



## Virtual Communities and Pandemic Management: Lessons from Covid 19 Management Strategies of the Delta State Government

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### ABSTRACT

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The study examines the various COVID 19 management strategies of the Delta State Government to reveal its extent of usage of virtual communities as a platform for fighting COVID 19 pandemic, and assess the effectiveness. The study relied on the agenda setting theory and adopted a survey from an indeterminate population of virtual communities in Delta State. Emanating data was analysed with mean scores. Findings show that the Delta State Government made use of various virtual communities in her bid to mitigate the spread of the COVID 19 pandemic. These virtual communities proved themselves effective in the management of the COVID 19 pandemic. It is recommended that the government should encourage the establishment of media centres by health institutions, and individuals are actively encouraged to engage in the usage of virtual communities for development.

### Keywords:

Risk Communication, Agenda Setting, Social Media, Health Communication.

### INTRODUCTION

Pandemic has been described as an outbreak of disease occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people.(Miquel, 2008). Historically, the world has experienced pandemics of various scales, notable among them are the Black Death in 1334 and Influenza Flu of 1918 amongst others. (Prabhu and Gergen, 2021). The last reported case of pandemic in the pre COVID era was the H1N1 flu of 2009. (Centre for Disease Control and Prevention, 2019).

The casualties of coronavirus pandemic are not expected to be as high as previous pandemics, because of the access to emergency and critical care which positively impacts on the survival of the patient. (Centre for Disease Control and Prevention, 2019). The presence of well trained staff in well defined roles with good risk communication strategies aimed at managing pandemics, have been found to reduce mass casualties.

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Recent innovations in the field of communication, information technologies and practices such as the internet has created three big displacements in the field of risk communication specifically, the internet brought a system of all round journalism, increase in citizen journalism without a corresponding increase in "beat experts" to follow health news and counter false opinionated reports that can be damaging to public health. This implies that the method of seeking health information by the public has shifted from conventional to virtual sources, who are neither experts in health issues or media. The experts and authorities are less trusted hence the focus is on communication experts, to discuss issues central to health communication (Gaya, 2014). Professionals use social media in crisis response by quickly disseminating information centred on potential threats to public health, and informing the public and patient about expected actions capable of mitigating such risks (Ophir, 2018).

The introduction of the internet created a permanent platform for communication and interaction, leading to the birth of new cultural formations otherwise known as virtual communities. (Sibbald, Burnet, Callery & Mitchel, 2022). Virtual communities are an essential component of any risk communication strategy, as it provides a platform for measuring interventions to determine if the audience adopted the intended behavior. Such studies are important because of the role communication plays in the success of any risk intervention campaign. Scholars have concluded based on

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research that the response of the public to the threats and various mitigation techniques are often more successful when communication is led by credible scientists, than by individuals who know little or nothing about the subject matter. Ophir (2018), Quinn (2018) and Rossmann, Meyer and Schulz (2018). Communication strategies as it relates to Covid 19 must reflect these realities.

As part of the COVID 19 management strategies, the Delta State Government launched emergency response activities via health education campaigns (NCDC; 2020). These campaigns have the primary objective of improving the knowledge of the populace as well as curbing the spread of misinformation that surrounded the COVID-19 virus. The various health campaigns create awareness on safety methods to prevent transmission and further spread of the disease. (NCDC, 2020; Gbadamosi, 2020). Given the various efforts of stakeholders aimed at protecting public health, it is of utmost significance to investigate the extent of effectiveness and compliance with the information. It is against this background that the researcher seeks to undertake a netnographic study of COVID 19 management in Delta State

### **STATEMENT OF THE PROBLEM**

Stakeholders have examined different aspects of pandemics especially as it relates to management strategies. The World Health Organisation (2021) reports that a pandemic once identified required deliberate actions to contain, manage and reduce infection rate. At this stage, the key message is mitigation which entails the use of information by risk communication experts as a strategy for preventing and controlling the virus as emphasised by WHO and other stakeholders. In a similar report, Ophir (2018) notes that social media can be successfully used by experts for crisis response by rapidly spreading hazard information and informing the public on actions that should be taken to mitigate such risks. On their part, stakeholders rolled out different methods of disseminating information aimed at educating the public with timely and verifiable facts that can curb the spread of the disease. (Varghese, Sabat, Newmann, Bohne, Schreyoyg, Stargardt, Torbica, Excel, Barros and Brouwer: 2021).

