

Analysis of 3Vs of Big Data from Fake News and Nigerians' Consciousness towards National Unity in Times of Uncertainties

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Abstract

Fake news seems to be the monster of the century affecting continents of the world. From Africa to Asia, America to the Himalayas, the impact of fake news on national unity and regional cohesion remains debatable among scholars and experts. Like other countries on the African continent, Nigeria has tasted and is still having share of the consequences of fake news, especially politically-driven ones, which has been researched by scholars in the media and emerging technologies spaces. This study joins the conversation within the journalism and fake news discourse using big data that emerged from selected political, security, health and religious fake news reported by selected Nigerian newspapers. Adopting Computational and Quantitative Content Analyses with the specific use of Data Logging Approach for data collection, the study investigates the extent to which the Nigerian public consume and spread the select news at the expense of promoting national unity and regional cohesion expected of citizens, as established in the Nigerian constitution and existing rules guiding public communication in the country. The emerging results point towards the need for the establishment of Media Literacy Commission to complement the efforts of ministries saddled with the responsibility of re-orientating journalists, media establishments and citizens on national consciousness and unity. The outcomes of the study also indicate the need for overhauling of the National Orientation Agency (NOA) towards balanced and connected promotion of national values and norms.

Introduction

Misinformation, mal-information and disinformation are levels of information disorder or fake news that do not only pollute the public space, but also paint certain narratives to people in a volatile political system and diverse multi-religious setting (Turcilo & Obrenovic, 2020) like Nigeria. Such information disorder, no doubt, alters meanings and influences people's level of information consumption, processing and dissemination, particularly in settings with low media, information and digital literacy. When trying to distinguish among these three levels of fake news, intentionality is a vital concept to consider. According to Turcilo & Obrenovic (2020), Baines & Elliott (2020) alongside Santos-D'amorim & de Oliveira Miranda (2021), the first level- misinformation- occurs when fake information is shared without the intention of causing harm (e.g. misleading news) while the intentionality of disinformation is to share false information with a view to causing harm or disaffection among people (e.g. manipulated or fabricated news). Although the information shared is genuine in mal-information, the intention of making such information a matter of public consumption is to cause harm (e.g. hate speeches, leaks).

Fake news is as old as the history of print media (it was known as propaganda then) (Turcilo & Obrenovic, 2020), but many still argue that the advent of new media technologies has increased the distance through which information disorder travels and is reproduced (Mavridis, 2018; Nagi, 2018; Ireton and Posetti, 2018; Baiskar et al., 2020 & Van Heekeren, 2020). With new media technologies in the hands of citizens, anyone who can operate and manoeuvre digital technologies has the total freedom to create, share and control any content that pleases their motives irrespective of the sensitivity of such content creation. Thus, these technologies make it possible for almost everyone to practise citizen journalism with little or no gate-keeping. If citizen journalists err in the information, they dish out to news audiences, some people might still defend their naivety; after all, many citizen journalists are not regarded as professional journalists (Anthony & Benjamin, 2018). What baffles communications scholars however is seeing professional journalists being the purveyors of fake news/information disorder or publishing news stories devoid of public interest and journalism ethics (Ireton & Posetti, 2018). In fact, aside that journalism ethics abhors disseminating false news, the supposed literacy level

of journalists should have been a factor that would prevent fake news emanating from them. However, emanating data show otherwise (as this study later shows). This limits Baptista and Grdin's (2020:1) argument that "less-educated people are more likely to share fake news".

In addition, studies have indicated that the virality of digital media has vastly contributed to the faster and farther pace at which false news spreads than accurate news (Raj & Goswami, 2020), particularly when such a story has a political colouration (Vosoughi, Roy & Aral, 2018). A cognate example is a recent story that reported the Registrar of National Examination Council (NECO), Godwill Obioma to have been assassinated. When the story (which was later debunked by NECO and the Registrar's son) was reported by some Nigerian online news media (*Sahara Reporters*, *People Gazette* and *Daily Trust*) on June 1, 2021 as a case of murder/assassination, our monitoring of the story revealed that in less than 24 hours, the story had generated 184 comments, 904 likes and 682 retweets on the Twitter handle of Sahara Reporters; 422 comments, 2,105 likes and 1,933 retweets had been generated in less than 24 hours of breaking the story on *People Gazette's* Twitter handle, while *Daily Trust* recorded 100 comments, 293 likes and 186 retweets in less than 24 hours it broke the story on Twitter. However, when *Sahara Reporters* later reported that the Registrar died of heart attack, the story generated lower engagements (30 comments, 86 likes and 15 shares in less than a day of reportage on its Facebook page) unlike the first stories on the Registrar being a victim of murder/assassination. Two days after other news media such as *The Nation*, *Channels TV* and *Premium Times* had reported that the Registrar was not assassinated as claimed, public engagements on their Twitter handles were low- *The Nation* had 1 comment, 3 retweets and 13 likes; Channels recorded 29 comments, 34 retweets and 177 likes, while *Premium Times'* engagement had 10 comments, 36 retweets and 68 likes (all after two days of their publications).

At this juncture, it is noteworthy to state that information disorder can fuel political instability, especially in a nation with volatile democracy and fragile multi-ethno-religious entity such as Nigeria. Any form of information disorder/fake news can also trigger cyber or offline hatred for an ethnic or a religious group, a political party or even an entire section of the country (Ojebuyi & Lasisi, 2019; Pate & Ibrahim, 2020). Consequently, the mass media and media practitioners have vital roles to play in making sure that they use the power of their media to promote good governance- by being truthful, professional and analytical in news reportage- (Dunu, 2003; Liu, 2017; Abegunde & Fajimbola, 2018) and national unity (Hassan, Habil & Ibrahim, 2012; Ojebuyi & Lasisi, 2019) instead of dishing out information capable of fueling political and ethno-religious crises and discomforts in Nigeria. Thus, the mass media can only be socially responsible as an agent of change if it sees its freedom of expression as a sacred principle that should not devalue journalism into quack practices characteristic of fake news. Therefore, our main focus in this article is to investigate the extent to which the Nigerian public consumed and spread selected security, political, health and religious fake news items at the expense of promoting national unity and regional cohesion expected of citizens.

