# Twitter Democracy: Policy versus identity politics in three emerging African democracies

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## ABSTRACT

Social media offers new ways for citizens to discuss and debate politics and engage in the democratic process. These online systems could be places for rich policy relevant debate, which is favored by scholars of deliberative democracy. Alternatively, social media might be a platform for an identity driven form of political discourse that is routinely scorned by scholars of democracy. To examine these two possibilities, we analyzed tweets sent during three national elections, the defining participatory process of democracy. Our dataset includes over 760,000 tweets gathered during national elections in Nigeria, Ghana and Kenya from 2011 to 2013. In order to analyze the degree to which Twitter was being used for policy relevant discussion we developed policy term sets through a text analysis of the major political party platforms. To examine the amount of discourse focused on identity issues we created identity term sets based upon national religious, tribal, and regional differences. In Nigeria, where divisive identity politics feed violence and electoral misconduct, discussion of tribe, region, and religion dominate mentions of platform policies. In contrast Ghanaians, who enjoy the most robust democracy of the three countries, were seven times more likely to discuss policy issues rather than identity. Kenyan democracy is still undergoing consolidation, and tweets again reflect this, with almost as many tweets devoted to tribal identity as campaign policy. These findings suggest that social media discussions may echo the state of democratic deepening found in a country during its national elections.

## Keywords

Democracy, social media, Twitter, Africa, elections, text analysis.

## 1. INTRODUCTION

During the 2013 National Elections in Kenya, one Kenyan tweeted a question to fellow citizens: "The big question is when will ethnic-based politics end in Kenya? When issues will guide voters and not just ethnicity. #kenyadecides". Kenya, like many emerging African democracies, can count the number of recent democratic elections on one hand. And as common with other (young) democracies, Kenyans are working to create robust political discourse among its electorate. According to most democratic theories, prior to marking ink on a ballot, successful

elections require rich discourse among citizens and the articulation of a party vision and policy agenda communicated through a candidate's campaign platform. However, as the tweet above from Kenya suggests, discussion of *policy* is often overwhelmed by the politics of *identity*. So while some Kenyans cry out for substantive democratic discourse, others concentrate instead on identity. In fact, another Kenyan on Twitter declares: "I'll never ever trust kikuyu… fuck you kikuyuz fuck you." This massively retweeted post demonstrates the depth of the mistrust in the Kikuyu tribe among some Kenyans and positions discrimination and suppression as a leading component of political expression.

Elections provide a unique opportunity to contrast policy oriented democratic discourse with identity based politics. By evaluating social media collected around election days, this paper attempts to investigate this discourse in three emerging democracies in Africa: the Nigeria 2011 Presidential Election, Ghana 2012 National Election, and Kenya 2013 National Election. Theories (e.g. Saco 2002) suggest that the relative intensities of discussion in these three countries over social media offer an indication of whether citizens are prioritizing identity or policy discourse in their electoral processes. Are citizens engaged in a substantive discussion of policies and party platforms over social media characteristic of deliberative democracy? Or do identity politics of tribe, religion, or region dominate online discussion?

In this paper we report an analysis of Twitter data from these three elections. Using a text analysis system, we queried each dataset for policy relevant material which we initially had mined from each country's major political party platform. Similarly, we searched the corpus for identity keywords which we acquired by listing the names of major ethno-linguistic groups, religions, and regional territories. We find variation between these three countries in the prevalence of policy versus identity based discourse over Twitter and this variation aligns with the level of political development in each county as determined by scholars of democracy.

The next section outlines theories of identity politics versus deliberative democracy. The third section situates this paper in related works and theories. The fourth section gives background on the three countries' political landscape prior to the tracked elections. Section five describes the dataset. The analysis methods and tools are outlined in section six. The seventh section reports findings and offers our conclusions.

## 2. DELIBERATIVE DEMOCRACY AND IDENTITY POLITICS

How individuals and groups voice political issues and effect governance within a democracy related to the normative values of citizenship, inclusion, and participation. The concept that

democracy is most legitimate when citizens engage in debate and reflection on policy is known as deliberative democracy (Bohman and Rehg 1996). Contemporary normative views of democracy draw from the works of scholars including Cohen (1996), Habermas (1996), and Christiano (2008). Cohen (1996) evokes rational choice theory to explain how public reasoning allows decision makers to overcome information asymmetry by collective intelligence and thus bring reason and legitimacy to policy. Similarly, Habermas (1996) contends that democratic authority rests in "communicative reason," or the public contemplation and preparation of political decisions. But Habermas brings a perhaps more radical notion; he describes a civil society, autonomous from democratic processes, that can resist, organize, and influence democratic legislation. Christiano (2008) introduces the notion of social justice as an outcome of deliberation. He advocates deliberative democracy through public democratic decision making as a way to achieve social justice.

