
The Nation	157	21
The Nigerian Observer	3	0
The Sun	100	13
The Will	18	2
This Day	64	8
Vanguard	25	3
Ventures Africa	16	2
Weekly Trust	**22**	**3**
Total (N)	761	

Sources	**n**	**%**
Newspaper & Blog post	761	96
Press Release	2	0
Interview	0	0
TV Broadcast	2	0
Ekiti Covid-19 Resource Mobilisation Committee Report	25	3
Parliamentary Hansard	0	0
Total (N)	790	

26 Daily Trust (Abuja) May 05, 2020

RESULTS AND DISCUSSIONS (NEWSPAPER CONTENT ANALYSIS)

Characteristics of the Newspaper Sources and Thematic Codes

Newspaper articles and blog posts make up 96.32% of the sources for the coded extracts about Covid-19 in Ekiti State during the first wave of the pandemic in Nigeria. The period covered in this analysis is from April to August 2020. Of the coded extracts of news and media content related to Covid-19 in Ekiti state, 54% of the articles were authored by male journalists, while 18% were written by female journalists. The remaining 28% did not have gender attributions. The news publications with the most coded extracts are The Nation (157: 21%), Premium Times (126: 17%), The Sun (100: 13%), and Nigerian Tribune (97: 13%). All these news organs are print media except Premium Times that is an online news publication. These platforms provided more coverage than the rest. To guarantee coverage, these organs can be targeted for information dissemination in the future. We do not recommend that Ekiti State government decision-makers and policymakers focus solely on them, but they can be factored as important nodes of distributed communication when revamping the state's epidemic and crisis disaster communication strategies.

As noted earlier, Actor 1 and Actor 2 designations signify hierarchical ordering inferred from the precedence given each interviewee or personality in a news article. The most important personality is usually referenced first before the others. Hence, this pattern of ordering entails leadership attribution although in a subtle way. In both first and second-order positioning, Male personalities dominate the report on Covid-19 in Ekiti state (See Table 3).

The coded extracts from the corpus are credited to male personalities than to females. Of the 554 coded extracts by gender attribution, whereas 57% are attributed to male actors or personalities, only 10% are linked to female actors. The remaining 33% have no indicated gender attribution. This statistic implies that there is disproportionate gender representation in communication leadership during the first phase of the pandemic in favour of men. This can be interpreted as evidence of low female representation in the decision-making process in the State or as evidence of bias by the media in privileging more male voices than females in leadership narratives. We think both factors are viable in explaining this behaviour. Apart from the Commissioner of Health and the First Lady of Ekiti State, there are fewer female leadership voices in leadership and decision-making as reflected by the news articles on the subject. Even the second-order leadership position by gender representation reflects a similar imbalance with 9% female leading actors to 83% male actors.

Table 3: News Actors and Personalities by Gender

Gender	Actor [1] (n)	%	Actor [2] (n)	%
Female	56	10	9	9
Male	318	57	85	83
Unknown	180	33	9	9
Total (N)	554		103	

Table 4: News Actors by Group Type

Group Type	Actor [1] (n)	%	Actor [2] (n)	%
Individual	234	32	39	38
Organisation	494	68	64	62
Total (N)	728		103	

In Table 4, the results show that 68% of the content extracts or positions are from actors linked to Organisations for the first order actors and 62% for the second-order actors (i.e., Actor 2). This shows over-representation of opinions from organisations. Health crisis or pandemic demands well-structured organisational interventions, this possibly explains the seemingly skewed underrepresentation of individual or private opinions. News organisations tend to privilege opinion experts with affiliations to specialised organisations; this is also a contributory factor.

Table 5: News Actors' Organisation Type

Organisation Type	Actor [1] (n)	%	Actor [2] (n)	%
Business	15	2	3	3
Civil Society	21	3	8	8
Custom and Tradition	4	1	1	1
Educational	21	3	5	5
Foreign	4	1	1	1
Health (Local)	268	39	24	24
Media	5	1	2	2
Political	208	30	50	
Religious	8	1	0	0
Unknown	140	20	7	7

Table 5 shows the organisation type of the actors. Most of the actors or personalities are affiliated with *Political* or Government agencies. The media is partly guilty of platforming only dominant voices from visible leading actors. The next most represented are those affiliated with Ekiti State Health Institutions (*Health (Local)*). This is true of both Actor 1 and Actor 2 personalities. Traditional monarchs (*Custom and Traditions*), Academics (*Educational*), and *Religious* actors are under-represented. These are opinion leaders with access to the people. These findings informed our recommendation that these underrepresented nodes be included in future crisis leadership and management plans by the state.

Table 6: News Publications Location

Location	Publication (n)	%
Abuja	54	7
Ado-Ekiti	96	13
Akure	1	0
Benin	3	0
Ibadan	10	1
Lagos	97	13
Makurdi	1	0
New York	3	0
Nigeria	462	63
Osogbo	3	0
Osun	1	0
San Francisco, California	2	0
Twitter	2	0
Unknown	18	2
Total (N)	735	

This location data (Table 6) shows where those writing the news reports are located. Reports written by those who are in the location of the event carries more weight than those reporting hundreds of miles away. From Table 6 above, it becomes clear that most of the news contents on Covid-19 in Ekiti during the timeframe are from publications located in major cities including *Lagos* (97: 13%), *Abuja* (54: 7%), and *Ado-Ekiti* - the capital of Ekiti State - (96: 13%). The implication of this is the exclusion of rural communities. We, therefore, recommend the engagement of more local community publications in future communication planning of the state for emergency events.

Co-occurrence network graph of the thematic codes

The co-occurrence network graph of the thematic codes is shown in Figure 7 below. The size of the nodes (codes) indicates the relative size of the codes in the graph. The thickness of the edges between the undirected nodes (codes) shows the strength of the relationship between the thematic codes. Their proximal position stipulates their closeness. *Governmental* tagged extracts are heavily lined to *Update* and *Awareness*. The Update thematic code is also thickly linked to *Information* and *Confirmation*. By implication, both are indirectly linked to *Governmental* thematic frame (code). *Complaint* code is big, but its connection *Governmental* frame is relatively negligible. This connotes a few grievances against governmental measures as reported in the news publications. *Welfare Support*, *Request*, *Palliatives*, are also big nodes indicative of their dominance in the news. Nevertheless, they are weakly linked to *Governmental* code - meaning these are popular discussions in the news media but they are not linked to *Governmental* measures, policies, or discussions.

Unemployment, Criticism, Access to Justice, Police Brutality, Sexual Violence, Expert Opinion are also conversation nodes close to *Governmental* discussions, but their relatively small size and weak link suggest their non-dominance in the discussion space concerning governmental agencies. The small *Criticism* code seems to be indicative of fewer anti-Governmental opinions in the news discussion space. This insight is derived from the almost negligible small *Partisan criticism, Non-Partisan criticism* and *Protest* codes.

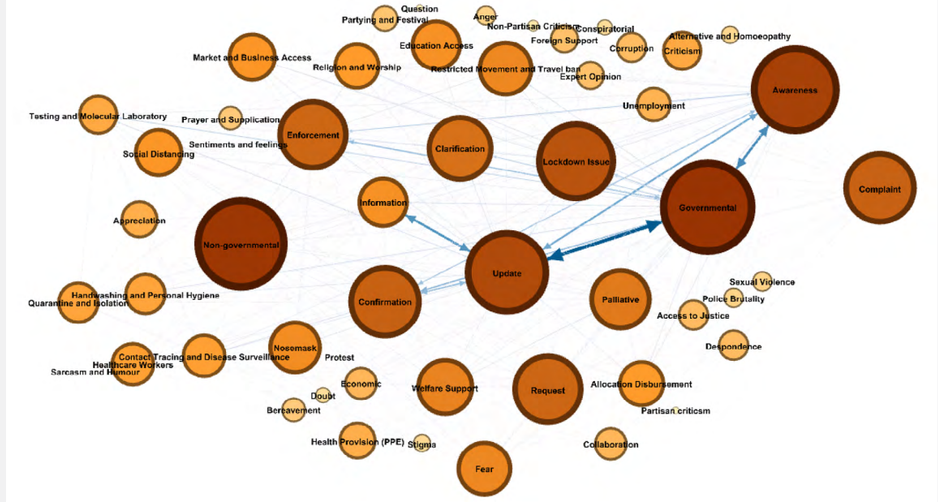

Figure 7: Co-occurrence Network of the Thematic Codes

Awareness is close to *Alternative and Homeopathy*, and *Expert Opinion* codes although the links between them are extremely weak. There were warnings from the Ekiti State Government raising awareness of the danger of herbal prescriptions and concoctions as Covid-19 cure. There were also a few local expert opinions reported in the newspapers on Ekiti Covid-19. Measures such as *Lockdown issues, Restricted Movement* and *Travel ban, Education Access* (restriction), *Enforcement* (of travel ban) are linked to the *Governmental* node (code). This is self-explanatory as they are all thematic nodes that reflect the measures put in place by the Ekiti State Government during the studied period. *Clarification* is connected to the *Governmental* node because these measures were regularly explained to the public. *Partying and Festival, Education Access, Religion and Worship, Market and Business Access,* and *Social Distancing* are linked to *Restricted Movement* and *Travel ban* because they were issues common during the Lockdown. Non-governmental and Governmental thematic nodes have a very weak link. This reflects their relationship during the first wave of the pandemic in Ekiti State. These NGOs organised campaigns to promote handwashing and personal hygiene.

Correspondence Analysis of Ekiti Covid-19 News Themes by Publication

After the completion of the coding procedure, an Adjacency Matrix of Columns and Rows were produced for the different relationships of interest (e.g., Thematic Categories by Publication Name). The results were subjected to multivariate exploratory data analysis using correspondence analysis. Correspondence Analysis allows for the presentation of relations between two or more variable categories through multidimensional scaling. This method helps to expose the relationship between these variables on a two-dimensional graph using their distance to estimate the level and extent of their relationships. Correspondence analysis maps are very difficult to interpret by non-experts, therefore, we rendered the same graph in Moonplots alongside the Biplot. *FactoMineR, Factorextra, and DisplayR* R statistical packages were used for the analysis and the visualisations.

Dimensions 1 and 2 explain approximately 11.3% and 29% of the total inertia respectively. Both dimensions correspond cumulatively to a total of 40.3% of total inertia (variation) retention. This implies that 40.3% of the relative variance in the data are captured by the two dimensions. There is however a significant association between the row and the column variables in the Publications-Thematic Codes Matrix ($\chi 2 = 1084.3$, df = 867, p-value < 0.005).

The thematic codes in the Biplot and Moonplot (see Figure 8 and Figure 9) are spread across the different publications. For the Biplot, Dimensions 1 and 2 represent the rows (Thematic codes) and columns (News Publications) of the data matrix respectively. The closer the items are on either the vertical or the horizontal axis, the similar relationship they share. The Moonplot should be interpreted relative to their distance from the centre and the adjacent publications outside the perimeter of the plot. The closer the thematic codes are to the centre of the map, the less differentiated they are. That is, the more similar their positions. It is little wonder that the print news publication would be packed to the core of the mood ("+" symbol). The size of the attributes on the perimeter in the Moonplot (Figure 9) determines the importance of the codes to the publications they are close to. This does not suggest that they are more prominent or more pronounced than the other codes.

In the Biplot in Figure 8, the print media are clustered to the right of the y-axis on the plot, while the blog/ online news media are stacked together to the left of the axis. This is because they tend to publish similar news. This also demonstrates the extent of their shared interrelationships in the public news discourse on Ekiti Covid-19. They get their national news report from similar syndicated sources like the News Agency of Nigeria. This Day, The Nation Vanguard, The Sun, Osun Defender, Nigerian Tribune are mainstream news outfits/tabloids. Others are Weekly Trust and Daily Trust - their distance is close because they are published by the same media organisation; hence, their similarity.

Business Day is a tabloid too, but it is far removed from the core of the plot and the other publications because it is a business-focused organ. Premium Times, Ion Nigeria, The Will, PM News, Ventures Africa are online news publications/blogs. This explains their relative distance from the other mainstream news publications. Premium Times is closer to the core and the tabloids because the content of its articles and its structure is like the more print media hence its position. The legacy or mainstream news media also operate both print and online media. But their operation is mainly print news focused.

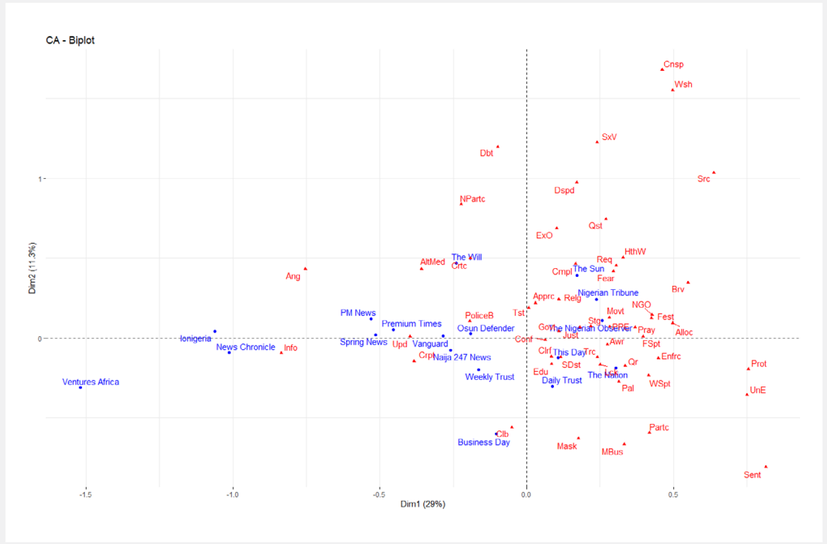

Figure 8: Correspondence Analysis Biplot of Thematic Codes by Publication

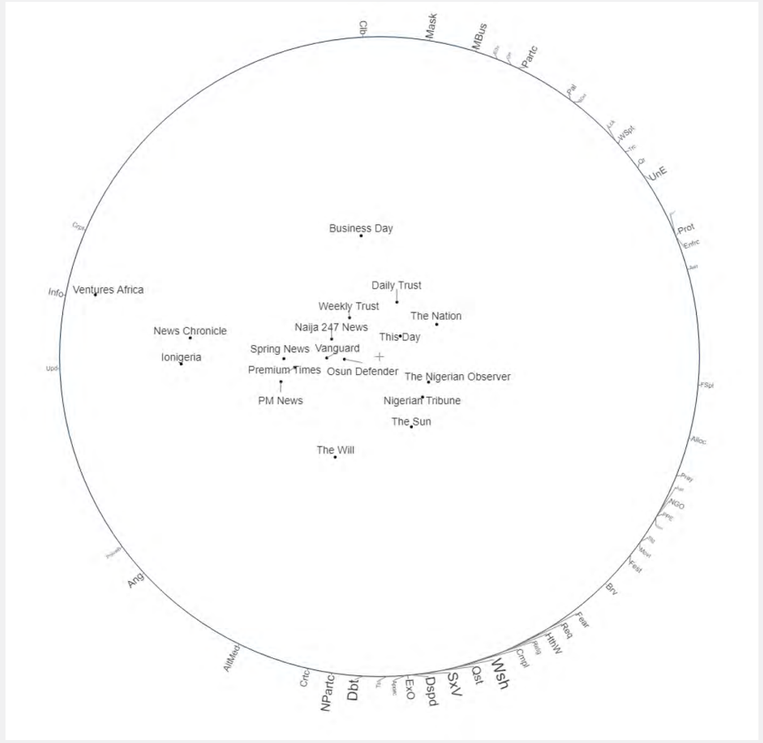

Figure 9: Correspondence Analysis Moonplot of Thematic Codes by Publication

The closer the codes are to the publication on the perimeter of the plot, the greater the association between the two. Conversely, the farther the two, the lesser their association. Ventures Africa is closer to *Information* (Info) code than the other news publications. Similarly, The Sun News is closer to *Debunking Hoax and Conspiracy* (Cnsp), *Sexual Violence* (SxV), and *Handwashing and Personal Hygiene* (Wsh) thematic codes than the others on the plot. This suggests that The Sun News publication reports news that debunked conspiracy and reports on handwashing relatively more than the coded news reports from the other publications. From the Biplot in Figure 10, it is readily apparent that these codes are far from the other publications and more differentiated.

The size of the attributes or thematic codes on the perimeter in the Moonplot (Figure 11) determines the importance of the codes to the publications they are close to. This does not suggest that they are more prominent or pronounced than the other codes. The Biplot illustrates this better. The thematic codes that are closer to the publication names in the Biplot are depicted by small font size in the Moonplot. But the well-dispersed codes that are distant from the publication names have bigger font sizes. The farther the thematic codes are to the centre of the graph, the stronger their relationship is to the adjacent publications. Simply put, whenever the theme is compared across the different publications, the theme is more prominent in the publication down in others.

On the Biplot, this means more the themes are more differentiated. For example, *Handwashing and Personal Hygiene* (Wsh), *Question* (Qst), *Sexual Violence* (SxV), *Despondence* (Dspd), *Doubt* (Dbt), *Expert Opinion* (ExO) are more covered by The Sun News than the other publications. Hence, the font size is bigger compared with the other codes. Although, *Request* (Req), *Fear, Healthcare Workers* (HthW), *Complaint* (Cmpl) are close to The Sun News publication. They are not differentiated (hence, their smaller fonts) because other publications also cover these themes and even more prominently. These other publications include Nigerian Tribune, The Nigerian Observer and The Nation.