Fake News, Big Data And News Production

The notion of big data is considered a new phenomenon that emerged in the second decade of the new millennium which paved the way for the creation of new professions such as data analysis, data science, data journalism, among others (Bruns, 2016). Big data further poises to affect every aspect of our lives; from how we think, transact business, interact with one another, and even the choice and decision we make in our socio-cultural, technical and political stance- which for every data can be analysed, interpreted, and even manipulated

(Lewis & Westlund, 2015; Bruns, 2016). Even though there are many positive effects of big data in our lives, we cannot override the reality of its deficiencies such as biases and limitations (Steensen & Westlund, 2021).

Looking at the nexus between big data and news production or journalism specifically, the marriage between the two has brought about numerous benefits to the two sides through their key features, as journalists have also welcomed its techniques as a big plus for the profession (Fairfield, & Shtein, 2014). For example, journalism tools have been used to amplify and promote the importance of data while big data techniques have been used to advance the works of journalism such as objective usage of reports (Steensen & Westlund, 2021) and analyse, visualise, and publish large amounts of data (Veglis & Maniou, 2018). Specifically, Bruns (2016) expressed that the influence of big data on journalism can be seen from two angles: as a driver of innovation with the emergence of new fields of journalism like computational journalism and data journalism; and as a tool for analysing journalistic works from chunks of data on social media and beyond. Bruns (2016: 2) further noted that big data “offer important new insights for the news industry and journalism studies alike, by providing new evidence on trends in journalism production and reception at an unprecedented level of detail.”

Fake News, Big Data and Public Consumption of Political News

After the 2016 presidential elections in the United States of America which studies reported to be influenced by fake news and other political events around the world such as Germany, France, Korea, and the UK Brexit (Shu et al., 2020; Watts, Rothschild & Mobius 2021; Joo, 2017), the term had then taken over research discourse in different dimensions, fields and every aspect of life (Torabi Asr & Taboada, 2019), particularly their usage in the political arena. Even though the usage of the term is contested by some media researchers as worth not patronising because of its connotation and the negative usage by politicians as a weapon to attack media organisations for contents they disagree with, especially when it is about them (Torabi Asr & Taboada, 2019). However, Torabi Asr and Taboada (2019: 2) further submitted that the usage of the term fake news becomes necessary nowadays as “it helps draw attention to the problem, and because it is a convenient shorthand”. Likewise, Hirst (2017: 82) stressed that fake news should be considered a critical topic of concern in “the political economy of communication because it brings into sharp relief a critical analysis of the news industry and of journalism”.

When it comes to a place in which fake news is largely being deployed to misinform the public for political news, many studies have pointed at social media platforms such as Facebook, Twitter and WhatsApp as key domains (Allen et al., 2020; Tsipursky, Votta & Roose, 2018) and issues such as safety and security, politics, religious and ethnic or tribal conflicts are being applied. For example, Bovet and Makse (2019) confirmed that political fake news was largely present on Twitter and Facebook than any other social media platforms during the 2016 presidential elections of the US. Likewise, in a study by Joo (2017) on analysis, forecasting and management of issues utilizing Big Data with a focus on fake news in South Korea, they found that fake news is continuously generated in relation to safety and security, and political issues in the country.

Another significant area in which previous research has looked at is the influence of technology and other key reasons for the spread of fake news. A study conducted by Dutton et al. (2017) in 6 countries on how media biases can shape access to information in shaping public opinion reveals that technology has a limit on people’s deterministic perspectives on search, such as filter bubbles. However, some previous works pointed at the fact that technology does aid the speed of fake news that contain political information compared to how it worked in the previous centuries, especially with the emergence of social networks in present days (Torabi Asr & Taboada,

2019). Torabi Asr and Taboada further cited psychological views such as negativity bias which makes humans be susceptible to pay more attention to negative things as one of the key factors. Likewise, Singh, et al. (2017) alluded to that fake not only carry negative tones to attract readers, but it also is usually short which make it easier and faster to read, and tend to be more personal, and can look more like genuine which can also use personality and emotion as noted by Bakir and McStay (2018).

Thinking for a way forward and possible solution to mitigate or combat the issue of fake news, a series of previous studies have looked into this, though the menace still persists. Mason, Krutka and Stoddard (2018) stressed the fact that fake news has a long history and cannot be separated from media and new technologies that emerges which made them suggest media literacy education as one of the possible solutions to issues of fake news. Likewise, in a study on how people make sense of and deal with, a changing media landscape perceived to be filled with misinformation and fake news which used seventy-one in-depth interviews in Chicago, Philadelphia, and Miami, Wagner and Boczkowski (2019) gathered that participants craved for more fact-checking contents and traditional fact-based media. In another study by Tsipursky, Votta and Roose (2018) noted that Pro-Truth Pledge (PTP) showed its effectiveness in reducing the sharing of misinformation on social media.

National Consciousness In The Face Of Big Data-driven Fake News

“Accuracy and fairness” describe the second point of the 15-point Nigerian Union of Journalists (NUJ) code of ethics. It specifically provides that “factual, accurate balance and fair reporting is the ultimate objective of good journalism and the basis of earning public trust and confidence.” Aside that professional sacredness, journalists are also expected to “refrain from publishing inaccurate and misleading information” (Nigerian Union of Journalists, 2019). With this ethical provision, the expectation would have been that no trained journalist reporting for mainstream media would breach the code. However, observations and research (Nasidi, 2016) prove that wrong, for some of the media throw accuracy and fairness away in the course of duty. Those who breach this professional ethics do so by misrepresenting or distorting events by casting and tilting news headlines to suit their narratives. They use click-baits as a strategy to attract news audience to their reported news items (Marmol, 2019 & Wanda et al., 2021). Invariably, headlines, whether distorted or accurate, is capable of influencing the information processing of news audience (Ojebuyi, Lasisi & Ajetunmobi, 2021).