Bringing this normative view of democracy to the developing world, Patrick Heller (2000) asserts that an effective democracy has two interrelated characteristics: a robust civil society and a capable state. Heller's robust civil society echoes the Habermasian civil society. According to Heller, civil society is made up of individuals, organizations, and social movements that hold the state accountable through ongoing expression of voice, feedback, and negotiation. When democratic institutions and social processes are mutually reinforcing, democratic deepening occurs.

Identity politics incorporates individuals into political action based on a constructed identity that could be rooted in religion, ethnicity, or gender (Heyes 2012). While identity can be beneficially integrated into deliberative democratic practices, political theorist John Dryzek (2005) has shown that identity politics will actually weaken effective deliberation and democratic deepening when it is validated or constituted as suppression of one identity by another. Deliberative democracy is made more elusive when political elites bring citizens into the political process through clientelism premised upon identity (Crawford & Lynch 2012).The top-down structure of clientelism limits citizens' power to negotiate (Powell 1970). Accordingly, political elites who gain support and votes through handouts and identity are often uninterested in democratic consultation or deliberation of policy with citizens. As political parties claim subordinate classes through clientelism based on identity politics, society fails to achieve democratic deepening through expansion of social citizenship (Heller 2000). Voters receive favors, not voice.

With new networked technologies, social media offers a space for institutions and civil society to dynamically interact. Citizens can use the 140-character tweet to reason through campaign platforms and advocate for certain candidates and their policies. They may hashtag a political party, tweet at a candidate, or advocate for particular policy outcomes. Alternatively, social media platforms can be used to amplify identity based politics that focus on race, tribe, religion, and region. This paper uses elections, the foremost democratic institution, and the microblogging platform, Twitter, as an opportunity and artifact to evaluate how public discourse over social media reflects practice of democratic deliberation or divisive identity politics in Nigeria, Ghana, and Kenya.

## 3. RELATED WORKS AND THEORY

Since the rise of social media, many scholars model and debate the use of online platforms as public spaces for political discourse during election time (Gayo-Avello et al. 2011; Jungherr et al.

2012; Boutet et al. 2012; Stieglitz and Dang-Xuan 2012). Tumasjan et al. (2010) find evidence that Twitter is a space for political deliberation in a dataset from the month leading up to the 2009 German national elections. The authors probe a set of 104,003 political tweets using a linguistic inquiry and word count (LIWC) software. Results show that despite a limited user group, the tweets reflect German political realities in terms of election outcomes, emerging political coalitions, voter sentiment and voter policy preference. Echoing these finding, Stieglitz and Dang-Xuan (2012) use the LIWC software and regression analysis to model Twitter discussions and sentiment during German state parliament elections. Results indicate political discussions do occur over Twitter, and articulated sentiment has an impact on whether a statement is retweeted. Stieglitz and Dang-Xuan (2012) also find tweets are used for information sharing, direct communication, and found election discourse over Twitter to be dominated by a smaller number of influential users. Despite this presence of a smaller number of highly active users, political tweets were still reflective of election outcomes.

Studies have questioned the use of Twitter to describe political outcomes during elections. Junglier et al (2012) find fault with the method of data selection and analysis used by Tumasjan et al. Their evaluation questions how tweets were collected, the exclusion of a key political party, and the arbitrary time frame of analysis. Including a Pirate Party query and expanding the time frame by even one day would significantly alter the conclusions reached by Tumasjan et al. In "Limits of Electoral Predictions Using Twitter," Gayo-Avello et al. (2011) further elaborate the debate on how natural language processing of tweets reveals political election realities. The authors use two datasets from the United States' congressional elections and two textual analysis methods, frequency count and sentiment analysis, to evaluate the claim that Twitter can be used to predict elections. Results find both methods to be unreliable. Frequency count only correctly predicts winners half of the time. Sentiment analysis only slightly outperforms a random classifier in predicting voter preferences.

Moving beyond election predictions, Boutet et al. (2012), in a case study of the United Kingdom 2010 general election, substantiate a commonly held belief that Twitter is an echo chamber. Users were more likely to reference their own political party and retweets were highly segregated by political affiliation. Their paper also finds that certain users show preference for news sources based on political association. In addition to describing Twitter behaviors during election time, the authors test and compare classification methods, finding the Bayesian-Volume classifier to out-perform a Bayesian-Volume classifier, Bayesian-Retweet classifier, and a Support Vector Machine classifier in accuracy.

In *Cybering Democracy* (2002), Diana Saco theorizes what new forms of democratic sociality are made possible by new technologies. Using seminal theories of Lefebvre, Ardent, Barber, Habermas, etc., Saco identifies the touch points of technology and civics in the practice of democracy. She argues that cyberspace is not like all spaces, but it is an "other space" where mediated and meaningful social interaction can occur (xxv). Saco would extend Lefebvre's definition of (social) space as a (social) production to the Twitter cyber space. As micro-bloggers tweet their experiences and expectations on election day, Twitter becomes a lived space that reflects social and political realities.