This shows that The Sun News covered some of the listed thematic codes more than the others. It is crucial to focus on the codes with the bigger font because they distinguished the publication. The Nation and This Day covered *Protest* (Prot) and *Enforcement (*Enfrc) codes. Business Day is differentiated by *Nose masks and Face Guards (*Mask), *Market and Business Access* (MBus), *Collaboration* (Clb) codes more than the other publications. Ionigeria, Premium Times, Spring News PM News and Vanguard Newspapers covered the *Update* (Updt) themes (See both Figures 6 and 7). The Update code was used to tag Ekiti Covid-19 news article extracts as well as to aggregate the disease cases.

Correspondence Analysis of Ekiti Covid-19 News Themes by Organisation Type

Dimensions 1 and 2 explain approximately 34.2% and 21.5% of the total inertia respectively. Both dimensions correspond cumulatively to a total of 55.7% of total inertia (variation) retention. This implies that 55.7% of the relative variance in the data are captured by the two dimensions. There is a significant association between the row (Organisation Type) and the column (Thematic codes) variables in the Matrix ($\chi 2$= 1881.7, df = 408, p-value < 0.005).

As discussed in the preceding section, both Biplot and Moonplot are complementary – they both help to make sense of the relationship between the rows (blue points) and the columns (red points) in the data. In this case, the thematic codes by organisation type. Before diving deeper into the analysis, key features of both plots but be clarified to enhance the understanding of the observations. As stated earlier, the distance between the origin point and the thematic codes or organisation type (both also known as labels) connote their differentiation from the average.

The labels that are closer to the point of origin on the Biplot or the Moonplot are similar. Those farther away exercise a degree of differences from the average – they are distinct from the rest. If they are on the right side of the axis, there is a positive association, if they are to the left, there is a negative association. The strength of the association is determined by the acuteness of the degree between the coordinates on the biplot which is depicted by the size of the font on the perimeter of the moonplot. Imagine a red line from the middle of the axis (or origin) and *Update* (Upd), compare the angle between that line and the blue line between the origin and Health (Local) on the Biplot in Figure 10. The acute angle (since the angle is less than 90 degrees) suggests a relationship between the two points.

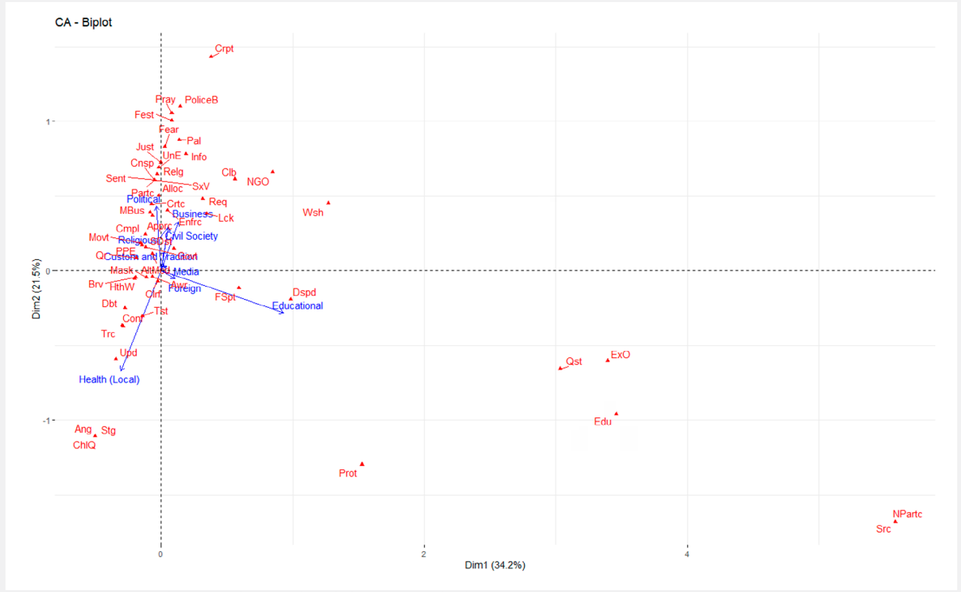

Figure 10: Correspondence Analysis Biplot of Thematic Codes by Organisation Type

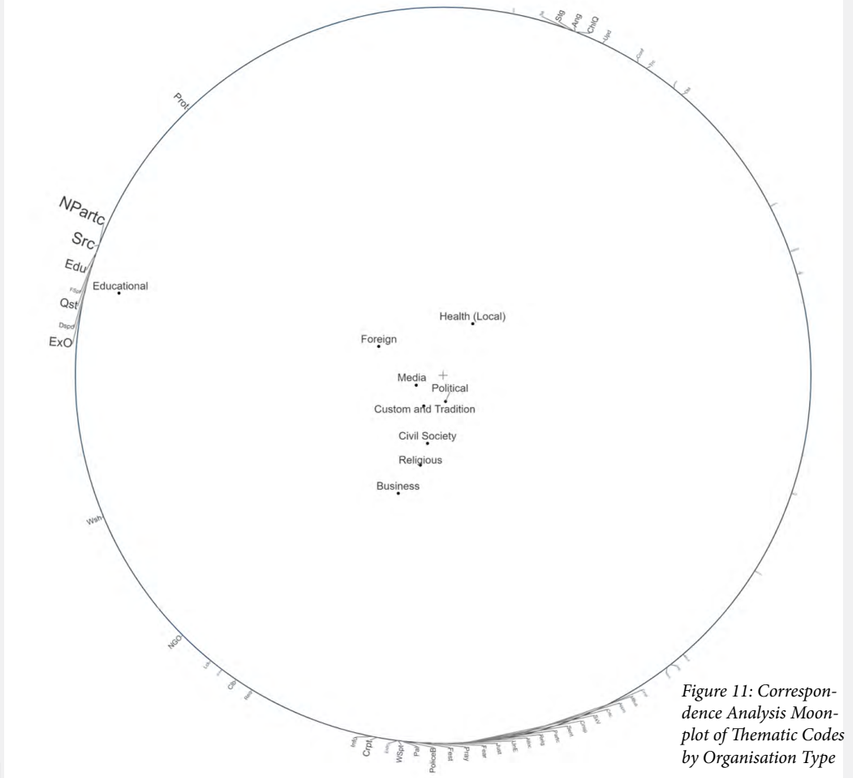

Figure 11: Correspondence Analysis Moonplot of Thematic Codes by Organisation Type

The length of the lines indicates the strength of that relationship. Similar measures extended to *Testing and Molecular Laboratory* (Tst), *Contact Tracing and Disease Surveillance* (Trc), *Nose masks and Face Guards* (Mask), *Confirmation* (Conf), *Update* (Upd) can be interpreted similarly as evidence of association or relationship between the thematic codes (red points) and the Health (Local) organisation type. However, as pointed out earlier, the farther the points are from the origin, the stronger the relationships. Meaning, *Stigma* (Stg), *Anger* (Ang), *Hydroxychloroquine* (ChlQ) are more distinctive, or they define the Health (Local) organisation type than the other codes. This implies that when these issues are raised in the news, they are most probably discussed by people affiliated with Ekiti State Government Health institutions.

They are also strongly but negatively associated with *Lockdown Issue* (Lck), *Collaboration* (Clb), *Request* (Req), but they have a weak negative association with Social Distancing (SDst). On the Biplot in Figure 9, they are on the opposite sides of the axis, but on the moonplot, they are also on opposite sides of the perimeters. Plainly put, actors or leaders from health sectors expressed opinions that are related to the identified thematic codes. This is expected since they are health-related issues.

From both plots, it is obvious that leaders or actors from the Media, Political, Customary and Tradition organisational types are concentrated around the origin. This factor highlights their shared interests or similarity of opinions as reported in the news on Ekiti Covid-19 in the first phase of the pandemic. Those with affiliations to Educational, Foreign and Health are well differentiated from the average - the opinions they expressed are distinctively different from those at the core of the graph. Civil Society, Religious and Business actors or leaders are relatively distant from the core too. Traditional or indigenous leaders are government-appointed; therefore, their opinions will not be too distinct from government official positions on any issue. Media actors interrogate political issues more than any other issues, this probably explains their proximity to the Political actors on the plots.

Religion organisation is closely associated with *Prayer and Supplication* (Pray), *Religion and Worship* (Relg), and *Partying and Festival* (Fest). These are distinct themes tied to government preventive measures at curtailing the virus spread. This explains the relative proximity of Religion to Political organisation type on the plot. Civil Society actors also discussed varied issues including *Non-governmental* (NGO), *Collaboration* (Clb), *Welfare Support* (WSpt), *Palliative* (Pal), *Allocation* (Alloc), *Police Brutality* (PoliceB), *Awareness* (Awr), *Sexual Violence* (SxV), *Access to Justice* (Just), *Unemployment* (UnE), H*andwashing and Personal Hygiene* (Wsh). These are thematic discussions dominant during the lockdown period.

Educational actors or leaders are strongly associated with *Education Access* (Edu), *Expert Opinion* (ExO), *Question* (Qst), *Sarcasm and Humour* (Src), *Non-Partisan Criticism* (NPartc) thematic discourses. They shared these themes with Foreign actors. Actors with links to Educational and Health (Local) institutions are strongly connected to Protest (Prot) theme. Health officials from the Ekiti State Government talked about and are strongly associated with the following topics: *Nose masks and Face Guards* (Mask), *Healthcare Workers* (HthW), *Bereavement* (Brv); but, weakly associated with *Quarantine and Isolation* (Qr) and *Alternative Medicine and Homoeopathy* (AltMed) themes. Political actors are also associated with these themes. *Enforcement* (Enfrc), *Information* (Info), and *Partisan criticism* (Partc) are opinions expressed by political actors. Other associated thematic opinions include *Market and Business Access* (MBus), *Complaint* (Cmpl), *Appreciation* (Apprc), *Criticism* (Crtc), *Sexual Violence* (SxV), and *Debunking Hoax and Conspiracy* (Cnsp), *Health Provision* (PPE), *Governmental* (Govt), and *Restricted Movement and Travel ban* (Movt).

From the analysis in this section, we recommend that Ekiti State Government include academic actors in their strategic decision plans. The instances of protests during the first phase of the pandemic came from Educational and Health (Local) institutions. It is equally important to understand why they expressed negative sentiments towards the government intending to understand their grievances. We noticed from the data that Quarantine is weakly associated with Ekiti State Government actors partly because other people affiliated with other organisation types also spoke relatively considerably about the issue in the press. The same is true for *Alternative Medicine and Homoeopathy.*

Correspondence Analysis of Ekiti Covid-19 News Themes by Location

Dimensions 1 and 2 explain approximately 22.5% and 20% of the total inertia respectively. Both dimensions correspond cumulatively to a total of 42.5% of total inertia (variation) retention. This implies that 42.5% of the relative variance in the data are captured by the two dimensions. There is a significant association between the row (Location) and the column (Thematic codes) variables in the Matrix.

To make these plots, articles with unknown writers' locations were dropped. Those with no specific location in Nigeria were also excised from this analysis. Findings from the analysis of the Ekiti Covid-19 News articles as visualised by the plots indicate that news publications or articles written or reported in Benin and Osogbo are definitively *Corruption* (Crpt) and *Palliative* (Pal) news themes compared with the other publications.

The Corruption themes cover reports on illegal electricity connections made by some residents of Ekiti state during the coronavirus period.[27] It also concerns news reports on the distribution of Abacha's loot as part of the Federal Government response to Covid-19 to poor Nigerians. New Initiative for Social Development (NISD), Ado-Ekiti, a civil society organisation in Ekiti state was part of the monitoring team for the disbursement of this financial relief support.[28]

Trailing this news from Benin and Osogbo are articles written by authors in Abuja, Lagos and San Francisco reflecting the following themes: *Non-Partisan Criticism* (NPartc), *Health Provision* (PPE), *Sexual Violence* (SxV), *Hydroxychloroquine* (ChlQ), *Police Brutality* (PoliceB), *Access to Justice* (Just), *Partisan Criticism* (Partc), *Information* (Info), *Stigma* (Stg), *Criticism* (Crtc), *Fear*, and *Update* (Upd). Articles written by correspondents in Ado-Ekiti encompass most of the themes in the southern pole or perimeter of the Moonplot.

They include *Unemployment* (UnE), *Sentiments and feelings* (Sent), *Allocation* (Alloc), *Quarantine and Isolation* (Qr), *Debunking Hoax and Conspiracy* (Consp), *Bereavement* (Brv), *Testing and Molecular Laboratory* (Tst), *Doubt* (Dbt), *Partying and Festival* (Fest), *Prayer and Supplication* (Pray), *Market and Business Access* (MBus), *Awareness* (Awr), *Expert Opinion* (ExpO), *Enforcement* (Enfrc), *Religion* (Relg), *Restricted Movement and Travel ban* (Movt), *Healthcare Workers* (HthW), and *Confirmation* (Conf).
The reports written in Osogbo and Akure covered *Lockdown Issue* (Lck) and *Welfare Support* (WSpt) while those written by correspondents in Akure, and Ibadan are primarily about *Lockdown Issue* (Lck) and *Request* (Req) themes.

The findings reveal that most of the themes are from articles and reports written by Ekiti-based news correspondents and authors. This implies that the authors were not disconnected from the events they reported at least at the state level. We recommend that this gain should be built on in subsequent interventions by including more local community news media in the crisis communication strategy and leadership response of the Ekiti State government.

27 Oliomogbe, Hendrix (2020). BEDC Warns Consumers Of Electricity Disconnection. *Nigerian Tribune*. Retrieved 17 July 2020, from https://tribuneonlineng.com/bedc-warns-consumers-of-electricity-disconnection/

28 Nigerian Observer (2020, April 24) Poor Nigerians Receive N23.7billion from recovered $322.5million Abacha Loot -MANTRA Report. *Nigerian Observer.*

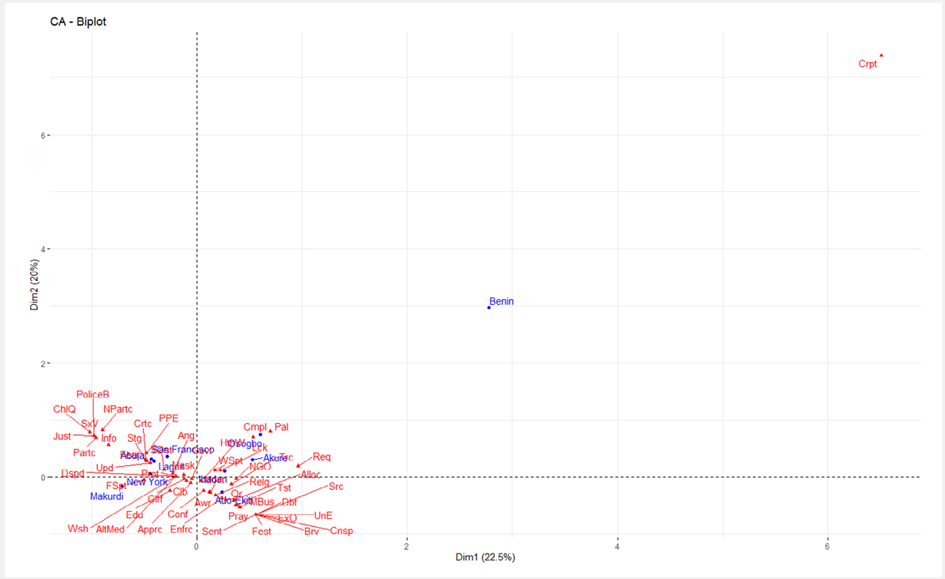

Figure 12: Correspondence Analysis Biplot of Thematic Codes by Location

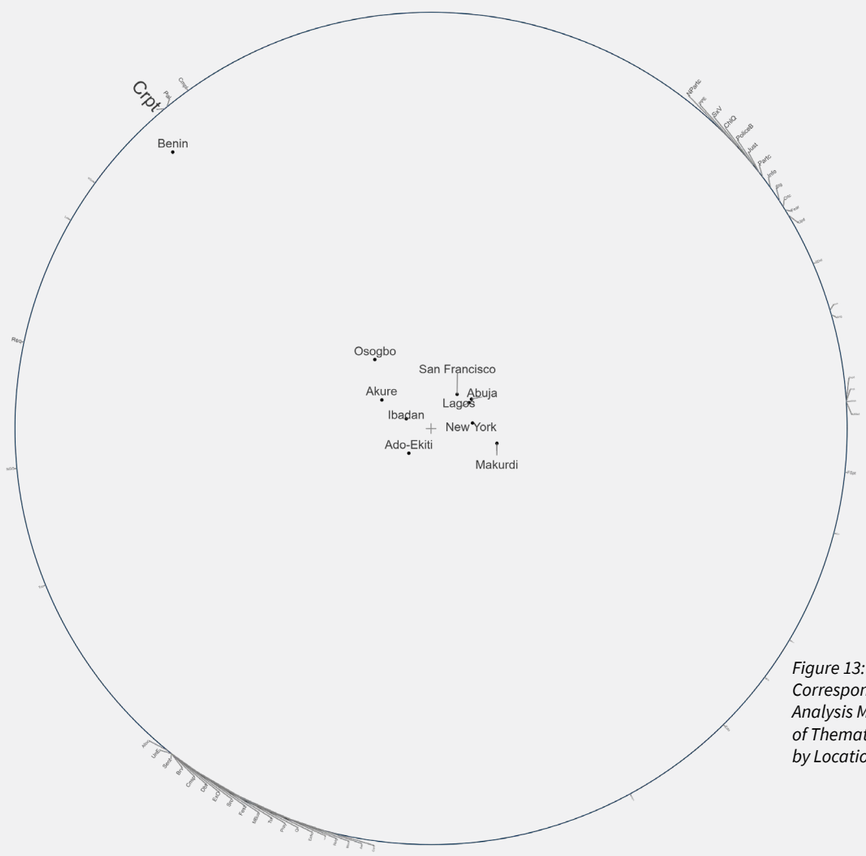

Figure 13: Correspondence Analysis Moonplot of Thematic Codes by Location

Correspondence Analysis of Ekiti Covid-19 News Themes by Date

Dimensions 1 and 2 explain approximately 40.2% and 32.2% of the total inertia respectively. Both dimensions correspond cumulatively to a total of 62.2% of total inertia (variation) retention. This implies that 62.2% of the relative variance in the data are captured by the two dimensions. There is a significant association between the row (Date) and the column (Thematic codes) variables in the Matrix.

