The Role of Social Media During the 2015 Voting Process in the Nigeria Election

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Abstract: The rise in the use of social media in recent years had altered the landscape of events such as elections, disasters and political uprisings through its ability to serve as a source of information, recruitment and mobilization. These changes lead to the need to study the use of social media on how it influenced the Nigeria 2015 elections. Social Network Analysis (SNA) was used on the network structure generated during the election. This enabled the identification of influencers, the spread of influence and the way the media was used. As complimentary analysis, content analysis was performed on tweets submitted during the election process. The findings demonstrate how social media is used as an avenue for encouraging people to vote, collation and preservation of the election results which prevents election manipulation that usually happens in Nigeria. Furthermore, this study grounded on two-step flow theory shows influence propagation occurred primarily from the media houses and few citizens to the entire populace. Additionally, this study shows the use of social media in election monitoring and equally pave way for future research.

Key words: Social network analysis, Nigeria, elections, Twitter, flow, research

INTRODUCTION

With the rise of Web 2.0, social media has grown exponentially over the years. Due to the ubiquity that social media platforms afford, users can easily create their contents and thus makes every user a potential reporter. Social media is important during the election process due to its wide outreach. Young voters spend most of their time on social media rather than traditional the media (Stieglitz *et al.*, 2012) which made it ideal in reaching out to them. Additionally as Nigeria is the third most active nation in Africa on Twitter and the most active on Facebook, the usage of social media during the Nigerian election cannot be overestimated.

The objective of this study is to examine how citizens use social media during the election period and how it shapes the election process. This study employs social network analysis to identify the main influencers and the influence propagation during the election. This study uses content analysis to analyze the tweets during the period to understand the citizen's civic engagement using social media.

Literature review: Social media is a platform which enables users to interact and share user generated contents like information, opinions which might be in a text, audio, video or an image format, etc. (Tang *et al.*, 2011). It has evolved rapidly in recent times and has become a part of lifestyle of users aged between 15 to over 65 (Thakur and Pitinanondha, 2012). The rise in the use of the social media has led to the sharp fall in the use of traditional media. Social media is more attractive due to its ubiquity enabling users sharing real-time data which include happening events or trending topics (Matuszka *et al.*, 2013). This is visible in the case of disasters, riots, elections and uprisings (Ahmad and Olanrewaju, 2015; Denef *et al.*, 2013; Song *et al.*, 2014; Lotan *et al.*, 2011) where it was used to disseminate real-time information like warnings, updates, relief coordination (Thakur, 2012) which provides platform for civic engagement (Hjorth and Arnold, 2011).

Social media offers a more direct channel for information dissemination to the public (Denef *et al.*, 2013). It gives users the feeling of being connected and gives room for individual participation in spite of the boundaries that are present.

Social media is an influential avenue for opinion shaping. Research has shown how Online Social Networks (OSNs) has shaped political events and predicting results (Song *et al.*, 2014). It gives users a platform for the exchange of opinions and idea and enables participation and democracy among citizens (Stieglitz *et al.*, 2012). Previous research highlighted the crucial roles internet plays in political communication during campaigns (Stieglitz *et al.*, 2012). This is because it acts as an avenue for citizens with little or no influence

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on the traditional media to get engaged on political discussions and those that are not covered on social media (Skoric *et al.*, 2011).

In examining the influencers that occur on social media and how the propagation of information, the two-step flow theory is applied in this study. The two-step flow theory (Katz and Lazarsfeld, 1955) posits that information flows from the media to the public mediated by opinion leaders that are more exposed to media messages, thus exerting influence over the behavior and opinion of others. The influence flows from the media houses to the opinion leaders and to the rest of the population. These opinion leaders evolve from the information transaction that occurs in everyday personal inter-relationships (Katz and Lazarsfeld, 1955). Their conversations and actions leads to contagion with those they relate with which in turn causes a large contagion in the network (Burt, 1999). This is because they are more exposed to the media; experts in their fields have higher interest in areas and are more active in social activities and organizations (Choi, 2014).

The two-step flow theory has been used in elections and political participation (Stieglitz *et al.*, 2012; Larsson and Moe, 2012). Studies grounded on this theory have showed how personal contacts amongst the people influences people voting decision (Pattie and Johnston, 2013). The opinion leaders play important roles during election on social media with them having the ability to influence voters to engage or not in political elections (Beck and Mackenrodt, 2010). However, only few people play the opinion leader roles. In the Swedish and Spanish elections, the people were neither celebrities nor political officers (Larsson and Moe, 2012; Borondo *et al.*, 2012).