Saco also reminds readers of the technical definition of virtual. She finds evidence that the virtual space of Twitter is a simulation of the democratic process; therefore, election tweets should

represent the social and political systems of identity and policy on election day in three emerging African democracies. While she does not argue that any reciprocal duties of communicative and deliberative democratic practice are evident over the Twitter dataset, her theory would support the claim that tweets do offer a cross-section of evidence towards democratic deepening.

## 4. COUNTRY POLITICAL BACKGROUND

Nigeria, Ghana, and Kenya are recently developing democracies. For Nigerians, the 2011 election was their third election since a democratic transition in 1999. Unhappily, these Nigerian elections have been plagued by violence and electoral misconduct designed to influence voting (Arowolo and Aluko 2012). Indeed, for many scholars, Nigeria is not considered a full democracy as election outcomes are often a product of electoral fraud, violence, and elite negotiation (Moller and Skaaning 2013). During the presidential elections in April, 2011, violence erupted in the North in response to the victory of the presidential incumbent, Goodluck Jonathan. Jonathan of the People's Democratic Party (PDP), a Christian from the South of the country, had as his major challenger Buhammadu Buhari, of the Congress of Progressive Change (CPC) and a Muslim from the North. The practice of closed power negotiation, as well as intermittent violence and coups, are rooted in the post-colonial elites' inability to construct inclusive citizenship (Abubakar 2000). Regional identity, derived from both religion and ethnicity, plays a dominant role in the Nigerian political sphere.

Ghana is considered the most stable democracy among these three country comparators. The 2012 National Election was the fifth time Ghanaians went to the polls to elect a president and parliamentary representatives. Historically, tribe, colonial legacy and uneven development have shaped and given power to identity in Ghana. But as Paul Nugent (2001) has explained, unlike Nigeria or Kenya, Ghana does not have the presence of large or dominant super tribes.[1] As early as the 2000 elections, Ghanaians began to move away from identity politics to vote for a candidate with political commitments to change, particularly with anti-corruption platforms. For the 2012 election, political analysts forecasted a close race between incumbent John Mahama of the National Democratic Congress (NDC) and Nana Akufo-Addo of the National People's Party (NPP). Even given Ghana's recent history, a close and high-stakes election could lead to candidates exhibiting opportunistic strategies of clientelism based on identity and, accordingly, discussion of identity politics could emerge.

Ethnicity has played a central role in Kenyan politics since independence. Daniel arap Moi dominated Kenyan politics as president from 1978 to 2002. While Kenyans went to the polls to vote during his twenty-four year reign, violence and electoral misconduct kept Moi in power (Bratton and Kimenyi 2008). In particular, during the nineties elections erupted in violence as political elites mobilized Kenyans to vote along ethnic lines. The 2002 election was noted as the most free and fair election in the nation's history and similar to Ghana, Kenyans demonstrated a move towards democratic deepening as opposed to identity politics when Mwai Kibaki's coalition government, made up of many ethnic groups, won (The Carter Center 2003). Five years

later, in the 2007 elections, the Kenyan Human Rights Commission (2011) reported that post-election civil unrest and violence resulted in the deaths of at least 1,300 Kenyans. According to the Commission, this violence was fueled by inter-ethnic cleavages and the identity politics of the two rival presidential candidates. Leading up to the 2013 elections, communities began arming themselves out of concerns of ethnic based violence most notably between supporters of the two leading candidates: Uhuru Kenyatta, a Kikuyu of the JUBILEE coalition and Raila Odinga, a Luo with the CORD coalition.

The three elections examined in this study represent the first time these countries have had national elections in the presence of substantial use of social media platforms. We hypothesize that the historical realities of these three new democracies, overviewed above, will inform their citizens' use of social media during the elections under consideration.

**Table 1: Election Data Summary**

| Country | Election Date | Data Acquisition Time Span | Twitter Reports |
|---|---|---|---|
| Nigeria Presidential | Apr 16, 2011 | April 15 7:00 AM - April 19 7:00 AM | 192,142 |
| Ghana General | Dec 7, 2012 | Dec 6 7:00 AM - Dec 10 7:00 AM | 320,789 |
| Kenya General | Mar 4, 2013 | March 3 7:00 AM - March 7 7:00 AM | 254,216 |
| Totals | | | 767,147 |

## 5. DATA

Data from Twitter was accumulated during national elections in Nigeria, Ghana, and Kenya. The dates of this data acquisition, along with other details of the data, are summarized in Table 1. The time spans for data acquisition start one day prior to the election, and includes election day and two days following. The data was accumulated using a social media aggregator tool, named Aggie, developed by the Technologies and International Development (TID) Lab at Georgia Tech. Aggie is designed to accumulate reports across multiple social media platforms (e.g. Facebook, Twitter, Google+), as well as RSS syndicated sites, and support real-time analysis, credibility checking, and response. Aggie has been successfully deployed in multiple elections including the three detailed in this paper.