The plots in Figures 14 and 15 below illustrate the findings from the Ekiti Covid-19 news articles dataset. The clustering of the thematic codes indicates that public conversation about Covid-19 in Ekiti State, Nigeria dominates the March-April 2020, May-June 2020 and June-July 2020. By July-August, the conversation had started dipping just like between February and the beginning of March 2020. *Sarcasm* (Src) and *Contact Tracing and Disease Surveillance* (Trc) distinguished public news narrative in Ekiti in Feb-March of 2020. *Protest* (Prot) highlights the dominant conversation for July-August of 2020. Between April and May of 2020, *Hydroxychloroquine* (ChlQ), *Conspiracy* (Cnsp), *Quarantine* (Qr), *Enforcement* (Enfrc), *Prayer and Supplication* (Pray) were distinctively covered by the news publications. The Period between May and June of 2020 witnessed the most distribution of thematic discussions on Covid-19 in Ekiti State; themes covered include *Sexual Violence* (SxV), *Sentiments and feelings* (Sent), *Partisan Criticism* (Partic), *Doubt* (Dbt), *Access to Justice* (Just), *Unemployment* (UnE), *Non-Partisan Criticism* (NPartic), *Mask* etc. June and July of 2020 saw thematic discussions on *Expert Opinion* (ExO), *Healthcare Workers* (HthW), *Health Provision* (PPE), *Education Access* (Edu), and *Foreign Support* (FSpt).

The pattern of discussions is similar to the distribution of Covid-19 cases for the first phase between March and August of 2020 (See Figure 6). Mapping of themes to date and other temporal units is crucial to critical and strategic decision making. It allows decision-makers to track the evolution of crucial themes in the discursive space over time. The trend analysis also enables the leaders to know what day of the week to disseminate certain messages. and to know why certain themes recur at specific times and moments.

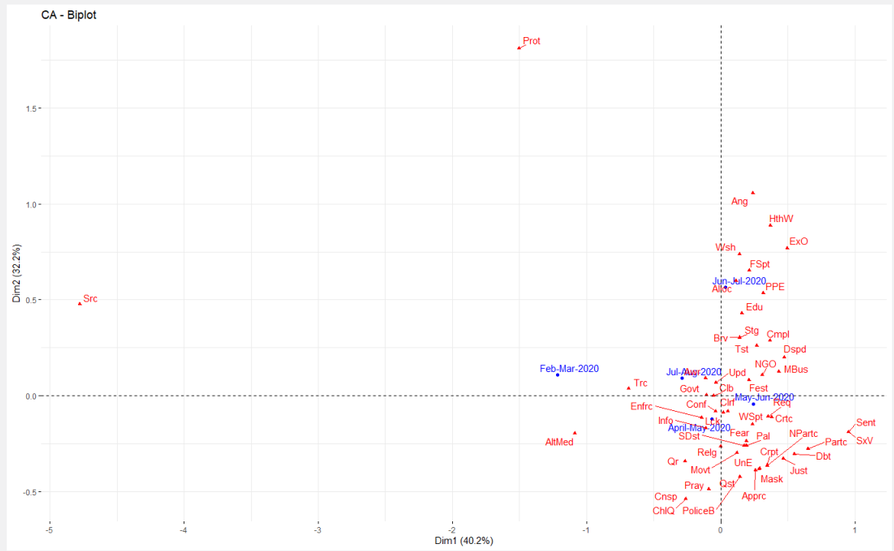

Figure 14: Correspondence Analysis Biplot of Thematic Codes by Date

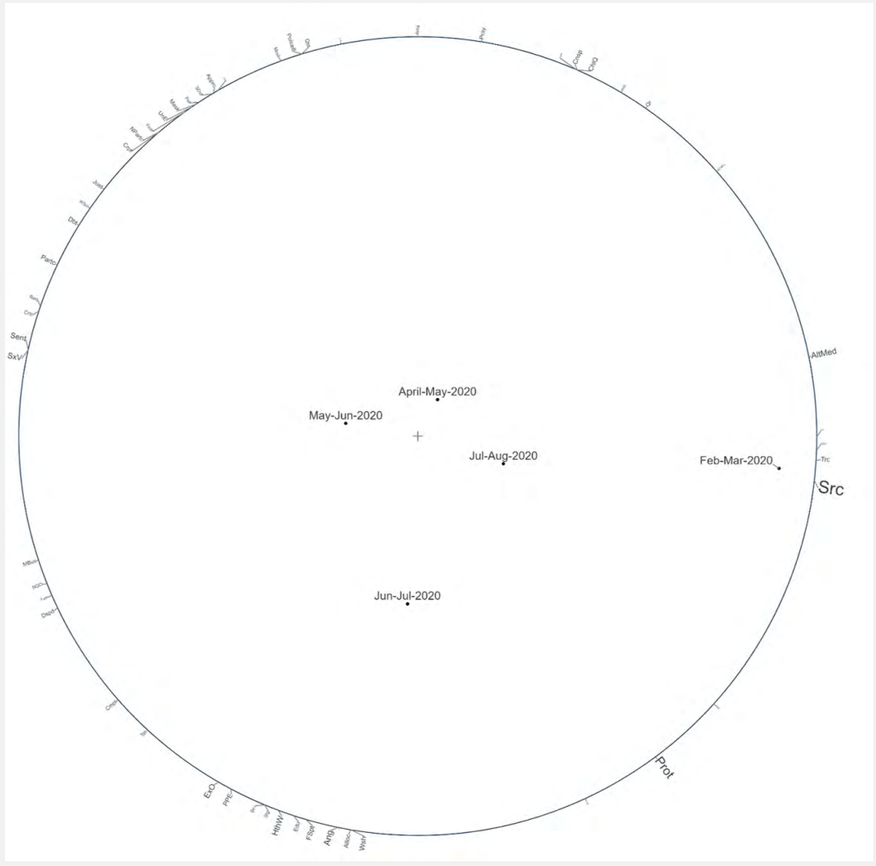

Figure 15: Correspondence Analysis Moonplot of Thematic Codes by Date

Part 4: Public Understanding of Covid-19 Government Leadership Response in Ekiti State, Nigeria: Stakeholders‘ Mapping and Q-Methodology Study

INTRODUCTION

All the analyses in the preceding sections have examined public opinion from principal actors and opinion-makers using the news articles collection. For a more balanced approach to public perception studies, we adopted a methodological approach that allowed us to assess the opinions of Ekiti citizens on the state government’s leadership response to Covid-19. Q-methodology is a methodology used in perception studies or studies of informed subjective opinions (operant subjectivity).[29,30]

We recognised the limitations of opinion polls, citizens survey in assessing subjective opinions which often veer towards the unbridled sentimental judgment of political leaders: citizens rarely have positive opinions of their politicians. This is not to dismiss genuine citizen concerns, nevertheless, since we aim to arrive at evidence-based assessments, we had to adopt a method that will help determine to a certain degree informed opinion. Most discursive events can be reduced to a series of subjective opinions; it is however important to sort opinions from people who are stakeholders – those who have informed knowledge of the contentious issues across different diametrical perspectives rather than depending on emotional, populist clichés. Q-methodology helps to address this problem. Asking ordinary people about the economy or security strategic decisions may not lead to bias, often uninformed submissions contrary to our set objectives. This made us settle for an approach that will help aggregate opinions of people with some level of informed opinions on the issues of interest.

STAKEHOLDERS MAPPING AND ANALYSIS

Since there are lots of opinions on any social issue, the task of selecting relevant stakeholders is arduous. Stakeholder Analysis helps to identify who to focus on based on power, influence, and interest. Knowing who are the people affected by an event or decision, who has the power to influence the direction of the outcome, and who shows or demonstrates interest in change is important in this analysis process. Illustratively, social media actors, celebrities may have high interest but may lack the positionality or power to affect any impact. Traditional monarchs and religious leaders may have highly visible influence but may not have significant interest in changing the outcome or they may simply lack the power to make the change.

Most often, researchers have pre-set ideas of who the main actors are based on past experiences, heuristics, or assumptions of importance. Stakeholders’ analysis helps to make informed decisions on how to relate with the actors based on facts from existing data or materials derived from mapping leadership-followers relationship surrounding the event of interest. From the results, we were able to design a Q-Participants’ list of 36 purposively selected respondents for the Q-sorts process of the Q-methodology exercise. The criteria for selection of the participants include Ekiti citizenship/ residency and membership of the stakeholders’ analysis – more importantly, the underrepresented.

29 McKeown, B., & Thomas, D. (2013). *Q methodology.* Los Angeles: Sage.
30 Stephenson, W. (1935). Technique of factor analysis. *Nature*, 136(3434), 297-297.

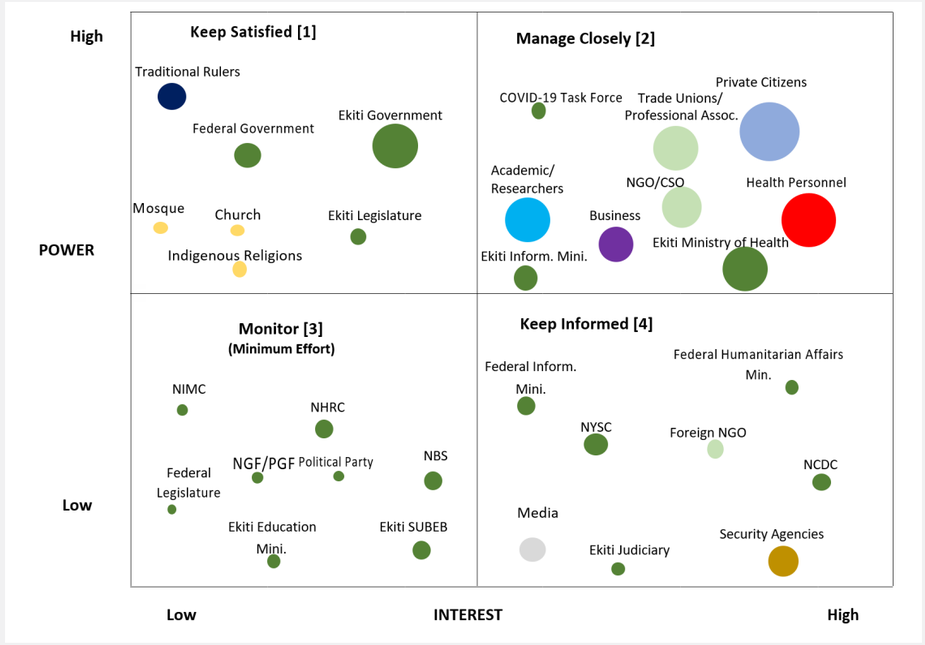

Figure 16: Power [Position] / Interest [Influence] Grid for Stakeholder Analysis

The Q-participants were involved in sorting/arranging the statements from the concourse into a grid matrix (Figure 17) based on their perception of agreement, disagreement, or neutrality.[31] The sort ranges from -5 (full disagreement) to +5 (full agreement) with 0 as neutral. Factor Analysis is used to analyse the collated sorting for further analysis. It is crucial to note the point that Q-methodology is not about the general representativeness of opinions of an entire population; rather, it is about deriving "informed" perspectives of individuals familiar with a discourse or narrative space.

The Stakeholder Matrix chart in Figure 16 is divided into 4 quadrants. The size of the actor nodes in the chart is dependent on a few considerations which include their frequency counts in the dataset and our decision to include the underrepresented but powerful voices. Below are the descriptions of the quadrants in no particular order:

I. **High Power – High Interest [Quadrant 2]:** these are the people to be focused on or to fully engage with. They are central to the issue of interest. Health personnel, Staff of the Ekiti State Ministry of Health dominate the discursive space. It is crucial to get their opinions on the statements because they have the power and interest since Covid-19 is a health emergency and they have statutory power. It is only understandable that their voices are not excluded.

As seen in the previous correspondence analysis results, academic/research actors expressed strong opinions (negative) on diverse thematic issues; though they were not individually captured in the news data, it is only appropriate to include them because of their power-interest weight. Other actors from NGO/CSO, Business, Trade/Labour unions, the Covid-19 Taskforce, and the Private citizens (represented with the biggest node in the quadrant)

II. **High Power - Less Interest [Quadrant 1]:** actors in this quadrant are to be carried along because of their position. The reasons for seeming absence or silence in the conversation should be investigated too but some of them might not have overtly expressed their opinions on the issue of interest because of their office (position). It is not too uncommon for traditional/civil servant/religious leaders to refrain from public statements or political issues. Their opinions cannot be dispelled but too many efforts should not be expended on them as they are less likely to make their opinion of political issues available.

III. **Low Power - High Interest [Quadrant 4]:** You must keep these people well-informed. They may not have positional or overt power, but they command significant influence because of their interest. The media is a typical example. If not properly informed, they can shape the narrative and sway public opinion on an issue without occupying any political office.

IV. **Low Power - Less Interest [Quadrant 3]:** Less energy should be spent on these actors. These are mostly government agencies and officials. They are more likely to be pro-government/establishment. To assess public policy or measures, they are more readily to push official narratives because such exercises (assessments) are perceived as investigations of their competence.

The stake analysis helped to map the different actors that featured in Covid-19 public discourses and narratives in Ekiti State from available data e.g., news media. It also helped to select participants or respondents for the Q-methodology part of this study.

Q-METHODOLOGY – THE PROCEDURES

Q-methodology is a series of processes that includes a collection of opinion statements, selection of informed participants, sorting of the statements by these participants, determination of perspectives using correlation, factor analysis/ principal component analysis. For a start, using text summarization, word cloud and other artificial intelligence procedures, we collected proposition or opinion statements from the data sources (news articles, interviews, social media, reports, etc.) for further analysis of informed subjectivity. This collection of opinion statements is also known as "Concourse". We collected 37 statements in the concourse (See Table 13).

These statements were subdivided into 7 categories (criteria) namely, *Disease surveillance and face-covering: (Criteria I), Movement restriction and testing (Criteria II), Collaborative response and citizen engagements (Criteria III), Information, updates, and awareness (Criteria IV), Palliative, social, and welfare support (Criteria V), Economic, education, and access to justice (Criteria VI), and Intervention assessments, commendations, and protests (Criteria VII).* The criteria were derived from the co-occurrence network analysis of thematic codes and the correspondence analysis discussed above. They help to properly organise and understand the factor interpretations of the Q-methodology results.

The next procedure entailed the selection of the participants (Q-participants) using Stakeholders' analysis to determine the relevant actors for the Q-methodology. Using the natural language processing (NLP) technique of named-entity extractions combined with expert opinions from analysts in-house and on the field, we were able to extract collections of actors from the data sources. The excluded and the underrepresented voices were also deliberately factored into the design process for the Stakeholders analysis. The result of this analysis is charted in Figure 16 above.

36 citizens (residents) of Ekiti State were presented with the 37 statements (See Appendix 7) from the concourse. They were also sent an instructional guide (See Appendix) together with the Netlify web link to the Q-sort web application for ranking the statements along with the specified scales.[32] The statements are sorted into 3 grid spaces marked "Disagree", "Neutral" and "Agree". After this exercise, the statements are uniquely placed into a bigger grid based on the participants' level of agreement with each of the statements. Their agreement levels range from -5 (Strongly disagreed) to +5 (Strongly agreed). A sample of the completed Q-sort grid is presented in Figure 17. At the end of the sorting exercise, participants were made to provide reasons for their most agreed and most disagreed ranked statements.