The question is: why do certain people share fake news or distorted information despite that such information does not appeal to some other categories of news consumers? People share fake news because they do not want to miss out in dissemination some information, and that they trust online sources so much that they do not bother to authenticate the correctness of such information before sharing (Talwar et al., 2019). Other people do so for their political differences with the event or person involved, though the role of algorithm cannot be underplayed in the spread of fake news (Marwick, 2018), especially in this era of big data analytics. However, majority of Altay, Hacquin, & Mercier’s (2019) 3,656 respondents viewed sharing of fake news as something that lowers their reputation to the extent that sharing single fake news will discourage people to believe their shared stories next time even if such stories are true. Their next response brings an insight into how people can get paid to share fake stories- majority of Mercier’s respondents reveled that they could only share fake stories if they were financially gratified. When this happens, social relationships are bound to be jeopardised (Duffy, Tandoc & Ling, 2020). According to Moravec, Minas and Dennis (2018), confirmation bias is responsible for fake news sharing. That is, people are likely to share fake news if such information aligns with their opinions, political or otherwise,

while they are less likely to share such information if it contradicts their held opinions. Most of these reasons for sharing fake news, we argue, are capable of promoting national unconsciousness among Nigerians.

Despite these reasons why people share fake news, some people possess digital information literacy that they question many news items for their authenticity before sharing. This is one of the main arguments of Wagner & Boczkowski (2019) when they found out that news circulation on online media breeds distortion and distrust in news content. However, this brings a caveat to some news audience as they rely on fact-checking, traditional fact-based media, multiple reports across media and trust in reliable contacts whenever they doubt the authenticity of certain news items. This finding, in our own informed perspective, is a strategy that can breed public consciousness on fake news.

Theoretical Framework

Some of the issues and needs captured in the existing concepts and empirical evidences align with some propositions of the Integrated Information Theory of Consciousness and Confirmation Bias Theory that underpinned the study, though these theories were not employed in the previous studies earlier discussed. Integrated Information Theory is originally formulated to understand issues and needs within the information technology field. However, its constructs and propositions make it relevant to consciousness of human being in their quest for making meanings from objects or elements around them towards informed decision making. The theory proposes that people or organisations need to make meaning from objects or elements within their systems while in a state of unknown, which is constantly affecting productivity of the systems (Tononi, 2015; Tononi, Boly, Massimini & Koch, 2016). They need to identify previous and present experiences that are impacting the functionality of the systems. At the second stage of understanding the systems, aggregation and separation of positive and negative experiences become imperative for generating the right information towards informed decision making. Primarily, both experiences are expected to be integrated at the fourth stage. However, when it is obvious that negative experiences are enormous, they should be excluded. This is supposed to be done at the fifth stage of applying the theory for understanding a system (Tononi, 2015). Excluding the negative experiences and capitalising on the positives gives people in the system the opportunity to make headway in their collective responsibility of making the system functional and beneficial to everyone, including stakeholders who benefit indirectly from the organisation or the system. Looking at these stages, we conclude that the theory is relevant to the study in the context that Nigeria, like other countries in the world, is facing a lot of socioeconomic and political challenges in relation to the post-truth era of information creation and sharing on the digital platforms. With this, our expectation is that the media establishments and the citizens should be possibly appropriating the stages of proposition of the theory while creating and sharing news considering the level of uncertainties in the social, economic and political spheres of the country (see El-Rufai, 2017; Ikegbu, Enyimba & Ogelenya, 2018). The failure to appropriate these stages is anticipated to be driven by the cognitive dissonance of the journalists (reporters and editors) and citizens, who created and share selected fake news respectively. This position has been captured by confirmation bias theory which proposes that people align with the news that resonate with their political, social and economic interests (Ling, 2020 & Peters, 2020).

Data

News and behaviour of users of Facebook and Twitter towards the reports were the main categories of data source used. News reports that were identified by the researchers as fake news were logged for a certain number

of days. This approach was also used for collecting reactions of the users of the two social networking sites to the news shared by conventional newspapers because of the researchers' aim of analysing trends in the consumption of the news over a certain period of time (Bruckman, 2006). In the course of collecting the required data, it was discovered that users of the two social networking sites who followed the news stories unliked, unshared, unretweeted and deleted their comments and replies at one time or the other, probably when they knew that the stories were false. Therefore, this largely explained the disparity in the number of shares, likes, retweets and comments garnered for the selected news stories.

Table 1: Logged Fake News by Social Media Type

S/N	News	Newspaper	Social Media	Starting Logged Day	Ending Logged Day	Starting Logged Time	Ending Logged Time
1	Buhari ordered release of Sowore, Dasuki to divert from attempt to kill Jonathan- Gbadamosi	Daily Post	Facebook	January 7, 2020	January 19, 2020	7:44pm	5:32am
			Twitter	January 8, 2020	January 19, 2020	12:32pm	5:28am
2	China Places Visa Ban on Nigerians	Sahara Reporters	Facebook	February 4, 2020	February 13, 2020	10:21pm	8:16pm
3	Nigeria is safest country to live in the world- Lai Mohammed	The Nation	Twitter and Facebook	February 6, 2020	February 16, 2020	11:40am	8:52pm
4	Buhari govt trying to give Taraba kidnap kingpin, Wadume soft-landing because he built mosque - HURIWA	Daily Post	Facebook	June 4, 2020	June 13, 2020	10:09pm	12:22am
			Twitter	June 4, 2020	June 13, 2020	9:41pm	12:42am
5	Registrar of Nigeria's Top Examination Body, NECO, Godswill Obioma Assassinated in Minna	Sahara Reporters	Facebook	June 1, 2021	June 4, 2021	8:10pm	11:03pm
6	Boko Haram Shares N20,000 Per Household to Yobe Residents in New Recruitment Drive	Sahara Reporters	Twitter	May 2, 2021	May 11, 2021	5:59pm	6:14pm
7.	Breaking: Bukola Saraki, Gbemisola unite to fight Kwara govt over father's property	Vanguard	Twitter	January 2, 2020	January, 19	5:38pm	5:29am
8	Buhari's minister, Gbemisola Saraki protest Kwara govt's demolition of Father's property	Daily Nigerian	Twitter	January 7, 2020	January 19, 2020	9:07pm	5:30am
9.	United States Denies Bishop @DavidOyedepoMin Visa	Sahara Reporters	Twitter	January 31, 2020	February 9, 2020	8:50pm	11:00pm
10.	China Places Visa Ban on Nigerians	Sahara Reporters	Twitter	February 4, 2020	February 13, 2020	10:12pm	8:19pm
11.	Nigeria is safest country to live in the world- Lai Mohammed	Daily Post	Twitter	February 6, 2020	February 15, 2020	6:27pm	9:10pm
12.	To be safe from coronavirus, shave your beard, CDC warns	The Punch	Twitter	March 3, 2020	March 12, 2020	4:15pm	11:30am
13.	Registrar of Nigeria's Top Examination Body, NECO, Godswill Obioma Assassinated in Minna	Daily Trust	Facebook	June 1, 2021	June 4, 2021	9:14pm	10:51pm