The above studies provide useful insights into communication-related efforts to manage disease outbreaks. However, there is the need to further investigate how governments (like Delta State Government) attempted to manage COVID 19 pandemic through risk communication on virtual communities. The absence of existing knowledge on the extent of Delta State Government's use of virtual communities as a platform to curb the spread of COVID 19 and its effectiveness indicates a gap in knowledge that this study on virtual communities, pandemic management and covid 19 management strategies of the Delta State government attempts to fill.

### **OBJECTIVES OF THE STUDY**

The objectives of this study are to

1. examine the extent of use of virtual communities as platforms for fighting COVID 19 pandemic by the Delta State Government and
2. assess the effectiveness of the use of virtual communities as communication avenues to manage COVID 19 by Delta State Government.

### **RESEARCH QUESTIONS**

The study is driven by search for answers to the following research questions.

1. To what extent did the Delta State Government use virtual communities as platforms to fight the COVID 19 pandemic in the state?
2. What is the level of effectiveness of Delta State Government's use of virtual communities as communication avenues in the management of COVID 19 in Delta State?

### **VIRTUAL COMMUNITIES AND PROSPECTS FOR USE IN PANDEMIC MANAGEMENT.**

A Community is a group of people brought together by the fusion of certain integrative forces, such as shared locality and interaction. (Kruahong, Tankumpuan, Kelly, Patricia and Kuntajak, 2023). Communities exist in different forms and are usually bound by different characteristics such as age, ethnicity, gender, religion, location or profession.

New Information and Communication Technology has incredibly and radically transformed all aspects of our lives and more specifically what individuals choose to do and how. Nimrod and Adoni (2012). The interactive nature of the internet means a loose community of people can be suddenly formed and dissolved. Cova and Cova (2001) describe the communities as neotribe that are interwoven and bounded by a shared vision, and their unity lies in shared experience of reality, defined by the values and interpretations attached to particular objects, events and space.

The introduction of the internet created a permanent platform for communication and interaction, while the democratisation of the media and the mass adoption of personal computers gave birth to new cultural formations in the online context, otherwise known as virtual communities. (Sibbald et al, 2022 and Kozinets, 2010). Ridings, Gefen and Arinze (2002) defined it "as a group of people with common interests and practices that communicate regularly and for some duration, in an organised way, over the internet through a common location or mechanism." A generally accepted fact is that virtual communities involve groups of people who engage in computer or internet mediated communication (Akpokiniovo, 2022).

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In the pre internet days, the means of communication were via special interest magazines, workshops, conferences amongst other platforms Taylor (2002). Recent technological innovations and the affordability of existing technologies have given birth to diverse netnographic field sites. They include bulletin boards or forums, list-servs and online video game playspaces amongst others. Kozinets (2010).

These virtual communities have the potential to act as a catalyst for improved information sharing on public health threats and greater participation at the community level, through providing access to channels of communication not bound by language, culture or geography. These channels are extremely capable of birthing new forms of social organisation and productive capacity which if properly managed, could become health transformational factors as important as technology itself.

In Nigeria, where complete corruption and lack of information flow in the health sector has created a situation where the citizens have limited faith in capacities and resources of the government to respond to such health emergencies without syphoning public funds, especially as it relates to the COVID 19 pandemic.(Oluwadare and Toyin, 2013). A combination of risk combination techniques on virtual communities minimises such negativity, because the citizens are kept abreast of proposed developments based on the budget of government and different agencies. This empowers netizens with the ability of monitoring proceedings, especially as it concerns public health development welfare to prevent corrupt government officers from siphoning funds earmarked for developmental projects into private pockets. Such confidence in government leads to strict adherence to actions, aimed at combating the spread of the virus (Akpokiniovo, 2022).

This perspective is based on the school of thought which says without the two way information, development is bound to fail, and there is substantial evidence on the ability of virtual communities to facilitate the two way information flow and delivery from public health stakeholders to the public, even as far as those living in rural communities in a democratic and participatory process capable of subduing any monster involved in misinformation, disinformation or malinformation. (Mohammed and Matthew, 2022).

Virtual Communities play several roles in pandemic management via e-health, which is an emerging sector in the intersection of medical informatics, public health and business referring to health services and information delivered or enhanced through the internet. (Eysenbach, 2001). It is a concept that involves the application of virtual communities for the delivery of health services, exchanging of information, medical transactions, integration of different health services and stakeholders, various stand alone communication and interaction between public health and her public. (Shaw, McGregor, Brunner, Keep, Janson and

Barnett, 2017). Such services are often delivered in the form of e-consultation, e-registration, e-feedback, e-policy, e-participation, e-mobilisation and e-debate.