As stated above, social media has played crucial roles in election and the electoral process. During the Dutch 2006 elections, it was shown that OSNs gives the avenue to communicate with voters that were not interested in politics or voting (Utz, 2009). In the study of the 2009 German federal election it was seen that Twitter was used for political communication and deliberation. Interestingly, the results on social media validly mirror the election results (Tumasjan *et al.*, 2010). This finding was supported in the study of the 2011 Singapore election where the tweets where able to predicts election on the national level but less precise at the constituency level (Kim, 2011). In the same sphere, the Swedish election was studied where Twitter served as an outlet for people that are engaged in political debate (Larsson and Moe, 2012). Social media reflected the Spanish electoral process where the online activities correlated with the election outcome (Borondo *et al.*, 2012). In the 2010 Korean election, Twitter

was used for information seeking, entertainment and social utility (Kim, 2011). The 2012 Korean election was further studied where it was that seen users with similar disposition communicate more frequently through mention and retweets. They further used co-occurrence analysis to have a graphical display of the most discussed words that gave room for proper interpretation (Song *et al.*, 2014).

In conclusion, the aforementioned studies demonstrate how social media can be utilized for shaping citizens opinions and most importantly determining the election results. Due to the inherent feature for mass information propagation and the unique role play by the influencers on social media, this study will examine how the Nigerian citizens use social media during 2015 election.

MATERIALS AND METHODS

In analyzing the role that social media played during the Nigeria presidential election, the study was carried out in five phases. The phases are explained below.

Data collection: The data was collected from Twitter using NodeXL (Hansen *et al.*, 2011). It has been used in previous research to visualize and interpret social network (Ahmad and Olanrewaju, 2015; Khalifa, 2011; Himelboim *et al.*, 2013). It helps in simplifying network analysis by collecting the data, storing it and analyzing in order to produce a visual network structure (Smith, 2013). The data was collated using the #Nigeria Decides. The data was collected from the 28th of March 2015 to the early parts of 30th of March 2015 as the election spanned for 2 days (28 and 29th of March).

Data pre-processing: This process involves the approach of cleaning raw data which converts the noisy data into a clean and ready to use data. The collated data was pre-processed by filtering duplicate vertices and tweets. This was conducted in order to reduce the duplicated records (Hansen *et al.*, 2011). The merging of edges was then performed. The edges were merged to compress posts that have the same vertices and tweets into a single edge by assigning an edge weight to it. This helps in the reduction of data while preserving the originality of the data.

Network analysis: The graphs generated was a directed graph using the Harel-Koren fast multiscale. The network graph was analyzed using the graph metrics, this was used in explaining the whole network structure in terms of

subgroups or specific actors in the network. The metrics includes degree centrality (sum of in and out degree) betweeness centrality and clustering co-efficient.

Network clustering and cluster analysis: The Wakita-Tsurumi algorithm which is an improvement on the Clauset-Newman-Moore algorithm (Wakita and Tsurumi, 2007) is ideal for large networks, this was used in identifying major clusters in the network structure. The clusters helped in identifying major themes and topics during the process of the election. This clusters also helped in identifying the key players in and their effectiveness on the overall network structure.

Content analysis: The tweets were analyzed in respect to their content so as to identify patterns using the co-occurrence networks in the tweets. This was done using KH Coder.

RESULTS

This study, explains how the citizens use social media during the election how people are connected and the structure that evolves based on the information dissemination during the election period. This section also highlights the key influencers who play critical role in information dissemination during the election.

Network structure: The generated graph was a directed graph which shows the direction of relationship between two participants. Furthermore, the generated graph structure was a community type structure (Smith, 2014) since each graph cluster has their distinct audience, influencers and information source. The graph density was low; 0.000123885 with a modularity of 0.589802. In total, the graph had a total of 43.679 vertices and 184.303 edges. Figure 1 shows the social network graph of the election. The importance of the vertex spans from blue which is the most important to yellow. The top 200 nodes is with the highest between centrality with a degree higher than 200. The larger is the node, the higher the degree centrality.

Tweet characteristics: In total there 139180 tweets with 9,489 direct message, although some tweets was merged into a single tweet due to the same vertices and tweets with some having edge weight has high as 116. While 1971 were replies. And 128116 were retweets. There were 14393 tweets with URLs in them. These URLs are used by people to overcome the 140-character limit of Twitter.