Source: Researchers' Compilation, 2021

It should be noted that some limitations also emerged in the course of collecting the data. Some stories were removed after the newspapers discovered that the news makers debunked the stories. For instance, for *Nigeria is the safest country to live*, it was observed that *The Nation* published the story at 6:33pm on February 3, 2020. When our data logger checked the story again on February 6, 2020, the story had been removed by the newspaper. What came up was "Our apologies– the story was not found." This is not quite different for *To be safe from coronavirus, shave your beard, CDC warns*. This was the way the story was written at the time our logger accessed the story on March 1, 2020. After a disclaimer from the CDC cited by *The Punch*, the paper recast the headline as "UPDATED: To be safe from coronavirus, shave your beards, CDC warns." The updated version added this paragraph at the end of the story and edited some expressions in the news:

The CDC image that shows facial hairstyles that don't compromise the effectiveness of face masks was posted in 2017 on the health agency's website and was intended for workers who wear respirators at work. It was not specific to coronavirus.

April 28, 2021, *Sahara Reporters* published a story saying Boko Haram paid #20,000 to residents of Geidam in Bornu State, on a recruitment mission. The medium where it got the story from reported the story on 27th April, 2021, and the terrorists were called ISWAP. In the story, there was no quotation (from any source) that can convince the reader that the money was actually distributed. The only quotation present was that of the law maker representing the region, and his statement didn't even say anything about #20,000 distribution. However, a Twitter user by the name UNCLE DEJI debunked the story on May 21, 2021 at 1:43 pm thus:

"FACT-CHECKED: Residents of #Geidam interviewed by BBC Hausa yesterday said reports that ISWAP distributed N20,000 to families are false and misleading. They said residents didn't even come into personal contact with the terrorists as they fled or remained indoors."

UNCLE DEJI is known on Twittersphere to always report about issues around the Nigerian military. With the name @DejiAdesogan, his profile reads "Special Interest in Military & Security Affairs...#FactCheck #DigiComms". A total of 3,461 hours was spent for data logging. On average 230 hours 44 minutes were spent. These hours were later formulated into low [0-200hrs], medium [201-400hrs] and high [401hrs above] logging scales. For investigation of the users' behaviour in terms of volume of reactions [likes, comments, replies, shares and retweets], we adopted vLikes, vComments, vReplies, vShares and vRetweets. In this regard, number of likes, comments, replies, shares and retweets for all the selected fake news were added up singlehanded, considering each feature. In all, we found a total of 13, 834 likes, 3,639 comments and 2,485 replies. We equally discovered 1,344 shares and 6,315 retweets of the news. Since all the news did not have significant comments, we resulted in employing stories that have significant comments at some points of our analysis. We used 165 comments and replies found for *Boko Haram shares money and recruitment drive, Nigeria as a safest country, to save from Coronavirus shave beard* and *China Places Ban on Nigerians news* reports, which were posted on Twitter and Facebook respectively by the newspapers.

Methods And Measures

Computational and quantitative content analyses were adopted. Computational content analysis is a research method that considers real-time data generation of users of new media. It is employed because of the intent of tracking behaviour of Nigerians towards the selected fake news for the number of hours and days presented in Table 1. Quantitative content analysis was carried out through the quantification of collected comments and

replies which were preprocessed by cleaning up emojis, emoticons, among other irrelevances. The reliability of the number of shares, likes, comments, replies and retweets was ensured using stability approach (Riffe, Lacy, Watson and Fico, 2019). This approach was adopted because the data were collected using data logging method. The approach allowed one of the researchers to see the stability of the number of likes, comments, likes, replies and retweets that were collected throughout the hours and days stated previously. The reliability of the comments and replies was carried out using 10% of the cleaned comments of stories that made it to the level at which national consciousness of the followers of the newspapers were coded for reliability test (Riffe et al., 2019). The cleaned comments were later coded using reproducibility approach suggested by Riffe et al., (2019) for reliability in content analysis method, which afforded the researchers the opportunity to code the comments several times by different coders. One of the researchers first coded the comments and achieved 80% of accuracy in coding the six content categories [Unity, Uncertain, Refute, Supplement, Confirm, Disunity] used for measuring the comments and replies. In the context of this study, unity represents comments and replies that pointed to the fact that the followers of the newspapers were careful of the need to promote unity in the country despite the falseness of the news. Uncertain signifies comments that depicted followers' unbelievability of the news, while refute means the followers' rejection of the news. When all these existed, we considered them as national consciousness, which were used to form National Consciousness Index. Supplement, confirm and disunity are the opposite of the previous categories. Adding more flawed information and accepting the content of the news were considered as supplement and confirm respectively. Disunity, which is the opposite of unity, is operationalised as the extent to which followers promoted oneness of the country despite the flawed information in the news stories. These categories were transformed into Non-Consciousness Index, representing opposite of the first Index. These definitions were followed by another researcher and 85% accuracy was attained. Out of the selected fake news, researchers considered security and political related news at second level of investigation and analysis predominantly. Two levels of measurement were carried out. The generated data were first explored with the specific focus on the relationship among volume of likes, comments, replies, shares, retweets and cumulative hours of logging the data. Volume of likes, comments, replies, shares and retweets was determined by adding the frequency of each engagement indicator for each of the news that constituted the broad category of security, health, religion and political fake news. Volume of hours density of health, politics, religion and security fake news was calculated by dividing total amount of news within each category by total number of hours for logging the news. This approach was also used for volume of reaction density, but with a slight change. Volume of reaction was determined by adding number of comments and replies of each news within each fake news category. Then, added up to determine final volume of reaction. Volume of reaction density finally emerged by dividing volume of reaction of each fake news category by total amount of volume of reaction for all the fake news categories. The study categorically measured all the constructs by specifically asked: which of the select news categories [politics, health, security and religion] has highest volume of likes, comments, replies, shares and retweets? What is the length of time taken followers of the newspapers that spread the selected fake news to like, share, comment and reply? What is the level of consciousness and non-consciousness of the followers in the contexts of social and political uncertainties based on their comments and replies varieties?