It characterises not just a technical, simple and dual process of information dissemination involving public health stakeholders usage of the platform to perform a full range of health and medical activities for the improvement of efficiency in public health and public health campaigns, development of healthy practices, sustenance of healthy practices and ensuring the availability of essential services but a state of mind, a way of thinking, an attitude and a commitment for networked, global thinking to improve local, regional and global healthcare via virtual communities. (Eysenbach, 2001). In corroborating this claim, Gorp and Ramachandran (2020) states that “the current pandemic has proven that essential health care services can be digitalised to reduce the burden on the health care system, and halt the spread of infections: one nation that has experienced tremendous success in her digital approach to rebuild and restructure her healthcare system is India”. A shift from tradition to digital channels has eased the burden on its already troubled healthcare.

Public Health Stakeholders can leverage on virtual communities for the efficient and effective promotion and sustenance of healthy habits, this is believed to be achieved when government and private health services providers get to the final point of designation in a transparent and accountable fashion that bypasses public bureaucratic structures. This aim is achieved by using virtual communities’ health services as a weapon for militating against public health crisis and institutional failures, through the setting up of digital transparency and accountability controls which leads to efficiency within the public health circles, information empowerment and service delivery to the citizens as well as an improved interface between the government, businesses, and the public health industry.

A major contribution of virtual communities to the development and realisation of epidemiological goals in any risk communication strategy is her ability to plan and forecast events through data analysis. As the waves of COVID 19 enter into different phases, e-health helps in making this a reality through availability of future driven data that enables stakeholders to make informed and rational decisions on the future of public health. Such data are made by public health analysts and made available on the internet to enable individuals to make informed and rational decisions on the future prospects of issues bothering on public health. For example availability of data on COVID 19 with past, current and forecasted drop/spread of the virus assists stakeholders of public health answer the important question of whether to continue investing in a particular virtual risk communication strategy or change approach. Such decisions are made, based on current and predicted spread of the virus, and also assist

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the government in decision making. (Abbas, Wang and Su 2020; WHOc, 2020).

Virtual Communities on social media play a role in pandemic management through strengthening of social networks, empowerment and participation of the citizenry in different public health processes as well as fostering productivity at the local level. This is done through the provision of information and holistic support services for the reduction and prevention of activities that encourages rapid spread of COVID 19. (WHO, 2021).

## THEORETICAL FRAMEWORK

The Agenda Setting Theory of Mass Communication was adopted for this study. The theory which was first introduced in 1972 by McCombs and Shaw is widely used for media effect related research.(Jones, 2017). Agenda Setting Theory states that the media is an institution with great capacity for shaping public opinions, determining the outcomes of debates and placing issues in a predetermined order of importance in the mind of the audience. (McCombs, 2005). According to Ijeh (2012), this is achieved via constant bombardment of the target audience with media objects with the sole aim of conditioning their mind towards a particular direction or school of thought.

The basic tenet of this theory, according to Albalawi and Sixsmith (2015) is that the frequency and prominence given to certain reports, the degree of conflict generated in the report and the cumulative effects overtime. In the print media, this is achieved through the layout of the news, display of headlines, the graphics, timing and display of reels. This perspective is knitted in the realisation that the media determines the level of importance given to an issue by the audience through the depth and frequency of content presentation. Ijeh (2012)

This theory is relevant to the study because the content generated by public health stakeholders in virtual communities might not reflect the complete realities, but is shaped to fit into the public health goals of the sender who repeatedly bombards the audience with such contents till they consider such issues as important.

## METHODOLOGY OF THE STUDY

The researchers adopted a survey of 933,495 users of facebook in Delta State estimated from the total of 28 million facebook users in Nigeria. (Sasu, 2023). based on the total facebook users in Nigeria. The population of study was calculated based on percentage being proportional to the 5,475,139 estimated population of Delta State as projected from the 2006 census (Delta State, 2013) and the percentage contribution of Delta State to the population of Nigeria.

The study engaged the use of Yameni Statistical Distribution Formula to arrive at a sample size of 400 from a population of 933,495. Afterwards, four virtual groups of Delta State Origin were purposively selected from the various

virtual communities. The selection was based on the three existing senatorial district and one with state-wide orientation based on cluster sampling. Subsequently, the quota sampling techniques wad used to allocate hundred questionnaires to each study. The researchers used only the first 100 copies of the questionnaires submitted.