31 (see Footnote 29)

32 This web application was designed using the Ken-Q Analysis Software by Shawn Banasick - A Web Application for Q Methodology https://shawnbanasick.github.io/ken-q-analysis/

S5	S25	S8	S9	S2	S3	S12	S4	S28	S1	S27
	S32	S18	S10	S6	S7	S13	S14	S31	S37	
		S30	S16	S17	S11	S19	S15	S33		
			S23	S31	S20	S26	S21			
				S34	S22	S36				
					S24					
					S29					
-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5[a]
(1)	(2)	(3)	(4)	(5)	(7)	(5)	(4)	(3)	(2)	(1)[b]
1	2	3	4	5	6	7	8	9	10	11[c]
(Strongly Disagree)					**(Neutral)**					**(Strongly Agree)**

Figure 17: An example of the grid for Q-sort of the statements[33]

Q-METHODOLOGY: FACTORS AND PERSPECTIVES

Principal component factor analysis was carried out on the participants' Q-sorts using PQ Method. Following the application of Varimax rotation, four (4) factors were extracted. Only respondents with high factor weights were included as representative prototypes for their factor type. The four factors explained 52% of the total variance (See Table 7): Factor I (28%), Factor II (10%), Factor III (7%) and Factor IV (7%). Their eigenvalues were 10.02, 3.44, 2.63, and 2.35 respectively. Only 32 of the 36 Q-sorts (respondents or participants) uniquely loaded on a factor. 14 participants were grouped or loaded into Factor I, 7 participants were grouped into Factor II, 5 participants were grouped into Factor III, and 6 participants into Factor IV (See Table 8). The Factor arrays are listed in Table 13.

Distinguishing statements are those statements that distinguished a factor from the other factors. All the statements in the distinguishing statements tables are distinguished with significance at ($p < .05$); however, the statements with an asterisk (*) are significant at ($p < .01$). In Factor I, Statement S26 is ranked +3, while the same statement is ranked 0, 0, and -2 in Factors II, III, and IV respectively (See Table 13). Its Q-sort value (QSV) in Factor is highly significantly distant from the other factors, hence the asterisk to indicate its distinctive value. In Factor interpretation, special attention is paid to distinguishing statements because they define the factor perspective. Consensus statements (appended with (C)) denote those opinions that are shared across the Factors. Statement S22 is the consensus statement as it bears +/-1 QSV in all the four Factors; that is, Factor I: +1, Factor II: -1, Factor III: +1, and Factor IV: +1. This shows that there was mild or weak agreement with the position that the efforts and strategies of the Governor and his team to mitigate the impact of covid-19 in the state deserve praises (appreciation) (Criteria VII).

There was a low correlation between the Factors. Low correlation indicates that distinctive perspectives were covered by the factors. To interpret the Q-results, the focus primarily is on the opinions that are strongly agreed or strongly disagreed with. These opinions define the factor. Although, the other associated opinions along the continuums on both sides are important to provide further insights into the collective perspectives.

33 [a] Raw scores; [b] Number of cards; [c] Transformed Scores.

Table 7: Eigenvalues and Correlations between the Factors (Factor Characteristics)

		Factors			
		Factor I	**Factor II**	**Factor III**	**Factor IV**
Eigenvalues		10.02	3.44	2.63	2.35
No. of defining variables (Q-sort)		14	7	5	6
Explained Variance (%)		28	10	7	7
Cumulative Explained Var (%)		28	38	45	52
Average relative coefficient		0.8	0.8	0.8	0.8
Composite Reliability		0.982	0.966	0.952	0.96
Standard Error (S.E.) of Factor z-scores		0.134	0.184	0.219	0.2
	Factors	**Correlations between Factors**			
	Factor I	1.00			
	Factor II	0.3687	1.00		
	Factor III	0.0143	0.0241	1.00	
	Factor IV	0.335	0.287	0.1203	1.00

Table 8: Participants' Demographic Characteristics and Factor Weights

Type	ID	Factor Weight	Sex	Age	Occupation Type	Leadership Position
Factor I (n = 14)	P36	2.75	M	41-50	Private Sector	Mid-Level Leadership/Management
	P12	2.74	M	41-50	Governmental	Mid-Level Leadership/Management
	P8	2.59	F	61-70	Unemployed	Mid-Level Leadership/Management
	P9	2.54	M	41-50	Academic/Researcher	Mid-Level Leadership/Management
	P10	2.49	M	31-40	Student	Not Applicable
	P11	1.75	F	31-40	Academic/Researcher	Mid-Level Leadership/Management
	P6	1.55	M	20-30	Unemployed	Junior Leadership/Management
	P7	1.32	F	31-40	Academic/Researcher	Mid-Level Leadership/Management
	P20	1.11	M	31-40	Academic/Researcher	Mid-Level Leadership/Management
	P5	1.04	F	31-40	Academic/Researcher	Mid-Level Leadership/Management
	P13	1.03	M	41-50	NGO/Civil Society	Mid-Level Leadership/Management
	P4	0.83	M	61-70	Private Sector	Senior Leadership/Management
	P15	0.78	M	41-50	Religious Cleric	Senior Leadership/Management
	P16	0.76	M	70+	Academic/Researcher	Senior Leadership/Management
Factor II (n = 7)	P23	1.12	M	31-40	Unemployed	Not Applicable
	P30	1.03	M	51-60	Religious Cleric	Senior Leadership/Management
	P25	1.00	F	31-40	Academic/Researcher	Mid-Level Leadership/Management
	P24	0.82	F	31-40	Unemployed	Not Applicable
	P32	0.78	F	20-30	Student	Not Applicable
	P22	0.77	M	20-30	Student	Not Applicable
	P34	0.71	M	31-40	Governmental	Mid-Level Leadership/Management
Factor III (n = 5)	P18	-1.07	M	41-50	Governmental	Mid-Level Leadership/Management
	P35	0.88	F	41-50	Governmental	Senior Leadership/Management
	P19	-0.76	M	61-70	Private Sector	Senior Leadership/Management
	P29	0.57	F	31-40	Unemployed	Not Applicable
	P1	-0.56	M	31-40	Academic/Researcher	Junior Leadership/Management
Factor IV (n = 6)	P17	1.24	F	70+	Other	Senior Leadership/Management
	P2	1.23	M	41-50	Academic/Researcher	Senior Leadership/Management
	P27	0.79	M	31-40	Private Sector	Mid-Level Leadership/Management
	P3	0.68	M	31-40	Private Sector	Mid-Level Leadership/Management
	P26	0.62	M	41-50	Private Sector	Mid-Level Leadership/Management
	P28	0.61	F	31-40	Unemployed	Not Applicable

FACTOR I: DISTRIBUTIVE ENGAGEMENTS AND SOCIO-ECONOMIC ACCESS

9 of the 14 participants in this factor type are male while 5 are female. The average age is 41-50. 6 of these participants are Academic/Researchers, 2 are from the private sector, 2 are unemployed, NGO/Civil Society, Governmental, and Religious organisations have 1 participant each (See Table 8). 9 participants are in Mid-Level Leadership/Management, 3 in Senior Leadership/Management positions and 1 in Junior Leadership/Management position. The Factor interpretation crib sheet for Factor I is presented in Table 9 below. All the Q-sorts value (Q-SV) for Factor I participants are listed in Appendix 2.

Participants who loaded under this factor (viewpoint dimension) strongly agreed with the proposition that education access (virtual learning, radio and television) alternative measures put in place by the government were not effective (S37: +5; S36: +4) *(Economic, education, and access to justice: Criteria VI).* This was not peculiar to Ekiti State as similar results were observed nationally. Although internet penetration in Nigeria improved significantly in 2020, digital literacy and access have remained a big issue. [34,35] Socio-economic factors likely impacted the outcome effectiveness of this intervention. Relatedly, the participants strongly agreed that there was minimal compliance to Ekiti State government's social and physical distancing in businesses, markets, and religious gatherings (S26: +3) *(Criteria VI).*

Their disagreement with the statement that Ekiti State Government fully enforced lockdown procedures and protocols lend credence to this proposition criterion (S5: -3).

They believed that awareness and information campaigns aimed at bus drivers and tricyclists on social and physical distancing were effective in preventing the spread of the virus (S27: +3) *(Information, updates, and awareness: Criteria IV).* They also mildly affirmed the roles of collaborations between the government and private sector, NGOs, donors, and partners in mitigating the impacts of Covid-19 including the disbursement of Personal protective equipment (PPE) to healthcare workers (S34: +2; S20: +2) *(Collaborative response and citizen engagements: Criteria III).* This perspective is maintained in their repudiation of the claim that local academic and indigenous knowledge health research experts were excluded in the government's strategies and plans in the fight against the virus (S18: -3) *(Criteria III).*

They were undecided (neutral) on the contribution of the expansion of the Ekiti state isolation centre in the fight against the virus (S29: 0) *(Movement restriction and testing: Criteria II).* They were also undecided on the claim that There was little or no protestations against the State's Covid-19 response by non-partisan individuals (S12: 0) *(Intervention assessments, commendations, and protests: Criteria VII).* They strongly opposed the statement that the palliative provisions and welfare support implemented by the Ekiti State Government greatly mitigated the harsh impacts of the lockdown (S6: -4) *(Palliative, social, and welfare support: Criteria V);* see Table 13.

34 Kemp, S. (2020, February 18). *Digital 2020: Nigeria — DataReportal – Global Digital Insights*. DataReportal – Global Digital Insights. Retrieved 31 August 2021, from https://datareportal.com/reports/digital-2020-nigeria

35 Uzuegbunam, C. E. (2019). *The digital lifeworlds of young Nigerians – Exploring rural and urban teens' practices with, and negotiation of digital technology.* Faculty of Humanities, Centre for Film and Media Studies, University of Cape Town. Retrieved from http://hdl.handle.net/11427/31316

Table 9: Factor interpretation crib sheet (Distinguishing Statements for Factor I)

ID	Distinguishing Statements for Factor I	Q-SV	Z-score	Criteria
37	S37 The decision to migrate all the universities, polytechnics, and colleges of education virtual learning environment by both the Federal and the Ekiti State Government to enable their students to continue their studies through digital devices during the lockdown was ineffective.	+5*	1.85	Economic, education, and access to justice (Criteria VI)
36	S36 The Minister of Education/Universal Basic Education Commission (UBEC)'s directive for ensuring that primary and secondary school pupils' access to learning through radio and television stations was not effective in Ekiti State.	+4*	1.38	Economic, education, and access to justice (Criteria VI)
26	S26 Despite government directives on social and physical distancing, many businesses, markets, and religious gatherings operated without observing these measures in Ekiti State.	+3*	1.35	Economic, education, and access to justice (Criteria VI)
27	S27 The awareness and information campaigns for bus and tricycle drivers by the Ekiti state government on social and physical distancing helped to prevent the spread of the coronavirus disease.	+3*	1.28	Information, updates, and awareness (Criteria IV)
34	S34 Ekiti State Government partnered with NGOs and other private entities to (efficiently and equitably) disburse Personal Protective Equipment (PPE) to healthcare workers and other citizens of the state.	+2*	0.86	Collaborative response and citizen engagements (Criteria III)
20	S20 The collaboration between Ekiti state government and local Non-Governmental Organisations and Civil Society Organisations had significant positive impacts on Covid-19 leadership outcome.	+2*	0.83	Collaborative response and citizen engagements (Criteria III)
29	S29 The expansion of Ekiti state's only isolation centre to admit more patients was helpful in the fight against Covid-19.	0	0.05	Movement restriction and testing (Criteria II)
12	S12 There was little or no opposition or protest against the Ekiti Government's leadership and management of the Covid-19 response from private citizens, social media influencers, and opposition party members.	0*	-0.04	Intervention assessments, commendations, and protests (Criteria VII)
11	S11 The Mobile Apps and other technological facilities (reporting tools) were underutilised or not customised for local use and ease of access thereby inhibiting networked information distribution.	-1*	-0.37	Information, updates, and awareness (Criteria IV)

FACTOR II: DISEASE SURVEILLANCE, INTERVENTION ASSESSMENTS, INFORMATION AND EDUCATION ACCESS

This discourse perspective is characterised by participants who expressed wide-ranging opinions on the state government's policies and interventions during the first phase of the Covid-19 pandemic. The participants cut across several students, unemployed and academic staff who traditionally are sceptical of government interventions. This is not in any way to dismiss their concerns. As a matter of fact, their scepticism is beneficial to public perception studies - the main subject of interest. Only 3 of the 7 participants that loaded significantly on this factor type are female while 4 are male. The average age is between 31 and 40. In this factor, there are 2 Students, 2 are Unemployed, 1 Academic/Researcher, 1 works with the Government, and 1 Religious Cleric. As per leadership or management positions, 2 are Mid-Level Leadership/Management and 1 Senior Leadership/Management. Appendix 3 contains the full Q-sorts for this Factor.

This factor (Factor II) has the most distinguished statements in the Factor arrays (See Table 10). This shows that Factor II is significantly different from the other factors, the perspectives are distinct from those expressed in the other factors too. Participants who loaded on this factor strongly valued the contact tracing and inter-state travel restrictions put in place by the state (S28: +5) *(Disease surveillance and face-covering: Criteria I).* They also strongly acknowledged that the collaboration between Ekiti State Government and the Federal Ministry of Health as well as that with the World Health Organisation (WHO) was helpful with contact tracing during this review period (S21: +4) *(Collaborative response and citizen engagements: Criteria III)*. They however weakly rejected the claim that the partnership between the state government and local civil society organisations (CSO) had significant positive impacts on Covid-19 leadership outcome in the state (S20: -1) *(Criteria III)*. This shows that the participants were strongly of the opinion that the collaborations between Ekiti state government and federal government as well as inter-governmental agencies were more effective. However, they could not definitively avow such claim on partnership with local civil societies organisations.

The participants also saw a comforting utility of prayers by religious people in the state (S19: +3) *(Palliative, social, and welfare support: Criteria V).* They equally recognised that the apps and other technological instruments deployed for information dissemination during the first phase of the pandemic in Ekiti state had issues including accessibility for local users. They acknowledged that the apps system designs were not sufficient for networked information distribution (S11: +3) *(Information, updates, and awareness: Criteria IV).* The design was mainly for hierarchical information dissemination from official (government) sources to the populace. There was very little provision for active information exchange.

The participants strongly dispelled the blanket dismissal of the effectiveness of the virtual learning alternative measures put in place by both the Federal and Ekiti State governments (S37: -4) *(Economic, education, and access to justice: Criteria VI).* According to the opinion of a participant, "*It is unfair to solely blame the Ekiti State government for the low success of the virtual learning, I think it is a national problem. Most students don't have*

access to good internet and computer and those who do, most do not know how to use them" (P32/S37: -4; Female, 20-30, Student).

The participants expressed strong objections to the claim that the Ekiti State government should be commended more than the Federal Government for the response system used in curtailing the virus spread (S3: -4) *(Intervention assessments, commendations, and protests: Criteria VII)*. The above position is in congruence with their negation of the claim that there were no protests or oppositions by partisan persons online against the Ekiti State government's management of the Covid-19 during the first phase of the virus outbreak (S12: -3) *(Criteria VII)*. Comments from a cross-section of the participants who loaded highly on this Factor typology shed more light on these propositions.

"*I really don't think any of the tiers of government should be commended because Ekiti did not really experience massive outbreak relative to other big states.*" (P23/S3: -3; Male, 31-40, Unemployed)

"*One tier cannot be placed or commended more than the other because different agencies from both the Federal and the State Government contributed to the interventions.*"
(P30/S3: -5; Male, 51-60, Religious Cleric, Senior Leadership/Management)

These comments show that the disagreements expressed under this factor are not so much about whether the Ekiti State government deserves commendation for its intervention measures during the first phase of the pandemic; but rather, they are about attribution of the commendations – should Ekiti State government be commended more than the Federal government?

Table 10: Factor interpretation crib sheet (Distinguishing Statements for Factor II)

ID	Distinguishing Statements for Factor II	Q-SV	Z-score	Criteria
28	S28 Ekiti state government did well on contact tracing and tracking of travellers who violated inter-state travel restrictions.	+5*	1.86	Disease surveillance and face-covering (Criteria I)
21	S21 Ekiti Government's collaboration with the Federal Ministry of Health, and the World Health Organization helped with contact tracing.	+4*	1.29	Collaborative response and citizen engagements (Criteria III)
19	S19 The collective call to Christians and Muslims to pray for an end to the covid-19 pandemic was comforting.	+3*	1.21	Palliative, social, and welfare support (Criteria V)
11	S11 The Mobile Apps and other technological facilities (reporting tools) were underutilised or not customised for local use and ease of access thereby inhibiting networked information distribution.	+3*	1.02	Information, updates, and awareness (Criteria IV)
5	S5 Ekiti State Government fully enforced lockdown procedures and protocols.	+1*	0.64	Movement restriction and testing (Criteria II)
9	S9 The Covid-19 leadership structure was top-down (vertical) with little or no room for shared leadership outside of government functionaries and their associates.	+1*	0.5	Collaborative response and citizen engagements (Criteria III)
6	S6 The palliative provisions and welfare support implemented by the Ekiti State Government greatly mitigated the harsh impacts of the lockdown.	0*	0.25	Palliative, social, and welfare support (Criteria V)
34	S34 Ekiti State Government partnered with NGOs and other private entities to (efficiently and equitably) disburse Personal Protective Equipment (PPE) to healthcare workers and other citizens of the state.	0*	0.13	Collaborative response and citizen engagements (Criteria III)
4	S4 Ekiti State government used traditional and popular media to complement social media to provide Covid-19 awareness, clarifications, and case confirmations.	0*	0.09	Information, updates, and awareness (Criteria IV)
20	S20 The collaboration between Ekiti state government and local Non-Government Organisations and Civil Society Organisations had significant positive impacts on Covid-19 leadership outcome.	-1*	0	Collaborative response and citizen engagements (Criteria III)
12	S12 There was little or no opposition or protest against the Ekiti Government's leadership and management of the Covid-19 response from private citizens, social media influencers, and opposition party members.	-3*	-1.45	Intervention assessments, commendations, and protests (Criteria VII)
3	S3 The Ekiti State government should be commended even more than the Federal Government for its response system in battling the spread of the virus.	-4*	-1.48	Intervention assessments, commendations, and protests (Criteria VII)
37	S37 The decision to migrate all the universities, polytechnics, and colleges of education virtual learning environment by both the Federal and the Ekiti State Government to enable their students to continue their studies through digital devices during the lockdown was ineffective.	-5*	-2.1	Economic, education, and access to justice (Criteria VI)

Note: Q-SV (Q-Sort Value); Asterisk (*) indicates significance (Distinguished Statement) at p < .01.