Results

From the first-level analysis, a number of surprising insights emerged within the hours of consuming the news across the Facebook pages and Twitter handles of the select newspapers by their followers. In our analysis, it was discovered that security and politics-related fake news interconnected mostly during the hours of logging the

data. Out of the total cumulative hours of logging stated previously in Figure 1, volume of shares of political stories trended for 92 hours 19 minutes. Security-related stories followed, but not for volume of shares; its volume of comments trended for 58.03hours. Security news were equally more retweeted [54.09hrs], liked [51.39hrs] and replied to [41.85hrs] than other news in hours. These results are further explored in Figure 2, where the level of trending was also examined in hours.

As shown in Figure 2, it is established that followers of the newspapers mostly engaged with the political and security news in significant number of hours than health and religious news. These results complement the earlier results, an indication that followers were not careful of the consequences of spreading the false news despite the level of insecurity and political tension as the country prepares for another general elections in 2023.

Emerging insights are better appreciated when one looks at the outcomes of the volume of hours density versus volume of reactions per select news category. According to the data in Figure 3, for more than 100hours followers of the newspapers reacted to security-related news, they spent 31 hours 45 minutes responding to fake political news. Relatively, they spent over 20 hours in reacting to health-related news.

Individually, data in Figure 4 reveal that followers of the newspapers reacted to Boko Haram shares money and recruitment drive news, which was posted on Facebook, for 64 hours 90 minutes. The story of how Nigeria is the safest country followed with the reactions that lasted for 25 hours 58 minutes. Health and international relations news followed. Since like is a significant feature in alerting more friends of the followers to the fake news and other followers to react more to the news, we explored this in relation to the social networking sites' features [comments, retweets, shares and replies] that have the tendency of getting the friends of the followers and other followers engaged with the news by equally commenting, retweeting, sharing and replying to the news in Table 1.

Table 1: Relationship between Sum of Likes of All Fake News and Individual Reaction Indicators

Model	R	R Square	Adjusted R Square	R	Std. Error of the Estimate	Change Statistics				
						R Square Change	F Change	df1	df2	Sig. F Change
vLikes and vComments	.971a	.944	.925		250.396	.944	50.186	1	3	.006
vLikes and vRetweets	.958^a	.918	.907		88.297	.918	89.117	1	8	.000
vLikes and vShares	.168a	.028	-.296		366.708	.028	.087	1	3	.787
vLikes and vReplies	.909^a	.827	.806		433.239	.827	38.278	1	8	.000

Source: Nigerian Newspapers' Social Media Handles, 2020-2021; Researchers' Analysis, 2021

From the data presented in Table 1, it could be seen that volume of likes of the selected news on Twitter significantly connected with volume of retweets ($r=.958, p<.000$) and replies ($r=.909, p<.000$) than of the news that were selected from Facebook. In terms of variation, likes could be more explained from retweets ($R^2=.918$) than replies ($R^2=.806$). These results signify that the selected fakes news were more spread on Twitter than on

Facebook. These results are examined individually in Table 2, where attempt was made to understand which of the news the followers were conscious of national unity while commenting.

Table 2: Average Performance of Non-National Consciousness and National Consciousness Indexes per Selected Fake News

Selected Fake News		Non-National Consciousness Index ^[1]	National Consciousness Index ^[2]
tBoko Haram Shares Money	Mean	4.1200	3.0800
	N	25	25
	Std. Deviation	.43970	.27689
tNigeria as a safest country	Mean	3.4000	4.0000
	N	25	25
	Std. Deviation	.50000	.00000
tCoronavirus Shave Beard	Mean	3.4000	3.7556
	N	45	45
	Std. Deviation	.49543	.43461
fChina Places Ban on Nigerians	Mean	3.7714	3.4000
	N	70	70
	Std. Deviation	.64091	.52198

Source: Nigerian Newspapers' Social Media Handles, 2020-2021; Researchers' Analysis, 2021

Based on the data presented in Table 2, the followers of the newspapers were not conscious of national unity when they consumed and commented on security ($M=4.1200$, $SD=.43970$) and political ($M=3.7714$, $SD=.64091$) fake news. We advanced these results with the independent t-test for understanding the kind of difference that exists between the followers of being conscious or unconscious of prevailing social and political problems in the country during the study period. Our analysis shows that the followers were not conscious of issues around security ($F=8.151$, $df=48$, $P<.000$), and health and political ($F=.808$, $df=113$, $p<.001$) activities. On a surprising note, analysis also reveals that the followers were conscious of the issues around health and political needs while commenting ($t=3.953$, $df=113$, $p<.000$).