In order to collect Twitter content focused on the election at hand, subject matter experts from each country developed a list of specific queries, listed in Table 2, that were then used to accumulate the tweet dataset via the public Twitter API. Subject matter experts, who were members of collaborating civil society groups with extensive knowledge in social media and Nigerian elections, received training in how Aggie collects social media reports and exercised autonomy in choosing queries. For this study, data originating from sources other than Twitter was removed, leaving just over 765,000 tweets across the three elections.

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[1]While the Akans make up a large ethnic group, the sub-groups of the Akan, including the Asante, Fantis, Akyems, and Brongs do not align themselves politically (Nugent 2003).

**Table 2: Queries Used to Gather Election Relevant Discussion over Twitter**

| Country | Queries |
|---|---|
| Nigeria | voting materials, ballot box, nigeria, corpers, inec, jega, nigeriadecides, nigeriaelection, nigeria vote, ballot box snatch, ballot box thugs, stuffing ballot box, voters register, violence lga, bomb nigeria, abuja, anambra, enugu, akwa ibom, adamawa, bauchi, bayelsa, benue, borno, cross river, ebonyi, ekiti, gombe, jigawa, kaduna, kano, katsina, kebbi, kogi, kwara, lagos, nasarawa, niger, ogun, ondo, osun, oyo state, plateau state, rivers state, sokoto, taraba, yobe, zamfara, polling unit, plessyahand, pressyahand, buhari |
| Ghana | ghana, ghanadecides, ghanaelection, NPP, NDC, ghana ballot snatching, ghana hate speech, ghana bloodshed, ghana police brutality, ghana minors voting, ghana war mongering, Kumasi, Manhyia, Bawku Central, Odododiodoo, Ashaiman, Okaikoi Central, Akwatia, Atiwa, western region, brong ahafo, tamale ghana, CPP, #PPP, CODEO, all die be die, mahama, nadaa, Akufo Addo, nduom, ghana EC, afari-gyan, ghana polling agent, ghana poll, ghana poll closed, ghana spoiled ballot, ghana spoilt ballot, ghana count, ghana registered, ghana not registered, ghana rejected, thumbprint, ede bee keke, ghana long queues, ballot stuffing, delayed voting, machomen, cutlass, double voting, ink ballot, verification vote, verification ghana, biometric verification, late closing, light off ghana, police headquarters, npp office, ndc office, presiding officer, zongo, machete ghana, machete elections, returning officer, election fighting, fax results, @JDMahama, @Nadaa2012, @joyonlineghana, @spyghana, @pkndoum, polling agents, Ghana rig, Ghana thieves, Ghana steal, Ghana stole, cheating Ghana, only in Ghana, save this country, preventing Ghana, ballot attack Ghana, do or die Ghana, looting Ghana, riot Ghana, ghana motorbikes, Ketu, voting materials, ghana mp, ghana death, ashanti region, eastern region, ghana results, ghana counts, blackout ghana, black out ghana, black out count, blackout count, petrol bomb kumasi, recount ghana, recount elections, credible results, credible result, credible election, disputed result, certified result, mensah |
| Kenya | kenyaelection, KenyaDecides, kenyadecides2013, kenyadecides13, kenyaelections, kenyaelections2013, kenyaelections13, uchaguzi, uchaguzi254, uchaguzibora, uchaguzisivita, uchaguzi2013, elections2013, Ke2013, KeDecides13, KeElections2013, KeElections13, nipeukweli, choice2013, decision2013, Odinga, Kenyatta, Ruto, Karua, Dida, Muite, Kiyiapi, Mudavadi, Maamuzi2013 |

Twitter is being used in these three countries by an expanding subset of people. While theories suggest that Twitter discussions will echo the general political discourses, it is clear that social media users in Africa represent a relative elite subset and so it is possible that Twitter data will be similarly biased. This paper does not try to generalize outside of the set of Twitter users and their discourses virtual and physical. However as social media use continues to grow, Twitter discourse will increasingly reflect most voices. Estimates of Twitter use range from 1% (1.8 million) in Nigeria (Schoonderwoerd, 2013) to 3 − 4.5% (up to 2.1 million) in Kenya (Kemibaro, 2014). Estimates are not available for Ghana.

## 6. METHODS

After each field deployment of the Aggie system, data (summarized in Table 1) was gathered and organized for offline access within a standard SQL database. We then performed text analysis, transformation, clustering, and visualization of the data using the Luminoso system. Luminoso is an analytics and information visualization software for natural language processing developed at the MIT Media Lab (Speer, Havasi, Treadway & Liberman 2010). Going beyond standard text analysis, Luminoso augments the textual dataset with common sense knowledge embedded in the ConceptNet semantic network. It then reduces the extraordinarily high dimensionality of this data space via singular value decomposition. Documents can then be visualized and manipulated as points within this dimensionality-reduced space. The two-step process, adding in a semantic network and then the reduction of dimensionality, has the effect of surfacing top *concepts* salient to the corpus. A concept might be a commonly repeated word (e.g. "vote" or "constituencies"), or a set of co-occurring words (e.g. "provisional results" or "let voters decide"), or it might even be a set of words that do not directly co-

occur in the study corpus but instead hold strong connections available through the semantic network.