FACTOR III: PALLIATIVES AND SOCIAL SUPPORTS ISSUES

The dominant views under this factor typology suggests a focus on palliative, social and welfare support as well as assessments of interventions. The interpretation crib sheet for Factor III in Table 11 provides a glimpse into the perspectives expressed by the factor's participants. 2 of the 5 participants loaded significantly on this factor type are female while 3 are male. The average age is 41-50. 2 of these participants work for the government, 1 is from the private sector, 1 is an Academic/Researcher, and 1 is unemployed (See Table 8). 2 of the participants are in Senior Leadership/Management, 1 is in Mid-Level Leadership/Management position, and 1 is in Junior Leadership/Management position. The participant strongly believed that the palliatives and welfare support put in place by the Ekiti State government contributed to assuage the impacts of the pandemic during the first phase of the Covid-19 outbreak (S6: +5) *(Palliative, social, and welfare support: Criteria V).* Tied to this is the belief by these participants that the incentives provided helped to reduce the biting impacts of job loss and unemployment in the same period (S23: +3) *(Criteria V).*

The participants agreed with the position that during this timeframe there was the transformation of economic and business exchanges as the lockdown led to people migrating to virtual platforms for their various trade transactions (S35: +3) (Economic, education, and access to justice: Criteria VI). They also noted that the was no serious opposition against Ekiti State Government's leadership and management of the Covid-19 response during this initial stage of the pandemic (S12: +3*) (Intervention assessments, commendations, and protests (Criteria VII)*. This is related to their mild agreement position that the Ekiti State government should be commended more than the federal government for the response of the state in curtailing the spread of the virus (S3: +3) *(Criteria VII).*

Related to their stance on statement S12, they strongly disagreed with the proposition that provision and distribution of palliatives during the lockdown were not enough (S32: -4) *(Criteria V).* They also disagreed with the utility of prayers as an instrument of social support (S19: -3) *(Criteria V).* They expressed mild disagreement with the proposition that the expansion of Ekiti State's only isolation centre had any real impact on the fight against the virus at that early phase of the pandemic (S29: -1) *(Movement restriction and testing: Criteria II).*

It is crucial to reiterate the fact that, the participants' sorts under this factor were unique, hence, they expressed opinions that were distinct from those stated by participants in the other factors. For instance, while participants in Factors I and II strongly declared that provisions were not enough (S32: +4) and those in Factor IV mildly support that position too (S32: +1), participants in Factor III strongly objected to the position. To them, provisions and distributions of palliatives were enough.

2 of the 5 participants who strongly loaded on this Factor work for the State Government in Senior/Mid-level Management positions (P18 and P35; see Table 8 and Appendix 4 respectively). This might explain their seeming pro-government position, but given the anonymity of Q-methodology, it would be wrong to discredit their positions just because of this casual inference. At a granular level, the sort values for each participant reveal a more nuanced interpretation (Appendix 4). Participant 18 (P18: Male, 41-50, Governmental, Mid-Level Leadership/Management) disagreed with the statement that the palliatives and welfare programs of the state government helped to mitigate the impacts of

Covid-19 during the first phase of the pandemic (S6: -2); while Participant 35 (P35: Female, 41-50, Governmental, Senior Leadership/Management) strongly supported that same statement (S6: +4). When all the sorts for all the participants who loaded strongly on Factor III are taken together, they strongly agreed with the statement, but individually, their sorts tell a more insightful story. The same scenario played out in Statement S23 although to a lesser degree (P18/S23: -2; P35/S23: +1).

Table 11: Factor interpretation crib sheet (Distinguishing Statements for Factor III)

ID	Distinguishing Statements for Factor III	Q-SV	Z-score	Criteria
6	S6 The palliative provisions and welfare support implemented by the Ekiti State Government greatly mitigated the harsh impacts of the lockdown.	+5*	1.82	Palliative, social, and welfare support (Criteria V)
23	S23 The Ekiti state Government provided enough incentives to reduce the effects of unemployment caused by the onset of Covid-19 to a certain degree.	+3*	1.41	Palliative, social, and welfare support (Criteria V)
35	S35 More people were able to access businesses with virtual platforms where they were able to showcase their products and services rather than those in the conventional marketplaces.	+3*	1.23	Economic, education, and access to justice (Criteria VI)
12	S12 There was little or no opposition or protest against the Ekiti Government's leadership and management of the Covid-19 response from private citizens, social media influencers, and opposition party members.	+3	1.19	Intervention assessments, commendations, and protests (Criteria VII)
3	S3 The Ekiti State government should be commended even more than the Federal Government for its response system in battling the spread of the virus.	+2*	0.9	Intervention assessments, commendations, and protests (Criteria VII)
15	S15 Nose mask and face-covering compliance and enforcement in public spaces were not effective despite the government's threat to arrest and prosecute defaulters.	+1	0.8	Disease surveillance and face-covering (Criteria I)
29	S29 The expansion of Ekiti state's only isolation centre to admit more patients was helpful in the fight against Covid-19.	-1	-0.49	Movement restriction and testing (Criteria II)
19	S19 The collective call to Christians and Muslims to pray for an end to the covid-19 pandemic was comforting.	-3*	-1.33	Palliative, social, and welfare support (Criteria V)
32	S32 The provision and distribution of palliatives during the lockdown were not enough.	-4*	-1.53	Palliative, social, and welfare support (Criteria V)
34	S34 Cooperation between the state government, NGOs, and private entities allowed the government to disburse PPE to healthcare workers as well as other citizens.	-4*	-1.7	Collaborative response and citizen engagements (Criteria III)

Note: Q-SV (Q-Sort Value); Asterisk (*) indicates significance (Distinguished Statement) at p < .01.

FACTOR IV: CRISIS COMMUNICATION, COLLABORATIVE RESPONSE, AND PROTESTS

The perspectives covered by this factor are broadly about crisis communication, collaborative response, and protestations. 2 of the 6 participants loaded significantly on this factor type are female while 4 are male. The average age is 41-50. 3 of these participants are from the private sector, 1 is an Academic/Researcher, 1 is unemployed, and the last participant is a retiree (Other) (See Table 8). 2 of the participants are in Senior Leadership/Management and 3 are in Mid-Level Leadership/Management positions. The interpretation crib sheet for Factor IV in Table 12 highlights the perspectives expressed by this factor's participants.

The participants on this Factor strongly agreed that the Ekiti State government provided regular updates which enable the curtailment of misinformation during the period under review (S1: +5) *(Information, updates, and awareness: Criteria IV).* Participants P17, P2, P26 strongly attested to this proposition (See Appendix 5). Factor IV participants also strongly countered the proposition that the Ekiti government's initiatives to counter false information did not adequately consider the illiterates who are not proficient in English (S33: -5) *(Criteria IV).* They strongly acknowledged the cooperation between private entities, and some NGOs and the Ekiti government in the disbursement of PPE to health workers (S34: +4) *(Collaborative response and citizen engagements: (Criteria III).* A participant who significantly weighted on the Factor notes thus:

"*The government made provisions for PPE, private NGOs such as the Theophilus Danjuma-led Victim Support Fund's (VSF) taskforce on COVID-19 also donated PPE equipment to Ekiti State government towards the end of 2020.*" (P26/S34: +4; Male, 41-50, Private Sector, Mid-Level Leadership/Management)

The participants mildly indicated their support of the proposition that there were a few or no noticeable protestations against the Ekiti Government's management of Covid-19 in the first phase of the pandemic by private citizens, opposition party members and social media influencers (S12: +2) *(Intervention assessments, commendations, and protests: Criteria VII)*. In consistence with the above proposition (i.e., S12), Factor IV participants also mildly rejected the statement that the strikes by Ekiti State health workers had any strong impact on effective management of Covid-19 during the reviewed period (S31: -1*) (Information, updates, and awareness: Criteria IV).* Overall, this suggests a weak acknowledgement of protestations and structural dissents against the government's leadership of the pandemic during the period under review. A look at a cross-section of the participants who weighed on the Factor provides more insights into this observation.

"*Since it was a national pandemic, attention is more on the federal government than the states, therefore, the protests at the state level wasn't much.*" (P17/S12: -5; Female, Other (Retiree))

"*There was a little protest by the health workers, ASUU, SSANUU etc. but not enough to have any serious impact on the response to the virus*." (P27/S31: -2, Male, 31-40, Private Sector, Mid-Level Leadership/Management)

The comments above and the Q-sorts for both statements in Appendix 5 show that the contention is not about the occurrence of protests (mostly offline) rather the impact is what the participants contested. This probably explains the mild Factor ranking on both statements. There was weak agreement ranking by the participants on the proposition that the provision and distribution of palliatives during the lockdown were not enough (S32: +1) (*Palliative, social, and welfare support: Criteria V).* There was also a very weak acknowledgement of the proposition that the Ekiti Government Covid-19 leadership committees and initiatives cut across different social, gender and economic strata of the society (S16: +1) *(Criteria VII)*.

Table 12: Factor interpretation crib sheet (Distinguishing Statements for Factor IV)

ID	Distinguishing Statements for Factor IV	Q-SV	Z-score	Criteria
1	S1 Ekiti State government provided regular updates on the virus thereby curtailing misinformation.	+5*	2.12	Information, updates, and awareness (Criteria IV)
34	S34 Ekiti State Government partnered with NGOs and other private entities to (efficiently and equitably) disburse Personal Protective Equipment (PPE) to healthcare workers and other citizens of the state.	+4*	1.85	Collaborative response and citizen engagements (Criteria III)
12	S12 There was little or no opposition or protest against the Ekiti Government's leadership and management of the Covid-19 response from private citizens, social media influencers, and opposition party members.	+2	0.6	Intervention assessments, commendations, and protests (Criteria VII)
32	S32 The provision and distribution of palliatives during the lockdown were not enough.	+1*	0.41	Palliative, social, and welfare support (Criteria V)
16	S16 Ekiti Government Covid-19 leadership response committees and initiatives cut across different social, gender and economic strata of the society.	+1*	0.24	Intervention assessments, commendations, and protests (Criteria VII)
15	S15 Nose mask and face-covering compliance and enforcement in public spaces were not effective despite the government's threat to arrest and prosecute defaulters.	0	0.2	Disease surveillance and face-covering (Criteria I)
31	S31 Health workers complained about pay, hostile and unsafe working conditions. This strongly impacted the effective management of Covid-19 in the state.	-1*	-0.43	Intervention assessments, commendations, and protests (Criteria VII)
26	S26 Despite government directives on social and physical distancing, many businesses and markets operated without observing these measures in Ekiti State.	-2*	-0.98	Economic, education, and access to justice (Criteria VI)
33	S33 Ekiti Government initiatives to counter false claims and unverified treatments did not adequately take care of illiterates as most of the online platforms set up by the government had information in English.	-5*	-1.89	Information, updates, and awareness (Criteria IV)

Note: Q-SV (Q-Sort Value); Asterisk (*) indicates significance (Distinguished Statement) at p < .01.

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Table 13: The Q-Statement (Concourse) and the Factor Arrays

ID	Q-Statement (Concourse)	Factor Arrays			
		I	II	III	IV
Criteria I: *Disease surveillance and face covering*					
15	S15 Nose mask and face-covering compliance and enforcement in public spaces were not effective despite the government's threat to arrest and prosecute defaulters.	-1	-1	+1*	0*
25	S25 Ekiti State government fully and effectively enforced lockdown measures to avert community transmission of COVID-19 in the state.	-3	+2	-2	+3
28	S28 Ekiti state government did well on contact tracing and tracking of travellers who violated inter-state travel restrictions.	+1	+5*	0	+2
Criteria II: *Movement restriction and testing*					
5	S5 Ekiti State Government fully enforced lockdown procedures and protocols.	-3*	+1*	+4	+4
7	S7 The mobile Molecular Laboratory commissioned by the Ekiti State Government contributed to the ease of Covid-19 testing in the state.	0	+1	-1	0
8	S8 The Random testing protocol embarked upon by the State government was not effective.	-2	-2	0	-2
13	S13 The compulsory social and physical distancing measure at public events helped to curtail the spread of the virus.	+2	+2	0	0
14	S14 Strict guidelines for the reopening of public worship centres (churches and mosques) were implemented and assessment for level of compliance was enforced by the government to limit the spread of the virus.	+1	+3	+2	+2
24	S24 The 54gene and Ekiti State COVID-19 mobile molecular laboratory testing was proactive and accessible by a significant number of Ekiti state citizens.	-1	0	+1	-2
29	S29 The expansion of Ekiti state's only isolation centre to admit more patients was helpful in the fight against Covid-19.	0*	+2	-1*	+3
Criteria III: *Collaborative response and citizen engagements*					
9	S9 The Covid-19 leadership structure was top-down (vertical) with little or no room for shared leadership outside of government functionaries and their associates.	-1	+1*	-1	-1
18	S18 Local academic and indigenous knowledge health research experts were excluded from the government's strategies and plans in the fight against the virus.	-3*	-2	-2	-1
20	S20 The collaboration between Ekiti state government and local Non-Government Organisations and Civil Society Organisations had significant positive impacts on Covid-19 leadership outcome.	+2*	-1*	-2	-3
21	S21 Ekiti Government's collaboration with the Federal Ministry of Health, and the World Health Organization helped with contact tracing.	+1	+4*	0	+1
34	S34 Cooperation between the state government, NGOs, and private entities allowed the government to disburse PPE to healthcare workers as well as other citizens.	+2*	0*	-4*	+4*
Criteria IV: *Information, updates, and awareness*					
1	S1 Ekiti State government provided regular updates on the virus thereby curtailing misinformation.	+3	+2	+2	+5*
2	S2 The various information infrastructure set up by the Ekiti State Government allowed the citizens to learn and know more about the virus.	+1	-1	+2	0
10	S10 Crisis information engagements were top-down with little room for diffused and networked interactions between the government and the populace.	0	-2	-1	0
11	S11 There were Covid-19 Apps and other technological facilities that were underutilised or not customised to local use and ease of access.	-1*	+3*	-3	-4
27	S27 The awareness and information campaigns for bus and tricycle drivers by the Ekiti state government on social and physical distancing helped to prevent the spread of the coronavirus disease.	+3*	+1	+1	+2
33	S33 Ekiti Government initiatives to counter false claims and unverified treatments did not adequately take care of illiterates as most of the online platforms set up by the government had information in English.	-2	-1	-2	-5*
4	S4 Ekiti State government used traditional and popular media to complement social media to provide Covid-19 awareness, clarifications, and case confirmations.	+2	0*	+4	+3
Criteria V: *Palliative, social, and welfare support*					
6	S6 The palliative provisions and welfare support implemented by the Ekiti State Government greatly mitigated the harsh impacts of the lockdown.	-4	0*	+5*	-4
19	S19 The collective call to Christians and Muslims to pray for an end to the covid-19 pandemic was comforting.	0	+3*	-3*	-1
23	S23 The Ekiti state Government provided enough incentives to reduce the effects of unemployment caused by the onset of Covid-19 to a certain degree.	-4	-3	+3*	-3
32	S32 The provision and distribution of palliatives during the lockdown were not enough.	+4	+4	-4	+1*
Criteria VI: *Economic, education, and access to justice*					
26	S26 Despite government directives on social and physical distancing, many businesses and markets operated without observing these measures in Ekiti State.	+3*	0	0	-2*
30	S30 The lockdown measure is elitist because a large percentage of the citizens are not salary-earners; hence, the lack of complete compliance.	0	0	0	-2
35	S35 More people were able to access businesses with virtual platforms where they were able to showcase their products and services rather than those in the conventional marketplaces.	0	0	+3*	-1

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36	S36 The Minister of Education/Universal Basic Education Commission (UBEC)'s directive for ensuring that primary and secondary school pupils' access to learning through radio and television stations was not effective in Ekiti State.	+4*	+1	+1	0
37	S37 The decision to migrate all the universities, polytechnics, and colleges of education virtual learning environment by both the Federal and the Ekiti State Government to enable their students to continue their studies through digital devices during the lockdown was ineffective.	+5*	-5*	0	+1
Criteria VII: *Intervention assessments, commendations, and protests*					
3	S3 The Ekiti State government should be commended even more than the Federal Government for its response system in battling the spread of the virus.	-1	-4*	+2*	0
12	S12 There were very few protests against the Ekiti Government's leadership /management of the Covid-19 response by private citizens, social media influencers, and opposition party members.	0*	-3*	+3*	+2*
16	S16 Ekiti Government Covid-19 leadership response committees and initiatives cut across different social, gender and economic strata of the society.	-2	-3	-3	+1*
17	S17 Ekiti State Government response and intervention measures so far have been deliberately elderly male-dominated with little or no involvement of the youth and women.	-2	-2	-1	-3
22	S22 The efforts and strategies of the Governor and his team to mitigate the impact of covid-19 in the state deserve praises (appreciation). (C)	+1	-1	+1	+1
31	S31 Health workers complained about pay, hostile and unsafe working conditions. This strongly impacted the effective management of Covid-19 in the state.	-5	-4	-5	-1*

Note: Q-SV (Q-Sort Value); Asterisk (*) indicates significance (Distinguished Statement) at p < .01.