Table 3: News Variety Versus Reaction [Comments and Replies] Variety in the Contexts of National Consciousness^[3] and Non-National Consciousness^[4]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
National Consciousness and Security	Equal variances assumed	10.014	.003	-16.613	48	.000	-.92000	.05538	-1.03134	-.80866
	Equal variances not assumed			-16.613	24.000	.000	-.92000	.05538	-1.03429	-.80571
Non-National Consciousness and Security	Equal variances assumed	8.151	.006	5.407	48	.000	.72000	.13317	.45225	.98775
	Equal variances not assumed			5.407	47.228	.000	.72000	.13317	.45214	.98786
National Consciousness, Health and Politics	Equal variances assumed	11.339	.001	3.799	113	.000	.35556	.09359	.17014	.54097
	Equal variances not assumed			3.953	105.557	.000	.35556	.08994	.17722	.53389
Non-National Consciousness, Health and Politics	Equal variances assumed	.808	.371	-3.303	113	.001	-.37143	.11246	-.59422	-.14863
	Equal variances not assumed			-3.491	109.086	.001	-.37143	.10641	-.58232	-.16053

Source: Nigerian Newspapers' Social Media Handles, 2020-2021; Researchers' Analysis, 2021

[1] Non-National Consciousness Index contains Supplement, Confirm, Disunity

[2] National Consciousness Index contains Unity, Uncertain, Refute.

[3] National Consciousness Index contains Unity, Uncertain, Refute.

[4] Non-National Consciousness Index contains Supplement, Confirm, Disunity

Discussion

Findings of this study have further reinforced what most previous studies have found about the degree at which people consume and spread fake news on social networking sites (see Joo, 2017). The study has significantly revealed that Twitter remains main platform through which people could easily consume and spread fake news

in Nigeria (Allen et al., 2020; Tsipursky, Votta & Roose, 2018). The study confirms that users of the sites and followers of the conventional newspapers that spread the selected fake news appropriate their cognitive ability based on what pleased them during the time of publishing and spreading the fake news (Minas and Dennis, 2018). Like Integrated Information Theory of Consciousness and Confirmation Bias Theory suggest, the followers selected and responded greatly to fake security and political news because the newsmakers and elements of the news align with their cognitive bias (Bovet & Makse, 2019). This led to their inability of being conscious of issues around security, health and political activities in the country (Tononi, 2015; Tononi, Boly, Massimini & Koch, 2016; Ling, 2020; Peters, 2020).

Conclusion And Recommendations

The emerging results point towards the need for the establishment of Media Literacy Commission to complement the efforts of ministries saddled with the responsibility of re-orientating journalists, media establishments and citizens on national consciousness and unity. The outcomes of the study also indicate the need to overhaul the National Orientation Agency (NOA) towards regular, balanced and connected promotion of national values and norms. We recommend that the National Broadcasting Commission (NBC) establish a research and evaluation unit with trained staff whose primary assignment will be to monitor the journalism practices of licenced mass communication media. Such evaluation, we believe, will enable the NBC to set certain key performance indicators for the Nigerian media and their practices. The unit should then be empowered to sanction any mass medium breaching such performance indicators she already set. We therefore suggest that further studies should consider more fake news and reactions of the followers of the conventional newspapers (User Generated Content) that instigate such fake news.

Declarations

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors have no competing interests with any person or organisation. Suffice to note that the funder does not dictate conceptualization and outcomes of the study.

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Authors' contributions

MI analysed, interpreted and reported the generated data. MI also wrote the discussion, conclusion and recommendation sections. MI also conceptualized the study. UO wrote the introduction and statement of the problem. UO also collected the data used in the study. MJ wrote literature and synthesized empirical section of the study.