Luminoso also allows users to study the corpus through queries of one or more words combined via disjunction or conjunction. These queries are not dissimilar to an advanced Google search. Luminoso reports a percentage of the documents in the corpus that are both exact and conceptual (via the semantic network) matches to the query. For example, we might query the corpus around religion by searching for the word "Christian" or the word "Muslim." Documents returned may contain exact matches of the word "Christian" or "Muslim" as well as tweets with words conceptually related through the semantic network such as "church," or "mosque." We use this query tool to extract from the dataset Twitter content indicative of deliberative democracy or of identity-focused discourse.

Political parties in Africa outline their campaign promises and policies in published documents called a manifesto; party manifestos are the most uniform and accessible material describing a candidate's campaign platform. For example, while a manifesto for each candidate in each election could be found and downloaded, media coverage or speeches made by candidates was not uniformly available. Party manifestos therefore served as a surrogate for the overall candidate platforms for the elections we studied. We acquired the party manifestos of the top two candidates running in each election. To systematically determine manifesto key terms, we removed stop words and generated bi-grams using the online platform, Lextutor. Stop words are extremely common words (such as "the" or "but") that offer little semantic value. A bi-gram is a string of two immediately co-located words in a text.

**Table 3. Manifest Bi-Gram and Identity Topic Term Queries**

| Country | Candidate, Party | Manifesto Bi-Gram Topic Terms |
|---|---|---|
| Nigeria | Goodluck Jonathan, PDP | iron steel, party government, human rights, public office, foreign policy, traditional rulers, nigerian culture, civil servants, encourage private, rule law, sustainable development, private entrepreneurs, police force, water transportation, rural areas, natural mineral, scientific technology, local production, primary education, participatory democracy |
| | Buhammadu Buhari, CPC | private sector, amend constitution, science technology |
| Ghana | John Mahama, NDC | national development, private sector, oil gas, basic education, social protection, job creation, creative industry, infrastructure development, long term, social compact, natural resources, technical vocational, security services, water resources, economic development, health care, youth sports, shea nut, traditional medicine, school children |
| | Nana Akufo-Addo, NPP | private sector, national development, economic growth, rural areas, transformation programme, good governance, quality education, road network, armed forces, long term, transformation agenda, fight corruption, raw materials, human rights, science technology, national youth, anti-corruption, development planning, natural resources |
| Kenya | Uhuru Kenyatta, JUBILEE | economic growth, county governments, coalition government, county level, renewable energy, coalition partners, young people, private sector, natural resources, community land, economic development, water supply, secondary schools, power supply, subsistence farming, vision 2030, tax incentives, primary school, transformation leadership, security forces |
| | Raila Odinga, CORD | private sector, county governments, health care, infrastructure development |

| Country | Identity Topic Terms |
|---|---|
| Nigeria | tribe, hausa, fulani, yoruba, igbo, ibo, south, north, east, west, Christian, Muslim, Boko Haram |
| Ghana | tribe, akan, mole-dagbon, ewe, ga-dangme, gurma, Ashanti, Brong Ahafo, Central, Easter, Greater Accra, Northern, Upper East, Upper West, Volta, Western, Christian, Muslim |
| Kenya | kikuyu, luhya, luo, kalenjin, kamba, central, coast, masai, eastern, nairobi, north-eastern, nyanza, rift valley, Christian, Muslim |

With stop words removed, bi-gram analysis returned a list of the most frequently mentioned word pairs which we found generally related to policy issues. The top of Table 3 provides a list of the (at most) twenty common bi-grams for each manifesto. We include all bi-grams mentioned at least three times in the manifesto and due to the short length of some manifestos, not all documents yielded twenty top bi-grams. In our analysis, these top word pairs from the party manifesto, or our *policy term sets,* are used as surrogate indicators of policy relevant content among the tweets.

To complement our policy relevant term sets, we also need to develop a collection of queries that will indicate identity focused discussions. We developed these *identity term sets* by simply listing the terms associated with the relevant tribal or ethnic groups, religion, and geopolitical region specific to each of the three nations (Table 3 bottom). The five largest tribal groups listed in the CIA World Fact Book constituted the ethnic identity terms. Christian and Muslim were included as religious identity terms. Geopolitical regions were sourced from the countries' administrative boundary terms.

Using Luminoso, we extracted discussion of policy and identity in the Twitter dataset by applying the policy and identity term sets as queries. These queries return two valuable statistics, a count of exact and conceptual (semantic network) matches among the tweets along with the percentage of the tweets that contain the exact and conceptual matches. Luminoso also provides a sample of fifty tweets that match the query. Upon inspection we found that conceptual matches (via the semantic network) were not always relevant. For this reason, the samples of fifty tweets were hand tested for relevancy.