Data for this study was collected via 5-point likert scale items in the questionnaires. The procedure for collecting questionnaire data involved links being posted on the virtual communities. Interested parties were instructed to click on the links for redirection to the questionnaire in google form, which was not accepted until all entries were duly filled. The collected data was analysed with mean scores and the decision rule are as follows:

1. Where the mean is equal to or greater than 3, the decision was upheld.
2. Where mean calculated is equal to or less than 3, the decision was rejected.

## DATA ANALYSIS

Data analysis in this category was based on answers to the research questions one after the other and the compilation of mean scores to each category.

**Research Question One:** To what extent did Delta State Government use virtual communities as platforms for fighting COVID pandemic?

Data emanating from this research as set out in the table of values in Table 1 (Appendix 1) indicates that the Delta State Government engaged the use of virtual communities to mitigate the spread of COVID infections. Media Influencers in virtual communities on Facebook, Twitter and Instagram were actively mobilise to advocate for the adoption of preventive habits, and dissemination of information capable of stopping the flow of infections.

A mean score of 4.74 shows that the Delta State Government leads her public to websites with credible information on the virus. The Delta State Government also uses virtual communities to curb the spread of COVID related misinformation and engages virtual communities on facebook to create awareness on the dangers of COVID 19 related misinformation, as evident in a mean score of 4.71 and 4.60 respectively.

The respondents indicated with a mean score of 4.46 to the statement indicating that the Delta State Government used facebook to promote the campaign of reporting COVID 19 related information. As shown in the mean score of 4.43, the respondents said that the Delta State Government engaged in joint communication work with virtual communities to curb the spread of COVID 19 related misinformation. They also emphasized that the Delta State Government employed social media influencers to curb virtual misinformation as indicative in a mean score of 4.43

However, a mean score of 2.76 and 2.70 is indicative of the respondents' disagreement to the statement that the

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Delta State Government launched a whatsapp awareness campaign on the risks of false information on the COVID 19 virus, and that the Ministry of Information uses virtual communities for awareness campaigns on COVID 19.

The respondents, with a mean score of 2.58 shows that the comment implying that the Delta State Government is using whatsapp to inform people of the dangers of COVID 19 was not accepted. The Government of Delta State did not use whatsapp to launch an awareness campaign of the risks of false information on the virus and the Ministry of Information did not use virtual communities for awareness campaign on COVID 19 as evident in the mean scores of 2.76 and 2.70.

The results of the analysis shows that the Delta State Government is using virtual platforms for joint communication work with virtual communities to curb the spread of COVID-19 related misinformation. The data also reveals that the Delta State Government employs social media influencers to curb virtual misinformation, uses whatsapp to enlighten her publics on the importance of COVID vaccine and promote the adoption of preventive health measures, while twitter is used to address the low acceptance rate of the anti-COVID vaccine and emphasize the need for verification of COVID 19 related news. The Delta State Government also collaborates with various virtual agencies to disseminate authentic information on COVID-19, employs the use of whatsapp to improve media literacy to fight COVID-19 related misinformation, and instagram to promote accurate health information on COVID-19 while using twitter to direct her publics to authentic website with credible information.

**Research Question Two:** How effective is the use of virtual communities as communication avenues combating COVID 19 in Delta State?

Data emanating from this research is set out in the table of values in Appendix 2. Outcome of data analysis for research question 2 indicates that virtual communities played an active role in the fight against the spread of the disease; because it created an opportunity for easy access to COVID 19 related information and encouraged adoption of habits necessary for the prevention of the infection. It also shows audience perception and response to the information disseminated on virtual platforms.

A mean score of 4.80 and 4.76, respondents reveal that virtual communities provide easy access to COVID 19 related information and such information prevented them from visiting endemic areas during the lockdown. The data also indicates that virtual communities create awareness on the existence of COVID 19 related misinformation via a mean score of 4.72.

Information on virtual communities taught respondents about their roles in curbing the spread of the virus, and as seen, virtual communities are platforms for awareness creation on the hazards of COVID 19 as reflected

in the mean scores of 4.68 and 4.60 respectively. In addition, the respondents indicate with a mean score of 4.55 to the statement implying that COVID 19 related information on virtual communities made them evaluate their chances of getting infected.