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SYNTHESIS OF PERSPECTIVES (Q-METHODOLOGY CRITERIA)

The different thematic clusters and perspectives examined in the previous section help organise the different public thoughts or viewpoints on government leadership response to covid-19 in Ekiti state during the first phase. Q-methodology is a tool for subjectivity studies. It helps to have a glance at dominant opinions of carefully selected informed actors on a particular event.[36] Unlike survey research, the concern is not the generalisability of findings to a population, but the clustering of viewpoints in a population whose reliability can be ascertained through test-retest studies.[37] Four (4) viewpoints have been identified through the Q-methods; they include *Distributive engagements and Socio-economic Access (Factor I), Disease Surveillance, Intervention assessments, Information and Education access (Factor II), Palliatives and social supports issues (Factor III), and Crisis communication, collaborative response, and protests (Factor IV).* These opinion factors typify public understanding of Covid-19 leadership response during the timeframe under review. Seven (7) different criteria underlie these viewpoints (See Table 13 above).

Criteria I: Disease surveillance and face covering

Under this thematic criteria category, there was an agreement with the proposition that the contact tracing of violated inter-state travel restriction was successful (S28). Factor II strongly agreed with this proposition (+5); Factors I and IV mildly agreed with this claim (+1 and +2 respectively. Factor III expressed an indecisive or neutral opinion on this proposition (0). There is a noticeable polarity among the Factor arrays on the other statements S15 and S25. In S15, Factor I and II negated the claim of the effectiveness of the nose mask and face-covering enforcement protocols mandated by the Ekiti State government during the first phase of the virus outbreak (Factor I: -1; Factor II: -1); however, Factor III agreed with the claim while Factor IV (+1) was neutral or indecisive (0). For S25 (still on the effectiveness of the lockdown policy measures as responsible for averting communal transmission in the state), the polarity is even more obvious with Factors I and III ranking (-3) and (-2) respectively while Factors II and IV ranked (+2 and +3).

This collective perspective indicates that the participants were ambivalent in their assessments of the effectiveness of the lockdown policy outcomes in the state. This might be because of the relatively low infection rates of the virus in the state when compared with the rest of the country. Ekiti was in the lowest 5 states with confirmed infection cases around this timeframe.[38] Although there are already studies that seem to support those who agreed with the effectiveness of the lockdown measures, however, there is a need for further research to conclusively ascertain the veracity of this claim.

Oluwatuyi, V. S et al. strongly opined that the Ekiti State Government COVID-19 Task Force rigorous lockdown measures 'prevented outbreak' of the novel virus, an act which paid off

36 Valenta, A. L., & Wigger, U. (1997). Q-methodology: definition and application in health care informatics. *Journal of the American Medical Informatics Association*, *4*(6), 501-510.

37 Valenta, A. L., & Wigger, U. (1997), pg. 504.

38 Oluwatuyi, V. S., Okunade, R. A., Oluwatuyi, M. F., Tolulope, A., Agbele, O. I. S. I., & Bello, M. (2020). Covid-19 In Ekiti State Nigeria: Why should we worry. *International Journal of Research and Scientific Innovation*, *7(6)*, 146-149.

in the long run.[39]

Their recognition of the role played by contact tracing disease surveillance measures implemented by the Ekiti State government in the curtailment of the Covid-19 spread in the state is supported by findings in research studies.[40],[41],[42]

This Forward tracing approach which entails the isolation of known cases to forestall further transmission could be problematic because it often "miss asymptomatic and undiagnosed cases and descendants."[43] Bidirectional tracing has been recommended as a better tracing method because it "also notifies and tests potential infectors, enabling isolation of additional cases."[44] We recommend bidirectional contact tracing protocol for future disease surveillance intervention be complemented with proximity-detection digital applications for more robust effectiveness in Ekiti State.[45]

Criteria II: Movement restriction and testing

This criteria descriptor has 7 statements categorised under *Movement restriction and testing*. Most of the participants in the Factor Arrays agreed that Ekiti State Government fully enforced the lockdown S5 (Factors I-IV: -3, +1, +4, +4). It has been reported that Lagos and Ekiti are the two states among others that implemented lockdown restrictions backed by legal regulations.[46],[47] As a matter of fact, Lagos announced its Infectious Diseases (Emergency Prevention) Regulations 2020 on March 27 2020; Ekiti announced its Ekiti State Corona Diseases (Prevention of Infection) Regulations 2020 on March 29, 2020 State - the second state to issue such preventive regulation.[48] The Federal Government of Nigeria Covid-19 Regulations 2020 was only announced on March 30. This shows Ekiti state as proactive in its intervention process in the management of the health emergency.

On the contribution of the mobile molecular laboratory to ease of Covid-19 testing in Ekiti state during the review period, the ranking was heavily polarised, this mutual opposition reflects the vague perspective of the participants on this proposition S7 (Factors I-IV: 0, +1, -1, 0). Ease of accessibility to the mobile molecular laboratory is the bone of contention here.

All the Factors agreed that the strict restrictions on the reopening of worship places (churches and mosques) contributed to the mitigation of the virus spread S14 (Factors I-IV: +1, +3, +2, +2). They are also agreed that the random testing protocol by the Ekiti State Government was effective in contradiction to the statement which proposed otherwise S8 (Factors I-IV: -2, -2, 0, -2).

39 Ibid.

40 Kretzschmar, M. E., Rozhnova, G., Bootsma, M. C., van Boven, M., van de Wijgert, J. H., & Bonten, M. J. (2020). Impact of delays on effectiveness of contact tracing strategies for COVID-19: a modelling study. *The Lancet Public Health*, *5*(8), e452-e459.

41 Shubina, V., Ometov, A., Basiri, A., & Lohan, E. (2021). Effectiveness modelling of digital contact-tracing solutions for tackling the COVID-19 pandemic. *Journal of Navigation*, *74*(4), 853-886. doi:10.1017/S0373463321000175

42 Cohen, J. & Kupferschmidt, K. (2020). Countries test tactics in 'war' against COVID-19. *Science* 367, 1287–1288.

43 Bradshaw, W. J., Alley, E. C., Huggins, J. H., Lloyd, A. L., & Esvelt, K. M. (2021). Bidirectional contact tracing could dramatically improve COVID-19 control. *Nature communications*, *12*(1), 1-9.

44 Bradshaw, W. J., Alley et al. (2021), pg. 2.

45 Shubina, V., Ometov, A., Basiri, A., & Lohan, E. (2021), pp. 878-879.

46 See https://www.law.ox.ac.uk/sites/files/oxlaw/bonavero_report_7_2020.pdf pg. 316

47 See Ekiti State Coronavirus (Prevention of Infection) regulations 2020, https://moj.ekitistate.gov.ng/wp-content/uploads/2020/03/JKF-COVID19.pdf

48 PwC (2020). *Government's COVID-19 response measures.* Retrieved 5 January 2021, from https://www.pwc.com/ng/en/covid-19/government-covid-19-response-measures.html

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They also agreed that the government's regulation on social and physical distancing measures at public events helped to curtail the spread of the virus S13 (Factors I-IV: +2, +2, 0, 0). Although Factors III and Factors IV were undecided, the other two decisions favour this claim, therefore, the assumption tilts more towards agreements. The respondents ranking of the claim that the expansion of Ekiti state's only isolation centre to admit more patients was helpful (S23) in the fight against Covid-19 tilt towards agreement (Factors I-IV: 0, +2, -1, +3).

On March 30, 2020, the Nigeria Centre for Disease Control (NCDC) responded to a question about the rapid diagnostic test for Covid-19 thus: "Remember, there is no validated rapid diagnostic test kit for #COVID19. These rapid test kits can provide false results. DO NOT USE."[49] Several users challenged this bold claim by NCDC with a particular user asking: "How do you people test those people you confirmed?" Later in the year, there was a report that Nigerian scientists in collaboration with NCDC and the Medical Laboratory Science Council of Nigeria had developed cheaper and faster Covid-19 test kits.[50] This poor information management could lead to distrust of government policy or public perception of government policy as contradictory.

In summary, there was a noteworthy acknowledgement of the impacts of the enforcement of movement restrictions, random testing protocol and the expansion of Ekiti State's only isolation centre on the mitigation of the spread of the virus. We, therefore, recommend that more Rapid SARS-CoV-2 (COVID-19) Diagnostic Antigen Testing kits be made accessible to citizens and we also recommend the provision of more mobile testing facilities.

Criteria III: Collaborative response and citizen engagements

A collaboration with local scientists could help in the development of cheaper alternatives to the more expensive kits and facilities. 5 statements are about the engagements of citizens and leadership collaborative structure in the Ekiti Covid-19 case during the timeframe of review. The respondents or participants weakly negated the claim that leadership was not distributed (shared) outside of government functionaries and elite personalities associated with Ekiti state S9 (Factors 1 - IV: -1, +1, -1, -1).

This is a weak recognition of the shared leadership response to Covid-19 in the state. Initial reports suggested that many Nigerians thought Covid-19 was mainly an elite disease.[51] The composition of the different COVID-19 committees in Ekiti State was perceived as elite-dominated. While it was recognised that the state had members of the Covid-19 committees from across different segments of the society including business, politics, academics, etc., the composition nevertheless was elite-dominated.

All the participants across the Factors agreed that local academic and research experts were not excluded in Ekiti State government's Covid-19 response strategies S18 (Factors I-IV: -3, -2, -2, -1). The Ekiti State Government Ekiti Covid-19 Survey (EKCOVS) 2020 State-wide Household Survey of Prevalence, Risk Perception, Adoption of Preventive Measures and People's Understanding of COVID-19 In Ekiti State, Nigeria

49 See https://www.facebook.com/NCDCgov/photos/a.1273809412682079/3095244490538553/

50 Busari, Stephanie & Sunday, Orji (2020). Nigerian scientists develop cheaper and faster Covid-19 test kits. *CNN.* Retrieved 3 September 2020, from https://edition.cnn.com/2020/10/03/africa/nigeria-cheaper-covid-19-test-kits-intl/index.html

51 BBC (200). *Coronavirus: Why some Nigerians are gloating about Covid-19.* Retrieved 3 September 2020, from https://www.bbc.co.uk/news/world-africa-52372737

(Report Number: SRN EKSG/EKSUTH--2021/02+NG) is an example of such initiatives.[52] Researchers from the Ekiti State University Teaching Hospital in collaboration with contributors from the Federal Teaching Hospital, Ido-Ekiti, Afe Babalola University, Ado-Ekiti, the Ekiti State Ministry of Health and Human Resources, and World Health Organization, Ekiti State office contributed to the study that was published on March 8, 2021, by the Medical Subcommittee of the Ekiti State Resource Response Mobilization Committee (RRMC) for COVID-19. All the Factors recognised the contact tracing collaboration between Ekiti State government, the Federal Ministry of Health, and the World Health Organization in Covid-19 S21 (Factors I-IV: +1, +4, 0, +1). See Figure 17 for sample evidence of this claim.

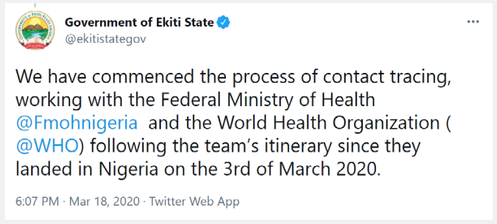

Figure 17: Government of Ekiti State (@ekitistategov) Tweet on Collaboration with Federal Ministry of Health and the World Health Organization

In contrast, the respondents disagreed with the claim of any significant positive impacts on Covid-19 leadership outcome by collaboration between Ekiti State government and local NGOs and Civil Society Organisations S20 (Factors I-IV: +2, -1, -2, -3). They contested this claim of discernible collaborations or engagements with local actors; where these relationships existed, it was not significant enough to impact leadership outcome during the first phase of the Covid-19 pandemic in Ekiti State.

On the surface, their ranking of statement S34 seem to contradict their opinions on statement S20; but, a closer look at both sorts highlighted the seeming contradiction. They recognised a specific impact wrought by the cooperation between Ekiti State and private entities including NGOs aided the distribution of Personal protective equipment (PPE) to healthcare workers as well as other citizens S20 (Factors I-IV: +2, 0, -4, +4). In the previous ranking, they acknowledged the paucity of such relationships, not its absence. To highlight this position, Factor III respondents strongly objected while those in Factor II were undecided on this proposition. Considered together, both statements S34 and S20 were essentially ranked similarly.

We recommend more collaborative intervention and policy initiatives between the Ekiti State government and local non-governmental actors. This collaborative relationship should cut across different socio-economic segments of the society and should reflect active citizen engagements.

Criteria IV: Information, updates, and awareness

There are 7 statements under this criteria category. The Factor arrays agreed unanimously with the statement that regular updates were provided by the Ekiti State government on Covid-19 to curtail misinformation S1 (Factors I-IV: +3, +2, +2, +5). They also acknowledged the awareness and information campaigns strategy of the state government aimed at bus and tricycle drivers on social and physical distancing; they also recognised the impacts of this approach on the prevention of the spread of the virus during the first phase of the period in Ekiti state S27 (+3, +1, +1, +2). The participants agreed with the claim that traditional and popular media (TV and radio) were deployed to complement social media to create awareness, clarifications, and case confirmations S4 (Factors I-IV: +2, 0, +4, +3). This position conforms with findings by Olapegba, P.O. et al., (2020). The findings from this cross-sectional survey study of 1357 respondents, aged 15-70 years, from 180 cities and towns within Nigeria from March 28 to April 4, 2020, showed that "traditional media (TV/Radio) is the most common source of health information about COVID-19 (93.5%)."[53] Their findings also "revealed that Nigerians have relatively high knowledge, mostly derived from traditional media, about COVID-19."[54]

The complementary roles of both media sources and their implications on Covid-19 information dissemination was noted by Antonio Baraybar-Fernández, Sandro Arrufat-Martín, and Rainer Rubira-García.[55] They commented that most of the news including those circulated on social media networks and content aggregators were produced by traditional mainstream media. They also attributed this to "their capacity for resources, trust, and legitimacy, all connected to their own sustainability."[56]

This is consistent with the rankings by the Factors on proposition S33. They disagreed with the proposition's claim that the measures and initiatives implemented by the Ekiti State government did not adequately consider those citizens who are not literate in English - the languages used on most platforms used for Covid-19 communication during the first phase of the pandemic S33 (Factors I-IV: -2, -1, -2, -5). In addition, they disagreed with the claim that the Covid-19 Apps and other technological facilities were underutilised or not customised to local use and ease of access S11 (-1, +3, -3, -4).

They also agreed mildly with the proposition that covid-19 information infrastructure set up by the Ekiti State Government was not sufficient S2 (Factors I-IV: +1, -1, +2, 0). This is probably in consonance with their affirmation of the dominance of mainstream news media in the state's communication process. Those who were not literate in English most likely got their information in local languages and dialects on the virus from the state's radio and television stations.

Following their positions above, we recommend the adaption of existing information applications and other technology platforms to include local languages for ease of use and accessibility.

Criteria V: Palliative, social, and welfare

Under this Criteria category, the participants agreed that the provision and distribution of palliatives during the lockdown were not enough S32 (Factors I-IV: +4, +4, -4, +1). This resonates with their disagreement rankings on statement S23 about the impacts of the incentive provisions on Covid-19 unemployment during the first phase of the virus outbreak in Ekiti State (Factors I-IV: -4, -3, +3, -3). They equally maintained their position by negating the proposition that the palliative provisions and welfare supports implemented by the Ekiti State Government greatly mitigated the harsh impacts of the lockdown S6 (Factors I-IV: -4, 0, +5, -4). Their polarity rankings on statement S19 indicate their neutrality with the utility of religious prayers S19 (Factors I-IV:0, +3, -3, -1). Research reports and findings are consistent with the perspectives expressed under this criteria category.