For example, the bi-gram "quality education" was mentioned seven times in the Ghanaian National People's Party manifesto and thus this word pair was one of our policy term sets. A query for "quality education" returned exact matches as well as conceptual matches of discussion on education policy; discussion of free tuition to secondary school, or Senior High School was very prevalent. These tweets may not include the exact term "quality education," but instead "SHS" or "4yrs," which are terms often tweeted by individuals discussing education policy, specifically the NPP's promise of four years of free Senior High School. In this case, Luminoso properly identified conceptual

matches to a policy query. In contrast, the policy query "iron steel," a bi-gram repeated seven times in the Nigerian People's Democratic Party manifesto, resulted in exact and conceptual matches of irrelevant mentioning of metals and minerals of no pertinence to the election. For policy queries, matches were hand-marked as relevant if they pertained to a discussion of policy, campaign platforms, or change expected with the election. We classified each of the fifty tweets as relevant or irrelevant and in Table 4 (top) we report the percentage of the hand tested sample deemed relevant to policy discourse.

Identity queries were classified as relevant if they pertained to a specific ethnic, religious or regional groups' voting or a certain party or candidate aligning with a certain ethnic, religious, or regional association. Even a tweet advocating against identity politics such as voting or political participation based on religious or ethnic association was considered relevant because it still indicates discussion of identity as opposed to policy. Only tweets with an exact match are reported for ethnic and geopolitical queries because our hand inspection revealed that Luminoso returned consistently unrelated conceptual matches, particularly those related to tribal names.

If more than half of the sample returned by a particular query can be classified as relevant, we report it as a policy or identity based discussed by citizens during the election. Finally, we compute an estimated projection of the total number of relevant tweets per topic by multiplying the relevance percentage score times the number of exact and conceptual matches.

# 7. FINDINGS

## 7.1 Nigerians on Twitter

Only two of twenty-three policy queries returned any tweets in the Nigeria dataset. The two policy queries that did return tweets ("participatory democracy" and "primary education") were only barely relevant, with fifty and fifty-seven percent of the hand tested sample coded as relevant to the policy terms. "Participatory democracy," which came from Goodluck Jonathan's manifesto, did reveal an intense discussion around democracy. This democratic fervor was not specifically related to Goodluck Jonathan, but instead discussed support for good governance generally post-election and what one tweeter referred to as "real democracy." The second policy topic, "primary education," also came from the party manifesto of Goodluck Jonathan. Compared to Ghana and Kenya, the Nigeria Twitter set returned the least number of tweets related to their political party manifestos. In contrast to policy discussions, the number of tweets returned based on identity queries show that Nigerian citizens engaged in considerable discussions around issues of identity. Indeed, overall the projected number of tweets discussing identity is double the number of tweets of policy queries (4014 versus 8323). Accordingly, Nigerians on Twitter were twice as likely to discuss identity over policy during election time.

## 7.2 Kenyans on Twitter

The Kenyan dataset showed a slightly greater intensity of relevant policy discussion than the Nigerian data set. Compared to the two policy queries that returned relevant tweets from the Nigeria data set, three policy queries returned relevant discussion in the Kenyan tweets. The three relevant policy term sets for Kenya are "economic growth," "transformational leadership," and "vision 2030." All three of these bi-grams are from the Jubilee Alliance or TNA party manifesto, whose presidential candidate was Uhuru Kenyatta, who went on to win the election. Of these three, Kenyans on Twitter primarily discussed the policy term sets

"economic growth" and "transformational leadership." Upon inspection of the relevant tweets, we noticed mostly a general desire for future economic growth and stronger political leadership. These general calls for economic or political change are similar to tweets from the Nigerian election. In Kenya, ethnic identity queries, not religious or geopolitical, were the only identity based queries to return relevant results. Similar to the Ghanaian results discussed below, the geopolitical queries only returned tweets and re-tweets of voting tabulation results by region and some tweets indicated party strongholds or a clear expectation of which candidates would carry which regions. In comparison to the policy topics, Kenyan identity based discussions are much quieter and much less intense than Nigeria's.

## 7.3 Ghanaians on Twitter

In the Ghanaian Twitter dataset, six policy term sets derived from candidate manifestos returned relevant tweets. The six relevant policy queries are, "quality education," "fight corruption," "infrastructure development," "school children," "economic development," and "good governance." The NPP actively promoted education, specifically free tuition for Senior High School, as a major priority of their campaign platform. Policy relevant discussion of educational policy over Twitter often focused on this issue, e.g. "Think abt other people...the fact dat u rich doesnt mean free shs [Senior High School] isnt necessary. Those kids u see outta sch[ool] need to go back so vote npp." We estimate that the Ghana dataset has over twenty-nine thousand tweets discussing educational issues. Just this one policy query has five times more estimated tweets associated with it compared to all of the policy discussion found in the Kenyan dataset. In contrast, a very small portion of the Ghanaian tweets show discussion of tribal identity. The Ewe and the Ashanti speaking Akan tribes were most commonly mentioned. Most of the geopolitical queries returned matches of election tabulation results and re-tweets of vote counts by region. However, a search for the Volta Region alone returned a largely re-tweeted statement that made a joke of how the NPP would have to change their party symbol in order to gain votes in the region.[2] Religious identity does not seem to play a prominent role in the election oriented Twitter-sphere in Ghana, as religious terms did not return election relevant tweets. Overall, in Ghana policy discussions were much more prevalent than identity politics.