Nevertheless, a mean score of 2.17 and 1.84 shows that the statements indicating that information on virtual communities reaffirmed their stand on the non-existence of COVID 19 and that virtual communities have no relevance in the management of COVID. A mean score of 1.48 shows that information in Virtual Communities did not discouraged respondents from adopting preventive health measures

Analysis of the above table reveals that respondents view virtual communities as a platform for awareness and creation of information on the Hazards of COVID 19, revealing that COVID 19 related information on virtual community made them evaluate their chances of getting infected and social media influencers on virtual communities also made them adopt COVID 19 preventive measures. They displayed a reliance on virtual communities for COVID 19 related information, insisting that virtual communities provided economic support during the lock down, helped them cope with social isolation associated with COVID 19 management strategies and made them comply with COVID 19 safety measures.

According to the respondents, while COVID 19 related information in virtual communities are very reliable; virtual communities provided the content for social support during the lock down, made them stay away from people who refused to adopt preventive health measures and also provided mental support for them during the lockdown.

### DISCUSSION OF FINDINGS

Findings in this study reveal that the Delta State Government took advantage of a wide range of options to tackle the problem of misinformation as it relates to COVID 19. Some of the options explored by the government are whatsapp, facebook, twitter and social media influencers to alert the public on the existence, volume and risks of COVID 19 related misinformation. The government also used whatsapp to improve media literacy and engaged in joint communication with various agencies to limit the spread of incorrect information on COVID 19.

The results of this analysis are consistent with Seeam, Seeam and Vencatachellum (2021) which states that existence of virtual communities in health management plays an important role in knowledge sharing and behavioural change during a pandemic. (WHO, 2021). It also supports Akashraj and Pushpa (2014) which states that virtual communities facilitate collaborations and various forms of communication that transform users from information consumers to information participants in a never ending cycle. It is also consistent with the findings of Polanska (2014) that Virtual Communities creates strategic

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communication (UNDP, 2001), transmit contents through connections and conversation (Nwabueze, 2005), empowering global audiences with the ability to share, comment and interactively analyse several issues. Liu, Austin and Jim (2011). It also empowers senders and receivers with the ability to articulate their needs, control their message and achieve set goals determined by local choices.

The discussion emanating from the analysis of data as it concerns research question two shows that virtual communities are effective for the management of COVID-19. The respondents applaud its features and ability to provide emotional, economic and mental stability to augment the efforts of the state government. It is also appropriate for the dissemination of health education, creation of awareness, including the provision of timely and reliable access to health information. The platforms are considered efficient because members respond to health messages by adopting health measures, capable of saving lives.

These findings are in line with WHO (2020c), which states that using virtual communities for health communication are highly recommended. It can birth innovations, probabilities and possibilities for implementing new ideas which can be assimilated by existing structures. (Moor, 2010; Backus 2001). The findings are consistent with Mohammed and Matthew (2022) and Ridings and Gefen (2004) which states that virtual communities provide joint learning in an unending process, between members and public health stakeholders, who share information for behavioural change. WHO (2021) encourages the growth of connections between virtual communities and health care providers, for long lasting and broad participation in the management of public health.

## CONCLUSION

Virtual Communities was widely used by the Delta State Government in her bid to stop the flow of COVID 19 infection in the state. Virtual Communities on platforms such as facebook, twitter, instagram and whatsapp were widely explored in a bid to make respondents adopt responsible behaviours, and provide them with support needed to be off the contact radar. Such actions in the platform and transmitted to reality succeeded in cutting the flow of the pandemic.

Virtual Communities are effective communication avenues for the management of COVID 19. It creates a network of health information exchange that can be exploited for the success of communication campaigns especially those related to risk communication. In this case, it is done by local choices through a team of focused local champions or emissaries of virtual nature. Communities should be encouraged to have the means to articulate their needs, control their message and create a synergy between the media and communities to find effective solutions to problems of public health.

## Recommendations

Based on the findings and conclusion of the study, the researcher recommends the following steps;

- i. Public Health Institutions should be encouraged to establish a media center with the sole aim of developing the health sector, creating health awareness within their geographical boundaries and collaborating with other agencies for health development.
- ii. Government should enact policies that encourage the establishment of virtual communities for information, interaction and mobilisation of stakeholders for health education.
- iii. Individuals are encouraged to actively engage in the usage of virtual communities for advocacy and the encouragement of healthy behaviours.
- iv. It is recommended that stakeholders of public health should embrace innovative methods of completely eradicating or reducing bureaucracies involved in communication for health development.

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