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Figures

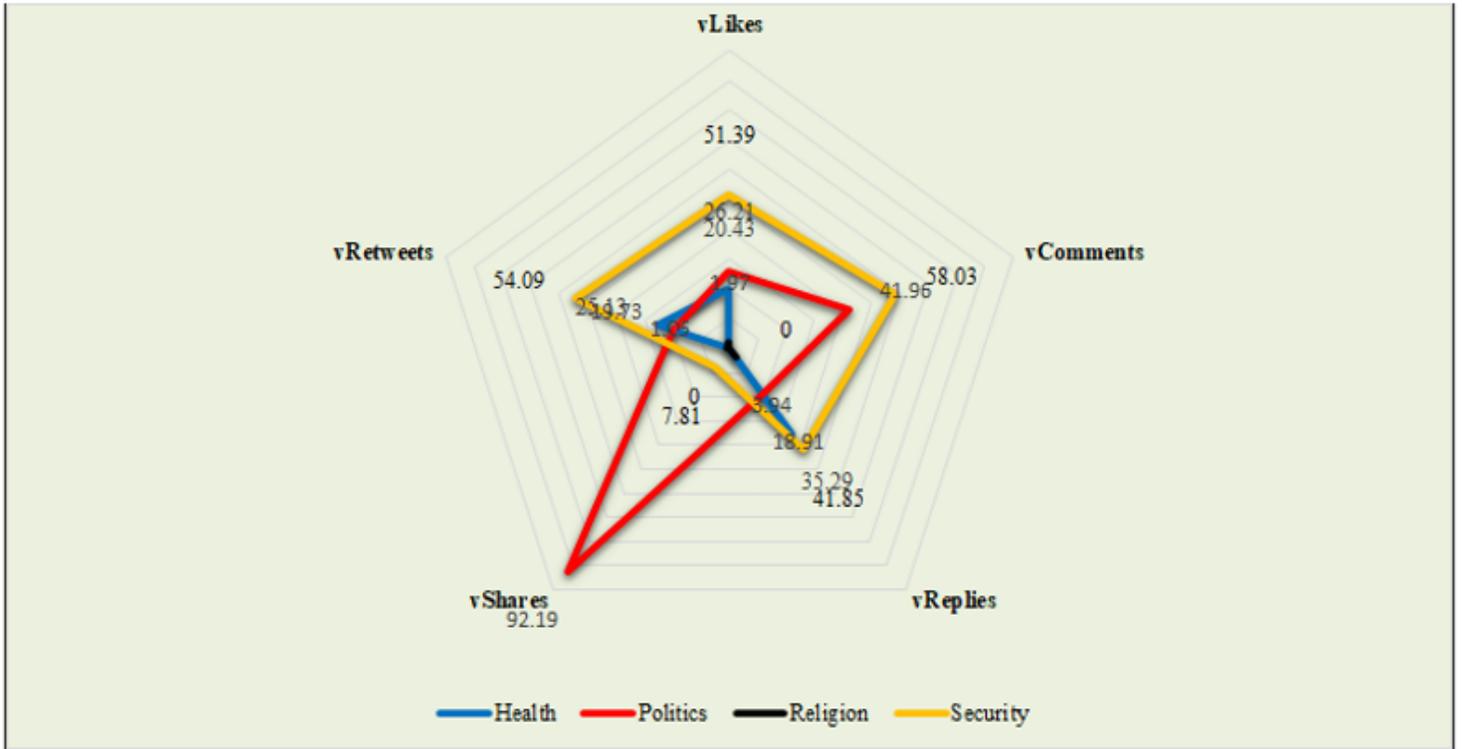


Figure 1

Network of Volume of Likes, Comments, Shares, Retweets and Replies. Source: Nigerian Newspapers' Social Media Handles, 2020-2021; Researchers' Analysis, 2021

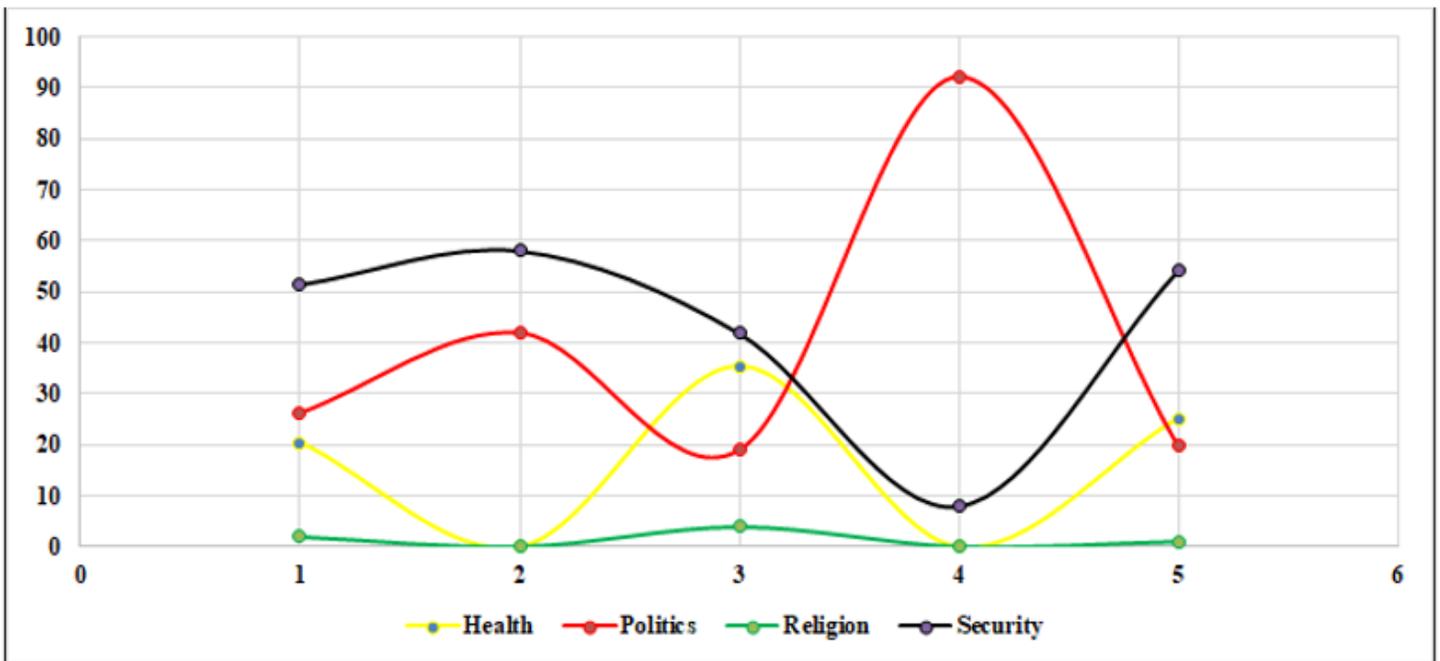


Figure 2

Trending of Volume of Likes, Comments, Shares, Retweets and Replies. Source: Nigerian Newspapers' Social Media Handles, 2020-2021; Researchers' Analysis, 2021