This amount of number of tweets were large with respect to other countries on the election day with Spain
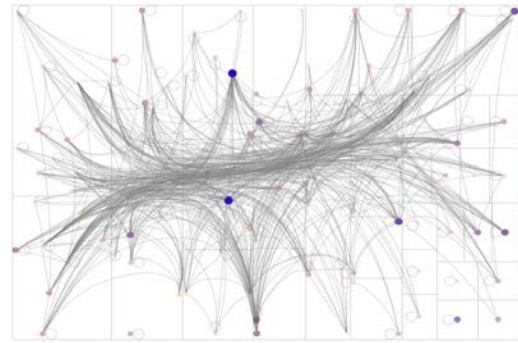

Fig. 1: Network structure of the election period (28th and 29th of March)

Table 1: Influencers table of the top 20 influencers based on the degree and betweeness centrality

Influencers	Degree centrality	Betweeness centrality
Media houses	6	5
Party handles	1	1
Citizens	6	7
Blogs	5	4
Organization	1	2
Contestants	1	1

having 7500 (Borondo *et al.*, 2012), Sweden had 998322 (Larsson and Moe, 2012) which was over a month period and Singapore had 110815 (Skoric *et al.*, 2011) between April 27 May 7 2011 which corresponds to the nomination period till the voting period. The tweets during the election was much compared to other studies due to the Nigeria population which was over 174 million as at 2013 and equally due to the widespread national interest which was had in the election.

Influencers: Influencers can be identified on the between esscentrality (Ahmad and Olanrewaju, 2015) or the degree centrality (Agarwal *et al.*, 2012). This study, took the top 20 users in both categories. In terms of degree centrality, media houses and blogs are more represented rather than the civilians. The huge number of media houses and blogs because they are the primary sources of information. Meanwhile, the influential nodes are basically civilians that encourage voters to vote or post updates about the election progress. As demonstrated in Table 1 the only contestant that exist in the network structure if from the opposition candidate while the organization was the electoral commission.

Content analysis: The co-occurrence network diagram Fig. 2 shows words with similar appearance patterns and high degree of co-occurrence. The diagram shows the high level of civic engagement during the election. This was depicted through the use of personal words such as
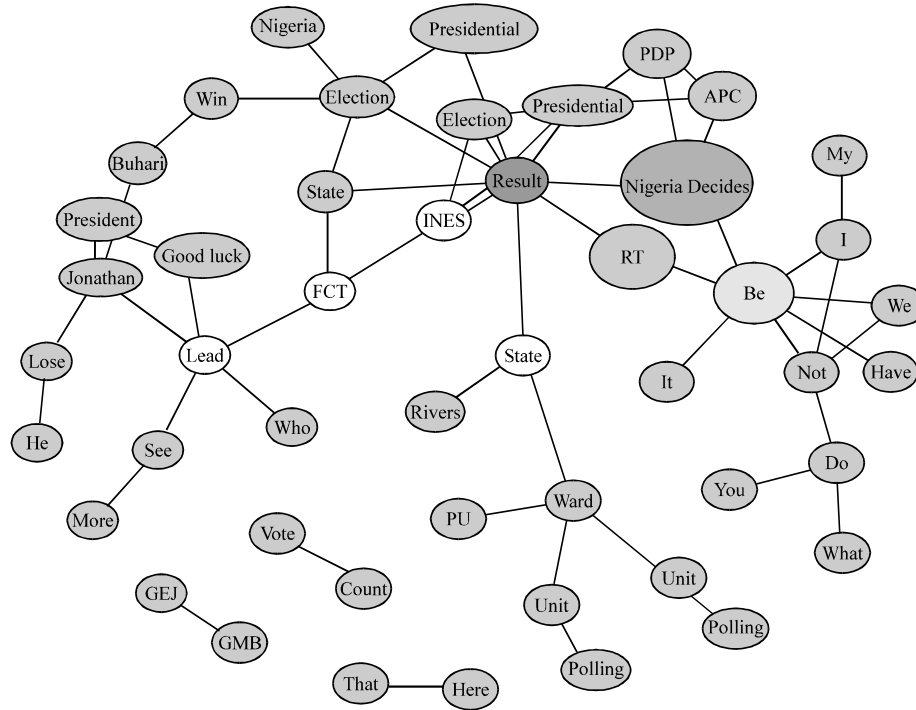
Fig. 2: Co-occurrence network of the tweets during the election period

"I, my, we, you, do have, vote". The election hierarchy was equally depicted based on the diagram from the poling unit to the ward, local government areas, state and then final results. This was due to the use of the social media in monitoring and collating the election results in real time.

Based on the state collation, the only state to appear in the diagram was rivers state. This is because it is a strategic state in the South-south region of the state. During the election period, the state was at the center of attention due to the report of election malpractice (AFP, 2015). The incumbent president had over 95% of the votes in the state. Equally, from the diagram the overall winner of the election could be predicted even before the winner of the election was announced. This was possible due to co-occurrence of words such as "Buhari-win", "Jonathan-loose" and both favorite candidates appearing together in most tweets "GMB-GEJ".