# 8. DISCUSSION AND CONCLUSIONS

Table 5 below summarizes the relative degree of policy and identity discourse occurring over twitter for the three national elections. We estimate that 13% of the Ghanaian dataset is policy relevant compared with just 2% of Nigeria and Kenya. And while Ghana and Kenya had roughly similar percentages of identity tweets in their datasets (2%), Nigeria had twice as much identity-focused discourse (4%).

Scholars of democracies, Moller and Skaaning (2013), have developed a dataset, which categorizes regime types during the recent wave of state democratization. According to their work, Nigeria and Kenya are classified as multiparty autocracies.

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[2] "NPP are considering changing its symbol from an ELEPHANT to a CAT so they can win some votes in the Volta Region"

**Table 4: Policy and Identity Query Results**

| Country | Policy Term Set | Hand Coded Relevance | Number of Exact Matches | Number of Conceptual Matches | Percent of Total Country Data | Projected Number of Relevant Tweets |
|---|---|---|---|---|---|---|
| Nigeria | Participatory democracy | 50% | 728 | 4,744 | 2.90% | 2,736 |
| | Primary education | 57% | 421 | 1,821 | 1.20% | 1,278 |
| | total | | | | | 4,014 |
| Ghana | Quality education | 100% | 191 | 22,992 | 7.20% | 23,183 |
| | Fight corruption | 100% | 1,407 | 297 | 0.50% | 1,704 |
| | Infrastructure development | 77% | 441 | 1,493 | 0.60% | 1,489 |
| | School children | 71% | 2,165 | 4,854 | 2.20% | 4,983 |
| | Economic development | 65% | 31 | 3,244 | 1.30% | 2,129 |
| | Good governance | 55% | 9,364 | 5,141 | 4.5% | 7,978 |
| | total | | | | | 41,466 |
| Kenya | Economic growth | 88% | 31 | 3,244 | 1.30% | 2,882 |
| | Transformational leadership | 84% | 252 | 2,034 | 0.90% | 1,920 |
| | Vision 2030 | 63% | 83 | 1,706 | 0.70% | 1,127 |
| | total | | | | | 5,929 |
| **Country** | **Identity Term Set** | | | | | |
| Nigeria | tribe, hausa, fulani, yoruba, igbo, ibo, ijaw, kanuri, ibibio, tiv | 90% | 1,198 | NA | 0.63% | 1,078 |
| | South, North | 100% | 4,861 | NA | 2.56% | 4,861 |
| | Christian, Muslim | 100% | 1,229 | 1,155 | 1.30% | 2,384 |
| | total | | | | | 8,323 |
| Ghana | tribe, Akan, mole-dagbon, ewe, ga-dangme, gurma, grusi, mande-busanga | 96% | 200 | NA | 0.06% | 192 |
| | Ashanti, Brong Ahafo, Central, Easter, Greater Accra, Northern, Upper East, Upper West, Volta, Western | 29% | 2,669 | NA | 0.83% | 774 |
| | Volta alone | 100% | 4,606 | NA | 1.40% | 4,606 |
| | Christian, Muslim | 57% | 140 | 793 | 0.30% | 532 |
| | total | | | | | |
| Kenya | kikuyu, luhya, luo, kalenjin, kamba, kisii, meru | 94% | 1,404 | NA | 0.55% | 1,320 |
| | Central, Coast, Masai, Eastern, Nairobi, North-eastern, Nyanza, Rift Valley | 35% | 7,786 | NA | 3.06% | 2,725 |
| | Christian, Muslim | 29% | 31 | 1,097 | 0.40% | 327 |
| | total | | | | | 4,327 |

**Table 5. Country Comparison of Political Discussion versus Identity Discussion**

| Country | Projected Number of Tweets Relevant to Policy Terms | Policy Percentage of Dataset | Projected Number of Tweets Relevant to Identity Terms | Identity Percentage of Dataset |
|---------|------|------|------|------|
| Nigeria | 4,014 | 2.09% | 8,323 | 4.33% |
| Ghana | 41,466 | 12.93% | 6,104 | 1.90% |
| Kenya | 5,929 | 2.33% | 4,372 | 1.72% |

Moller and Skaaning describe a multiparty autocracy as a regime with weak civil liberties and political rights indicators but with more than one party represented in government. And while elections are held, they are not considered truly competitive. This may help explain why policy discourse is less intense in the Nigerian and Kenyan Twitter dataset. Elections may appear to be free and fair, but outcomes are known before ballots are cast. Citizens are perhaps less likely to debate and defend a policy stance when elections feel rigged.