52 See EKITI STATE GOVERNMENT EKITI COVID-19 SURVEY (EKCOVS) 2020 Statewide Household Survey of Prevalence, Risk Perception, Adoption of Preventive Measures and People's Understanding of COVID-19 In Ekiti State, Nigeria, DOI: 10.13140/RG.2.2.19269.37603

53 Olapegba, P. O., Ayandele, O., Kolawole, S. O., Oguntayo, R., Gandi, J. C., Dangiwa, A. L., Ottu, I.F., and Iorfa, S. K. (2020, April 12). COVID-19 Knowledge and Perceptions in Nigeria. https://doi.org/10.31234/osf.io/j356x

54 Ibid.

55 Baraybar-Fernández, A., Arrufat-Martín, S., & Rubira-García, R. (2021). Public Information, Traditional Media and Social Networks during the COVID-19 Crisis in Spain. *Sustainability*, *13*(12), 6534.

56 Baraybar-Fernández, A., Arrufat-Martín, S., & Rubira-García, R. (2021). Pg. 2.

Findings from Key Informant Interviews (KII) and In-depth Interviews (IDI) conducted by Taiwo O. Adefisoye and Ibironke D. Adefisoye in three of the five LGAs that make up the Ekiti central senatorial district on women poverty during the first phase of the Covid-19 outbreak revealed that the palliative provided the government were inadequate.[57]

As the fight against the virus is still ongoing, many of the virus's long-term impacts in Ekiti State are not yet fully understood. Nevertheless, a review of the literature and the latest research indicates a consensus that the pandemic will exacerbate inequalities within Ekiti State. For instance, 30.4% of Ekiti State sampled respondents as part of Jegede, L.I., and Adefolaju, T. et. al's cross-sectional survey stated that lockdown had resulted in a loss of income.[58] Although the lockdown policy negatively affected both men and women, Adefisoye and Adefisoye find that it had a disproportionately more significant negative impact on women.[59]

They assert - rooted in the analysis of interviews with women traders and artisans - that the Covid-19 outbreak and subsequent policies hurt female poverty. This is due to the high concentration of female employment in Ekiti State within the informal sector. For instance, women such as traders and artisans were unable to sell their goods due to the lockdown, which forced markets and non-essential businesses to shut down.

Sen's characterisation of development asserts that it is rooted in expanding substantive freedoms and removing forms of unfreedom.[60] Through this lens, the lockdown may be characterised as restricting women's freedoms as their engagement in economic activities was hindered. For instance, both the Bisi and Oja Oba markets were forced to close under the government-imposed restrictions. As poverty is highly volatile, the findings examined indicate that the government should place additional measures to act as a safety net and ensure that women can sustain themselves and their families during lockdown periods.

Apart from the distribution problems, there was also allegations of politicisation of the palliatives which allegedly led to short-changing of the vulnerable poor even at the national level.[61] We recommend that mistrust of government policies around the distribution of palliatives can be averted by the enactment of measures that will encourage distributed engagements with citizens and transparency in the distribution of provisions and palliatives. Open communication and inclusive decision making on relief distributions can also prevent hoarding and corruption on the distribution chain.

Criteria VI: Economic, education, and access to justice

This criteria category is about economics, education, and access to justice. The category has 5 statements. There was an obvious polarity in the ranking of the S26 statement by the participants/respondents across the Factor arrays. Factor I agreed that despite government directives on social and physical distancing, many businesses and markets operated without observing these measures in Ekiti State. Factors II and III respondents were neutral while Factor IV respondents mildly disagreed with the statement S26 (Factors I-IV: +3, 0, 0, -2).

57 Adefisoye, T. O., & Adefisoye, I. D. (2020). COVID-19, governments' response and the feminisation of poverty: Ekiti State, Nigeria in perspective. *Journal of Education Research and Rural Community Development*, *2*(1), 15-31.

58 Jegede et al., (2021). p12.

59 Adefisoye, T. O., & Adefisoye, I. D. (2020).

60 Sen, A. (2001). *Development as freedom*. New York, Oxford: Oxford University Press.

61 See Nwagwu, E. J. Corona Virus 2019 (Covid-19) Pandemic Lockdown: Politicisation of Palliative Measures in Nigeria. In *12 th International Conference* (p. 123). https://academicexcellencesociety.com/conference_procedings_sept_2020.pdf#page=123

The participants were also markedly neutral on the S30 statement. The proposition that the lockdown measures were elitist hence the lack of complete compliance because a large percentage of the citizens are not salary-earners could not garner support across the factor arrays S30 (Factors I-IV: 0, 0, 0, -2).

The two statements were probably ranked that way because they were complex and there susceptible to conflictual and diverse interpretations. Low compliance might not be due to perceived elitism (S30), there might be economic considerations (e.g., women poverty) as affirmed by the study findings of Taiwo O. Adefisoye and Ibironke D. Adefisoye.[62] The participants had no clear decisions on statement S35. The claim that virtual platforms for business access were provided as an alternative to physical marketplaces received no clear decision. Factors I and II were neutral on the statement, Factor IV mildly disagreed with the statement. Only Factor III respondents agreed with the proposition, S35 (Factors I-IV: 0, 0, +3, -1).

The participants agreed that the federal Minister of Education/Universal Basic Education Commission (UBEC)'s directive for ensuring that primary and secondary school pupils' access to learning through radio and television stations was not effective in Ekiti State S36 (Factors I-IV: +4, +1, +1, 0). Education access during the pandemic was hindered by the lockdown. The alternatives provided such as the use of internet technologies, radio and television could not fully ameliorate the access limitation because of some of the factors discussed earlier including digital literacy, affordability; others include poor or inadequate virtual education teaching methods and curriculum, inadequate electricity supply etc.

We, therefore, recommend more developed virtual education curricula for the State. The teachers should also be trained in online teaching methods. Internet-enabled devices should also be made available in all the schools in the state. Mobile Phones access is increasing across the country, including Ekiti State. Mobile Education apps can be developed to help provide supplementary education supports and access not only during health emergencies like the Covid-19, but these technologies can enhance Ekiti State education planning and development agenda.

Criteria VII: Intervention assessments, commendations, and protests

This final criteria category contains 6 statements. They are about the assessment of interventions, commendations, and protests. The proposition that Ekiti state leadership interventions should be commended more than those of the federal government was contentious since there was no unified ranking position among the factor arrays S3 (Factors I-IV: -1, -4, +2, 0). Factors I and II disagreed with the claim. Factor III agreed that Ekiti should be commended more than the federal government, while Factor IV participants were neutral on the statement. Since health emergencies are local, it is understandable while Factor III participants rated the statement politics; however, the cooperative interactions between the Federal and State institutions in responding to the Coronavirus pandemic in Nigeria would make it difficult to assess one above the other.

The consensus among the Factor arrays is on appreciating the efforts and strategies of the Ekiti State governor and the Covid-19 task force committee as well as the other teams

62 Adefisoye, T. O., & Adefisoye, I. D. (2020). COVID-19, governments' response and the feminisation of poverty: Ekiti State, Nigeria in perspective. *Journal of Education Research and Rural Community Development*, *2*(1), 15-31.

set up by the state government during the first phase of the pandemic S22 (Factors I-IV: +1, -1, +1, +1). The consensus ranking of +1 (mild agreement) demands further investigation. Since this study focused on the first phase of the virus, the parsimonious ranking sorts might be because unwillingness of the participants to ascribe praises when the full impacts of the state government decision were not yet known. This assumption is conjectural, there is a need for further research on this sorting pattern. Nevertheless, given the fact that citizens rarely positively assess political decisions, a mild agreement or commendation is encouraging to the government.

The participants expressed strong disagreement with the statement suggesting that the complaints by the state health workers and strikes over welfare strongly affected Covid-19 leadership/management outcome in the state during the timeframe of study S31 (Factors I-IV: -5, -4, -5, -1). The respondents disagreed with the statement that the Ekiti Government Covid-19 leadership response committees and initiatives cut across different social, gender and economic strata of the society S16 (Factors I-IV: -2, -3, -3, +1). The findings from the news corpus are consistent with this observation. The news actors (Actor I and Actor II) are dominated by upper- and middle-class men. Women voices are negligible and limited to a few governmental actors. Also excluded are the youths and the poor. The respondents' ranking of statement S17 is consistent with the ranking of statement S16. They disagreed with the claim that Ekiti State government interventions have been deliberately elderly male-dominated to the wilful exclusion of youth and women S16 (Factors I-IV: -2, -2, -1, -3).

We recommend inclusive government leadership response in future policymaking and interventions including during crisis and health emergencies. More women (across social and economic classes) should be included in major decision-making processes. More youths should also be included in these processes.

RECOMMENDATIONS (POLICY)

On Social Media

- Have a more distributed messaging strategy involving identifying private or non-government social media influencers who are resident within, and outside Ekiti State who could have attracted more retweets and spread. A multi-layered crisis strategic online communication should be more diffused and distributed to include non-state actors with relevant influence.
- The social media crisis communication strategy for the Ekiti State should be complementary and inclusive of traditional offline communication infrastructure due to the place of Ekiti as a low internet access/penetration state.
- Although mega and macro-influencers (mainly non-resident actors with large followership) are important for mass appeal, since all disaster events are local, it is crucial to engage more with micro and nano-influencers (local residents) because they have a more focused message process with higher relevance factor. Their inclusion in the information dissemination process by tagging, mentioning, and sharing their messages (relevant) will add to the quality and reach of the communication process.

On News Media

- Ekiti State Government should engage more with local community publications in future communication planning of the state for emergency events.
- Government communication strategy during a crisis should be reformed to be more horizontal (i.e., peer-to-peer) especially among the various responsible agencies instead of the hierarchical (command-and-control) structure.
- Having the different agencies on their part of the communication process is more beneficial than solely centralised, top-down information. Aside from the Ekiti Commissioner for Health, the Director of the Ekiti State Emergency Management Agency Ministry, Ekiti State University Teaching Hospital should also be empowered to participate in the communication process. This will distribute the conversation further.
- Ekiti State Ministry of Information should work with the State Union of Journalists to train journalists and reporters on inclusive journalism to accommodate the underreported voices (e.g., women, youths, and rural dwellers).

On Q-Methodology (Public Perspectives)

- In future disease surveillance interventions, bidirectional contact tracing protocol should be deployed to complement available disease surveillance infrastructure including proximity-detection digital applications. Bidirectional approach 'uses "reverse-tracing" to identify the parent case who infected a known case, then continues tracing to iteratively discover other cases related to the parent.'[63]
- More Rapid SARS-CoV-2 (COVID-19) Diagnostic Antigen Testing kits be made accessible to citizens, and we also recommend the provision of more mobile testing facilities. A collaboration with local scientists could help in the development of cheaper alternatives to the more expensive kits and facilities.
- More collaborative intervention and policy initiatives between Ekiti State Government and local non-governmental actors should be emplaced. These collaborative relationships should cut across different socio-economic segments of the society and should reflect active citizen engagements.
- Mistrust of government policies around the distribution of palliatives can be averted by the enactment of measures that will encourage distributed engagements with citizens and transparency in the distribution of provisions and palliatives. Open communication and inclusive decision making on relief distributions can also prevent hoarding and corruption on the distribution chain.
- Virtual education, internet and mobile learning pedagogies should be developed by the state. Teachers should be trained on digital teaching methods to provide education access in situations where physical lessons are non-practicable.

63 Bradshaw, W. J., Alley, E. C., Huggins, J. H., Lloyd, A. L., & Esvelt, K. M. (2021). Bidirectional contact tracing could dramatically improve COVID-19 control. *Nature communications*, *12*(1), 1-9. Page 2.

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APPENDIX

Appendix 1: Thematic Codes from Publications (Newspapers and Blogs)

Codes	Abbreviation	n
Access to Justice	Just	15
Allocation Disbursement	Alloc	31
Alternative Medicine and Homoeopathy	AltMed	4
Anger	Ang	3
Appreciation	Apprc	13
Awareness	Awr	199
Bereavement	Brv	4
Clarification	Clrf	41
Collaboration	Clb	15
Complaint	Cmpl	17
Confirmation	Conf	104
Contact Tracing and Disease Surveillance	Trc	44
Corruption	Crpt	4
Criticism	Crtc	11
Debunking Hoax and Conspiracy	Cnsp	1
Despondence	Dspd	11
Doubt	Dbt	3
Education Access	Edu	24
Enforcement	Enfrc	94
Expert Opinion	ExO	8
Fear	Fear	16
Foreign Support	FSpt	11
Governmental	Govt	269
Handwashing and Personal Hygiene	Wsh	5
Health Provision (PPE)	PPE	15
Healthcare Workers	HthW	20
Hydroxychloroquine	ChlQ	1
Information	Info	160
Irrelevant	Irrel	6
Lockdown Issue	Lck	73
Market and Business Access	Mbus	25
Non-governmental	NGO	47
Non-Partisan Criticism	NPartc	5
Nose masks and Face Guards	Mask	20
Palliative	Pal	58
Partisan Criticism	Partc	4
Partying and Festival	Fest	6
Police Brutality	PoliceB	9
Prayer and Supplication	Pray	14
Protest	Prot	3
Quarantine and Isolation	Qr	37
Question	Qst	3
Religion and Worship	Relg	26
Request	Req	22
Restricted Movement and Travel ban	Movt	40
Sarcasm and Humour	Src	2
Sentiments and feelings	Sent	1
Sexual Violence	SxV	5
Social Distancing	SDst	38
Stigma	Stg	3
Testing and Molecular Laboratory	Tst	44
Unemployment	UnE	11
Update	Upd	515
Welfare Support	WSpt	45

Appendix 2: Factor Scores (Q-SV sorts) for Factor I

ID	Z-score	C-Sort	P36	P12	P8	P9	P10	P11	P6	P7	P20	P5	P13	P4	P15	P16
S37	1.847	+5	+4	+5	+4	+2	+5	+3	+1	+5	+1	+2	+3	+4	+3	+4
S32	1.702	+4	+5	+4	+5	+1	+4	+4	+5	+4	0	+1	+2	-4	+4	+2
S36	1.378	+4	+4	+2	+2	+2	+4	+3	+2	+1	+4	+3	+4	+1	0	+2
S26	1.353	+3	+3	+4	+1	+5	+3	0	+4	-2	+1	+5	+5	+1	0	+2
S27	1.283	+3	+2	0	+4	+4	+3	+1	+3	+4	+2	+2	+1	+5	+3	-1
S1	1.047	+3	+3	+3	+1	+4	+2	+2	+4	0	0	+2	-4	+4	0	+1
S4	0.898	+2	+2	+1	+3	+3	0	+2	+3	+1	0	+3	0	+2	0	+2
S34	0.864	+2	+3	+3	+1	+1	+3	+2	0	0	+3	0	+2	-1	+1	0
S13	0.846	+2	+2	+2	+3	+1	+2	+3	+2	+3	-2	-4	+1	+1	0	+4
S20	0.834	+2	+2	+3	+2	+1	+1	+2	+1	+3	0	0	+2	0	+2	0
S2	0.61	+1	+1	+1	+2	+1	0	+1	+3	+1	+2	+4	-2	-1	+2	+1
S14	0.579	+1	0	0	+1	+2	0	+1	-4	0	+5	+4	+3	+2	+5	+5
S28	0.526	+1	-1	+1	0	+3	+1	-1	+2	+2	+1	+3	0	+3	0	+3
S21	0.194	+1	0	0	+1	+3	-1	0	-1	+2	+1	+1	-1	+2	0	-4
S22	0.189	+1	+1	+1	-1	-1	+1	0	+1	+2	-1	+2	-2	0	+2	+1
S19	0.133	0	-1	-1	+3	-1	+2	-1	0	+2	+2	+1	-3	+1	-2	+1
S29	0.05	0	0	+2	0	0	-1	+1	-1	-1	+1	0	0	0	-1	0
S10	0.005	0	0	0	0	0	+2	0	-1	-1	0	0	-1	-2	+1	0
S30	0.004	0	+1	+2	-2	+2	-3	+4	-3	-3	0	-1	+3	-3	+4	-2
S12	-0.038	0	+1	0	-2	0	-1	-1	0	+1	0	0	+2	+1	+1	0
S7	-0.066	0	-1	-1	0	0	+1	+1	+1	-1	-1	0	0	0	-1	0
S35	-0.136	0	0	+1	-1	-1	0	0	-2	+1	+2	-2	-2	+3	-3	0
S3	-0.188	-1	-1	-1	0	0	0	0	0	-1	-1	+1	-2	0	-2	+3
S9	-0.219	-1	+1	0	0	-2	0	-2	0	-2	+3	-3	+1	-2	+1	-2
S24	-0.238	-1	-2	-1	-1	-1	+1	0	+2	0	-1	0	0	0	-1	-1
S11	-0.368	-1	-1	-2	0	0	-1	-1	0	0	-1	-1	0	0	-1	-1
S15	-0.476	-1	-3	0	-3	-2	-5	+5	+1	-4	+4	-1	+1	+2	+3	-1
S33	-0.509	-2	0	-2	-1	-2	-2	-2	0	-1	+3	-1	-1	+3	-3	-1
S8	-0.581	-2	-2	-1	-1	-1	0	-1	-1	0	-2	-2	+1	-3	-1	-3
S17	-0.832	-2	-3	-4	+2	-2	-2	-3	-2	+3	-3	-4	+4	-1	-3	-2
S16	-0.997	-2	-2	-3	-2	0	-1	-4	-2	0	-3	-3	-1	-2	-2	-2
S25	-1.055	-3	0	-3	-2	-3	-2	-2	-3	-2	-3	-1	-4	-4	+2	+1
S5	-1.461	-3	-2	-2	-3	-3	-4	-3	-2	-5	-4	-2	-5	-5	+1	+3
S18	-1.566	-3	-4	-2	-3	-4	-3	-2	-1	-3	-4	-3	0	-3	-5	-5
S6	-1.602	-4	-5	-3	-4	-3	-3	-3	-3	-3	-2	+1	-3	-1	-2	-3
S23	-1.832	-4	-3	-5	-5	-4	-2	-4	-4	-2	-2	-2	-3	-2	-4	-3
S31	-2.178	-5	-4	-4	-4	-5	-4	-5	-5	-4	-5	-5	-1	-1	-4	-4