DISCUSSION

As seen from the network structure, the main active people are the press, public figures and the two primary candidates. While the network structure is connected, the modularity showed that there are more connection amongst the nodes in a particular cluster than other clusters. This is because during the election process,

there was little interaction between the two primary partie's supporters. The only interaction came during accusation about the election process. For example: "GEJ winning on Facebook, GMB winning on Twitter, Kowa winning on Instagram".

"PDP successfully jams card readers to allow manual verification for rigging #Nigeria Decides #WhoElseIfnotBuhari #iVotedGMB".

These kind of interactions are also seen in other studies (Yardi and Boyd, 2010). This is a typical scenario that happens during the campaign and between oppositions. Social media can serve as a mirror of what is happening. Equally, the mention of a political party on social media can predict the winne (Skoric *et al.*, 2011; Larsson and Moe, 2012; Tumasjan *et al.*, 2010). This study concurs with the previous studies as the most active and frequently mentioned party eventually won the election.

Furthermore, social media was used as an avenue of collating election results far ahead before the official announcement was made. With this, the presidential elect has emerged glaringly before being announced. This was done at all levels from the polling unit to the ward to the local government areas to the states before the states collation was done on the national broadcast. The result collation and broadcast was not limited only to the social media others were sent through Short Message Service

(SMS), mobile phone social applications such as WhatsApp, Blackberry Messenger (BBM), Viber, etc. The use of social media for collating result gave little room for the manipulation of the election results. The election results were also gathered by crowdsourcing from the people in situation rooms. This was done by a popular online journalism website, Sahara Reporters who had their final result ahead of the electoral commission. Majority of the results corresponding with the crowdsourced information from Twitter while those that did not, some were of slight differences (INEC, 2015; SRC, 2015).

"First presidential result coming in Apc-34, Pdp-12, Kowa-2, Void-4@Adekunlefajuyi hall, OAU. #NigeriaDecides".

The influencers on the network was mostly media houses and civilians. According to the two-step flow theory (Katz and Lazarsfeld, 1955), there exists opinion leaders that influences the decision and perception of the populace. This was evident throughout the election process. It equally shaped the outcome of the election through some of the users influencing and encouraging fellow voters to votes. This was done through tweets that makes the users feel obliged in performing their primary duties. The influence was achieved through the use of tags such as tags like a #ivotedgmb, #votedgmb, #gej2019, etc. This was a subtle factor that influenced the outcome of the election

Other example that demonstrates how social media is used to encouraging the citizens performing their civic responsibilities include:

"#NigeriaDecides Senior citizens 100yrs+ voting in the election. They want a better #Nigeria for us. Change is here". "Loyal Nigerians Still Yet to Vote and Still Out Here On the Queue #NigeriaDecides

was equally used in sensitizing on the importance of protecting their votes before the official collation at the respective states. This was done by everyone been a reporter in their own domain and thus gave little room for election results manipulation.

"We will be there to protect the votes". ~IGP Abba http://t.co/uqXWsFueix" "#Nigeria Decides# Protect Your Votehttps://t.co/W3YdP0yyLt".
"A lot of atrocities can happen overnight, especially where some people haven't yet voted. This is destiny, pls protect it....".
"Everybody is a news reporter today #ElectionWonder #NigeriaDecides".

Moreover, the few amount of singleton or direct messages (6.8%) in respect to the overall number of tweets showed that the information diffused was from a limited number of sources and most populace simply retweeted the message. In the two-step theory (Katz and Lazarsfeld, 1955) the opinion leaders used to shape the idea of the mass followers it was seen in the election where few influencers where used to confirm details, encourage citizens to vote and defend their vote. Thus, most messages that was passed around were few people thoughts or messages which led to political discussion and scrutiny (Stieglitz *et al.*, 2012; Larsson and Moe, 2012).

CONCLUSION

The use of social media in regards to election has been well studied by previous research but in Nigeria case, the use of it in motivating, mobilizing, protecting and reporting votes is unique. This shows how social media helps in promoting a peaceful and fair election. The little interaction that occurs is just a replica of the real scenario that happens around. The finding of this study also demonstrates how social media is used to bridge the digital divide and equally empower everybody in making the election peaceful. In future, the need to study the OSNs structures after the election and how it contrasts to the election period will be an important future research to be done. Furthermore, based on the analysis it could be seen that a few dominated the social network sphere this would make it important in studying how to maximize their influences based on different needs of information to be propagated. Equally, the need to get information from the influencers and political handles to the target populace in the shortest cycle needs to be studied.

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