Nigerians on Twitter seem to be aware of falling short of full democracy and indicate fervor for democratic deepening. Instead of discussing specific policies, Nigerians share beliefs on the quality of democracy and governance. For example, one Nigerian tweets, "We can pretend bad governance does not affect us, we are cool people. But as long as u r alive, bad governance affects u! #NigeriaDecides." Another tweet states, "Jonathan in high spirit. Nigeria cannot afford to impose on herself a non-democratic person when her citizens are hungry for food & freedom." The following tweet demonstrates an excitement for the democratic process, "In my family, everyone. Is voting different candidates! Now that's democracy... :D #Nigeriadecides." Despite these and many other examples of calls for democratic deepening, discussion of democracy in Nigeria and Kenya is dominated by discussion of ethnic, geopolitical, and religious identity.

Ghanaians on Twitter are much more engaged in discussions around campaign platforms. This finding is perhaps expected due to Ghana's higher ranking of democracy. Moller and Skaaning (2013) classify Ghanaian democracy as a polyarchy, a democracy with legitimate elections where citizens also enjoy political rights and civil liberties. The relatively greater intensity of political discussion may be due to active Ghanaian political parties. Many researchers highlight the role of political parties in supporting a robust democracy (Key 1958, Stokes 1999, Aldrich 1995, Linz and Stepan 1996). During election time, parties do the important work of translating the public's demands and priorities into a policy agenda. The Ghanaian's desire for access to education, revealed on Twitter, is indeed reflected in the promise of free tuition, which was a position of the NPP. And as was also true for Kenya and Nigeria, the top two most popular policy queries were both term sets from the winning party's platform. Perhaps not coincidence, rich and robust discussion around a party's particular policy position may indeed translate to votes at the polls.

Turning now to identity, in Nigeria division between a predominantly Muslim Northern region and Christian South dates back to pre-colonial era, and was only intensified by the English (Lenshie and Abel 2012). This legacy continues to dominate conversations of national identity in the public sphere (Alubo 2011). In the Twitter data, Nigerians discuss identity, particularly geopolitical and religious identities, with greater intensity than they discuss policy. Examples of tweets focused on identity include, "it seems the country is voting along religious and ethnic sentiments....sad ...#nigeriadecides" or the commonly retweeted joke "Mayb wht Nigeria nids is a prsidnt who's a half Igbo-half Hausa Muslim; Brn n raised in the Niger Delta with a Yoruba Wife." While Kenya's discussion of identity on Twitter takes different form and is significantly quieter than Nigeria, political scientist Ogude (2002) notes that Kenyan politicians use ethnic identity to foster political loyalty. Politics are charged with tribal identity, particularly affiliation with the Kikuyu and Luo tribes. For the 2013 election, a major debate was over land holdings, which have fueled ethnic tension (Flood 2013). While scholars claim that tribal politics no longer play a prominent role in Ghanaian elections, discussion of tribes and regions is present at about the same level as within the Kenyan dataset. The most commonly discussed identity relates to the Akan tribe as well as the Ashanti and Volta region, where tribes do indeed tend to vote along long standing ties with the two major Ghanaian political parties. Religion was not a prominent source of identity politics in Ghana or Kenya. This is most likely due to a large majority Christian population in both countries. With seventy-four percent Christian in Ghana and eighty-two percent Christian in Kenya religious identity is less likely to be source of political division. Comparatively, fifty percent of Nigerians are Muslim and forty percent are Christian (CIA World Factbook).

Returning to Table 5, the relative prevalence of discussions of policy material versus identity politics demonstrates that citizens in Ghana, the highest ranked democracy of the three, tweeted more frequently about the campaign manifestos of Presidential candidates. This suggests that as democratic deepening occurs, citizens do engage in more discussion of policy on election day, and they are using Twitter to do so. In Nigeria, where identity is fiercely present and observed, discussion of North versus South overwhelms the policy debate; Twitter seems to clearly reflect this quality of the sociopolitical landscape.

While some consider social media as a politically useless echo chamber, lacking reasonable discourse, political parties and candidates should take note that in all three countries, the most discussed policy material was of the winning candidate's party, even in highly contested elections.

Most scholars are in agreement that social media has yet to cause a power shift in politics. Emerging research on the political impact of ICT tools in developing countries find intermediaries to play an important role in engaging with citizens using new technologies. The existing political structure of parties and elections may be viewed as an important intermediary in developing social media as a space for power shift through social

engagement. In each election, the most discussed manifesto topics were from winning candidates' campaign platforms. This finding may indicate that citizens on Twitter respond positively when political parties correctly envision the public's desires in their policy platforms. To engage in a more deliberative process, political parties can use social media to identify voters' priorities and open up the ideation phase of a party policy, using new, networked technologies as tools for substantive democracy. This identifies political parties as key intermediaries in realizing political development through the use of ICTs. While Twitter can serve as a public space for divisive hate speech, Nigerian, Ghanaian, and Kenyan citizens are beginning to use the platform to advocate for democratic values and engage in deliberative democracy.

## 9. ACKNOWLEDGMENTS

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