Note: ID: Statement ID; C-Sort: Composite Sort

Appendix 3: Factor Scores (Q-SV sorts) for Factor II

ID	Z-score	C-Sort	P23	P30	P25	P24	P32	P22	P34
S28	1.865	+5	+5	+4	+5	+2	+1	+4	-3
S32	1.376	+4	+1	+1	+4	+3	+5	+2	-1
S21	1.289	+4	+4	+5	-1	+1	0	+4	0
S19	1.207	+3	+2	+1	+1	0	+4	+1	+5
S14	1.189	+3	+2	+1	+3	+1	0	+3	+3
S11	1.025	+3	-1	+4	+4	+1	-1	+1	+3
S1	1.006	+2	+4	+3	0	0	+1	0	+2
S13	0.853	+2	+3	0	0	+3	+3	+2	-2
S29	0.82	+2	+2	0	+2	-1	+3	+1	+2
S25	0.677	+2	+1	0	+1	0	0	+3	+3
S5	0.638	+1	+1	+1	-3	+4	-1	+5	+1
S9	0.496	+1	-1	+2	-1	+5	+1	0	0
S27	0.431	+1	0	+1	+3	+1	+4	-4	-1
S36	0.362	+1	+2	0	+1	+2	-1	+2	-3
S7	0.322	+1	0	0	0	+2	+1	0	+1
S26	0.306	0	-1	+3	+1	0	0	0	0
S30	0.254	0	+3	-4	+2	+4	0	+1	-4
S6	0.252	0	-2	-1	+2	+2	0	-1	+4
S24	0.216	0	+3	-3	0	+3	+2	-1	-2
S35	0.136	0	+1	+2	-1	+1	-1	-3	+2
S34	0.132	0	0	+2	0	0	0	-1	0
S4	0.09	0	-1	0	+2	0	-2	+2	0
S22	0.006	-1	+1	-1	+3	0	-2	-1	-1
S20	0.002	-1	0	0	-2	-1	+1	-1	+4
S2	-0.001	-1	-1	-1	0	-1	-1	+3	+2
S15	-0.733	-1	-2	-2	+1	-1	+2	-5	-1
S33	-0.87	-1	-4	+3	-4	-2	+2	-2	-2
S10	-0.879	-2	0	-3	0	-2	-2	-2	-1
S18	-0.895	-2	-5	+2	-1	-4	-3	+1	+1
S8	-1.017	-2	0	-2	-3	-2	-2	-3	+1
S17	-1.029	-2	0	-2	-1	-3	-3	0	-3
S23	-1.244	-3	-3	-1	-3	-4	+2	-2	-2
S16	-1.249	-3	-2	-4	-4	-5	+3	0	0
S12	-1.446	-3	-2	-2	-5	-1	-5	0	0
S3	-1.478	-4	-3	-1	-2	-3	-4	-4	+1
S31	-2.011	-4	-4	-3	-2	-3	-3	-3	-4
S37	-2.098	-5	-3	-5	-2	-2	-4	-2	-5

Appendix 4: Factor Scores (Q-SV sorts) for Factor III

ID	Z-score	C-Sort	P18	P35	P19	P29	P1
S6	1.817	+5	-2	+4	-3	+2	-2
S4	1.471	+4	-4	+3	-1	0	-1
S5	1.42	+4	-5	0	+1	+2	-4
S23	1.412	+3	-2	+1	-2	+4	-2
S35	1.232	+3	-1	0	-4	+3	-2
S12	1.19	+3	0	+5	-3	-1	-1
S2	1.017	+2	-1	+1	-2	+1	-3
S3	0.904	+2	-3	0	-1	-2	-4
S14	0.898	+2	-4	0	+2	+4	0
S1	0.893	+2	+2	+3	0	+5	-3
S15	0.8	+1	-2	-1	-5	0	+1
S22	0.482	+1	-1	+1	-1	-1	-1
S24	0.478	+1	+4	+3	-2	+2	-3
S27	0.386	+1	-3	+2	+3	+1	+2
S36	0.248	+1	-1	+4	+2	-3	0
S28	0.223	0	0	-2	-4	-1	-1
S37	0.167	0	-3	-3	+1	+1	-1
S21	0.142	0	0	-1	0	+1	-2
S26	0.121	0	0	+2	-3	-1	+5
S8	-0.049	0	-1	-2	-2	+2	+4
S30	-0.21	0	+1	+2	+1	0	+2
S13	-0.282	0	0	-2	+2	+3	0
S9	-0.404	-1	+2	+2	+4	+3	+1
S10	-0.438	-1	+3	0	-1	0	0
S17	-0.469	-1	-2	-2	+1	-3	+1
S7	-0.489	-1	+1	0	0	0	+3
S29	-0.492	-1	+1	0	0	-2	+1
S25	-0.617	-2	0	+1	+2	-5	0
S18	-0.712	-2	+3	+1	0	+1	+4
S20	-0.897	-2	+2	-3	+4	0	-5
S33	-1.051	-2	+1	-1	+3	0	+3
S11	-1.089	-3	+1	-4	-1	-4	0
S19	-1.326	-3	+4	-1	0	-4	0
S16	-1.39	-3	+2	-3	+1	-2	+2
S32	-1.534	-4	+3	-1	+3	-1	+3
S34	-1.705	-4	0	-4	+5	-2	+2
S31	-2.144	-5	+5	-5	0	-3	+1

Note: ID: Statement ID; C-Sort: Composite Sort

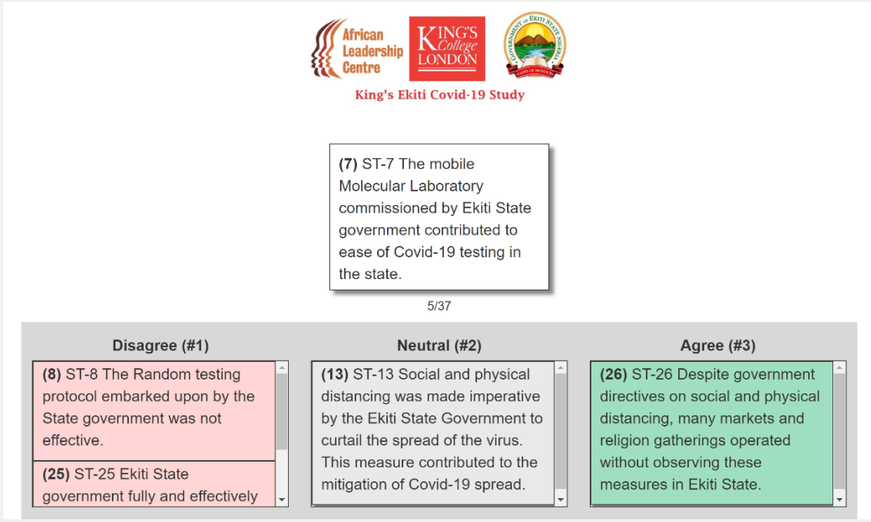
Appendix 5: Factor Scores (Q-SV sorts) for Factor IV

ID	Z-score	C-Sort	P17	P2	P27	P3	P26	P28
S1	2.123	5	+4	+5	+2	+3	+4	0
S5	1.931	4	+5	+4	+1	+1	+1	+4
S34	1.846	4	+2	+3	+3	+4	+5	+1
S4	1.236	3	+2	+2	+3	+4	0	0
S29	1.157	3	+3	+3	0	+2	0	+1
S25	1.072	3	+4	+1	-1	+3	+2	0
S14	0.795	2	0	0	+5	+1	0	+3
S27	0.635	2	+1	+3	+1	+1	-2	0
S12	0.603	2	+1	+1	-2	+5	-2	+3
S28	0.473	2	0	+2	0	+2	+2	-2
S21	0.448	1	+3	-1	0	-1	-2	+5
S22	0.414	1	+1	+1	+2	-1	-1	+1
S32	0.414	1	+2	+2	-1	-3	+2	0
S37	0.35	1	0	-1	+3	-2	+1	+4
S16	0.238	1	-2	+1	+1	-1	+2	+3
S13	0.21	0	0	0	+2	+2	-1	-1
S15	0.203	0	-1	+2	-1	0	0	+2
S36	0.188	0	-1	0	+2	-1	+4	-1
S10	0.023	0	+2	-1	-2	-2	+3	0
S3	-0.056	0	0	-1	0	+3	-4	+2
S2	-0.075	0	0	+1	0	0	0	-3
S7	-0.212	0	-1	-3	+4	+1	-1	0
S19	-0.232	-1	+1	0	-1	+2	-3	-3
S18	-0.288	-1	-4	0	+1	0	+1	+2
S9	-0.384	-1	-3	0	0	0	0	+1
S31	-0.426	-1	-5	+4	-2	0	+3	-4
S35	-0.457	-1	-2	-1	0	0	+1	-1
S8	-0.535	-2	-2	0	+1	-3	+1	-2
S24	-0.611	-2	-1	-5	+4	-2	+3	-2
S30	-0.677	-2	+3	-2	-2	-4	-2	-2
S26	-0.983	-2	+1	-2	-3	-1	-5	-1
S20	-1.228	-3	0	-2	-3	-3	-4	-1
S17	-1.424	-3	-3	-3	-3	+1	-1	-3
S23	-1.57	-3	-1	-3	-4	-5	-3	+1
S11	-1.619	-4	-2	-2	-4	-2	-1	-5
S6	-1.694	-4	-3	-4	-1	0	-3	-4
S33	-1.889	-5	-4	-4	-5	-4	0	+2

Appendix 6: Instructions for Q-Methodology Participants

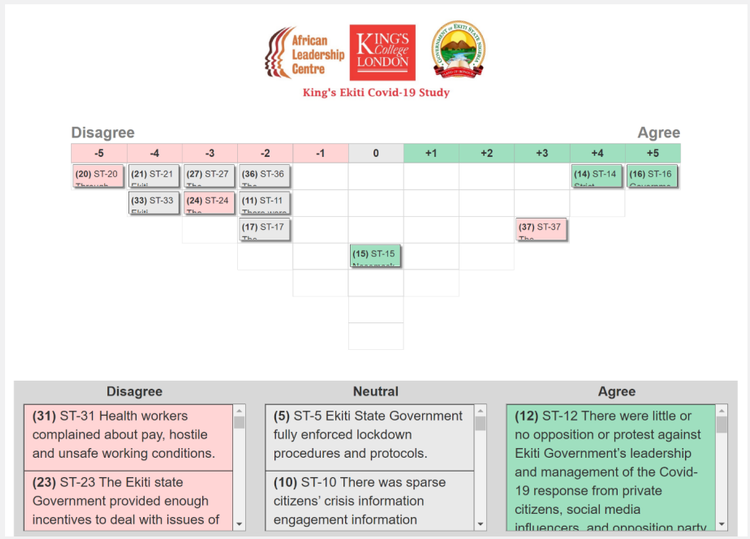
Step 1 of 5

Carefully read the statements below (see Appendix 2 below) and split them up into three piles: a pile for statements you tend to disagree with, a pile for cards you tend to agree with, and a pile for the rest. You can either drag the cards into one of the three piles or press 1, 2, 3 on your keyboard. Changes can be made later. If you want to read this instruction a second time, press the help button at the bottom left corner.



Step 2 of 5

Take the cards from the “AGREE”-pile and read them again. You can scroll through the statements by using the scroll bar. Next, select the one statement you most agree with and place it on the right side of the score sheet below the “+5”. Now read the cards in the “DISAGREE”-pile again. Just like before, select the one statement you most disagree with and place it on the left side of the score sheet below the “-5”. Next, select the statements you second most agree/disagree with and place them under “+4”/”-4”. Follow this procedure for all cards in the “AGREE”- and “DISAGREE”-pile. Finally, read the “NEUTRAL”-cards again and arrange them in the remaining open boxes of the score sheet.



Step 3 of 5

Now you have placed all cards on the score sheet. Please go over your distribution once more and shift cards if you want to.

Step 4 of 5

Please explain why you agree most or disagree most with the following statement(s) you have placed below "+5" or "-5".

Step 5 of 5

Finally, please answer the following questions regarding your background.

Appendix 7: Q- Statements

S1 Ekiti State government provided regular updates on the virus thereby curtailing misinformation.
S2 The various information infrastructure set up by the Ekiti State Government allowed the citizens to learn and know more about the virus.
S3 The Ekiti State government should be commended even more than the Federal Government for its response system in battling the spread of the virus.
S4 Ekiti State government used traditional and popular media to complement social media to provide Covid-19 awareness, clarifications, and case confirmations.
S5 Ekiti State Government fully enforced lockdown procedures and protocols.
S6 The palliative provisions and welfare support implemented by the Ekiti State Government greatly mitigated the harsh impacts of the lockdown.
S7 The mobile Molecular Laboratory commissioned by the Ekiti State Government contributed to the ease of Covid-19 testing in the state.
S8 The Random testing protocol embarked upon by the State government was not effective.
S9 The Covid-19 leadership structure was top-down (vertical) with little or no room for shared leadership outside of government functionaries and their associates.
S10 Crisis information engagements were top-down with little room for diffused and networked interactions between the government and the populace.
S11 There were Covid-19 Apps and other technological facilities that were underutilised or not customised to local use and ease of access.
S12 There were very few protests against the Ekiti Government's leadership /management of the Covid-19 response by private citizens, social media influencers, and opposition party members.
S13 The compulsory social and physical distancing measure at public events helped to curtail the spread of the virus.
S14 Strict guidelines for the reopening of public worship centres (churches and mosques) were implemented and assessment for level of compliance was enforced by the government to limit the spread of the virus.
S15 Nose mask and face-covering compliance and enforcement in public spaces were not effective despite the government's threat to arrest and prosecute defaulters.
S16 Ekiti Government Covid-19 leadership response committees and initiatives cut across different social, gender and economic strata of the society.
S17 Ekiti State Government response and intervention measures so far have been deliberately elderly male-dominated with little or no involvement of the youth and women.
S18 Local academic and indigenous knowledge health research experts were excluded from the government's strategies and plans in the fight against the virus.
S19 The collective call to Christians and Muslims to pray for an end to the Covid-19 pandemic was comforting.
S20 The collaboration between Ekiti state government and local Non-Government Organisations and Civil Society Organisations had significant positive impacts on Covid-19 leadership outcome.
S21 Ekiti Government's collaboration with the Federal Ministry of Health, and the World Health Organization helped with contact tracing.

S22 The efforts and strategies of the Governor and his team to mitigate the impact of covid-19 in the state deserve praises (appreciation).
S23 The Ekiti state Government provided enough incentives to reduce the effects of unemployment caused by the onset of Covid-19 to a certain degree.
S24 The 54gene and Ekiti State COVID-19 mobile molecular laboratory testing was proactive and accessible by a significant number of Ekiti state citizens.
S25 Ekiti State government fully and effectively enforced lockdown measures to avert community transmission of COVID-19 in the state
S26 Despite government directives on social and physical distancing, many businesses and markets operated without observing these measures in Ekiti State.
S27 The awareness and information campaigns for bus and tricycle drivers by the Ekiti state government on social and physical distancing helped to prevent the spread of the coronavirus disease.
S28 Ekiti state government did well on contact tracing and tracking of travellers who violated inter-state travel restrictions.
S29 The expansion of Ekiti state's only isolation centre to admit more patients was helpful in the fight against Covid-19.
S30 The lockdown measure is elitist because a large percentage of the citizens are not salary-earners; hence, the lack of complete compliance.
S31 Health workers complained about pay, hostile and unsafe working conditions. This strongly impacted the effective management of Covid-19 in the state.
S32 The provision and distribution of palliatives during the lockdown were not enough.
S33 Ekiti Government initiatives to counter false claims and unverified treatments did not adequately take care of illiterates as most of the online platforms set up by the government had information in English.
S34 Cooperation between the state government, NGOs, and private entities allowed the government to disburse PPE to healthcare workers as well as other citizens.
S35 More people were able to access businesses with virtual platforms where they were able to showcase their products and services rather than those in the conventional marketplaces.
S36 The Minister of Education/Universal Basic Education Commission (UBEC)'s directive for ensuring that primary and secondary school pupils' access to learning through radio and television stations was not effective in Ekiti State.
S37 The decision to migrate all the universities, polytechnics, and colleges of education virtual learning environment by both the Federal and the Ekiti State Government to enable their students to continue their studies through digital devices during the lockdown was ineffective.

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