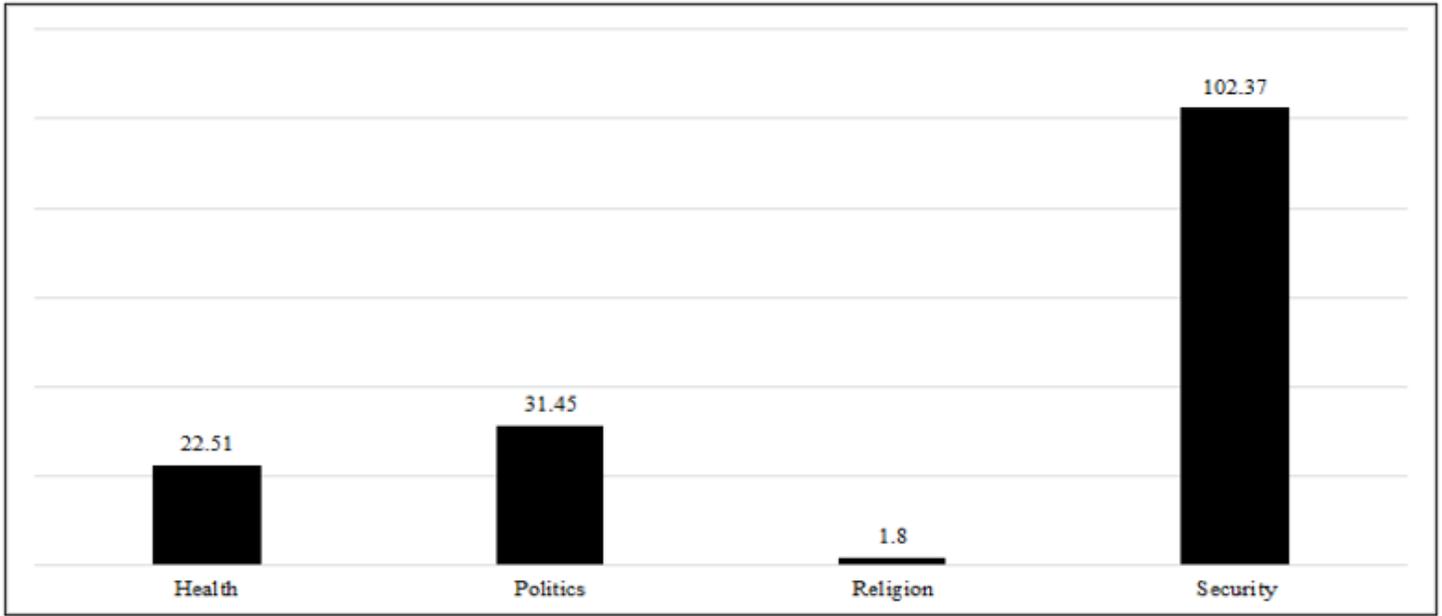


Figure 3

Volume of Hours Density Versus Volume of Reaction Per Select Fake News Category. Source: Nigerian Newspapers' Social Media Handles, 2020-2021; Researchers' Analysis, 2021

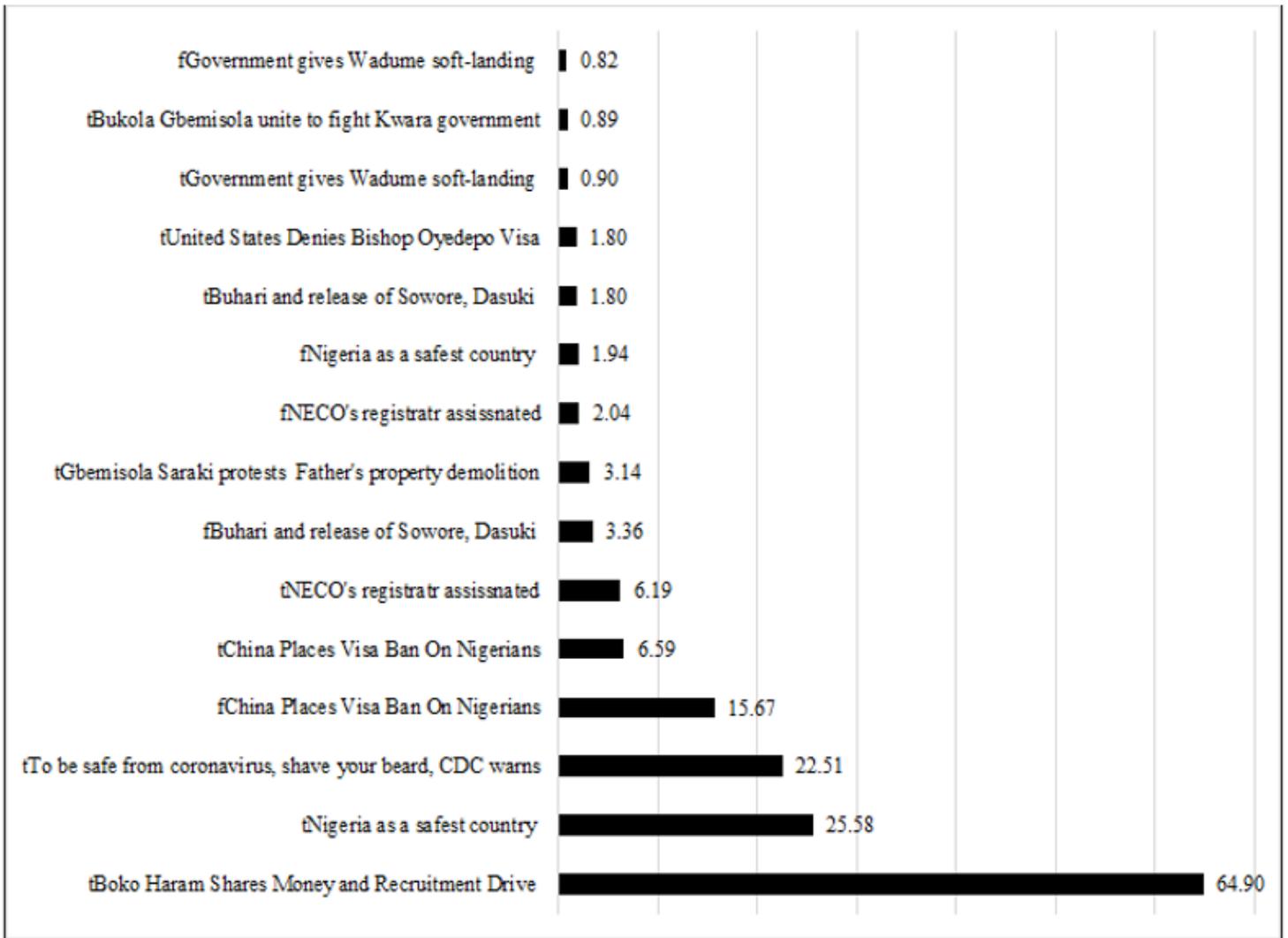


Figure 4

Times [Hours] of Volume of Reaction Per Select Fake News. Source: Nigerian Newspapers' Social Media Handles, 2020-2021; Researchers' Analysis, 2021