Universität Koblenz-Landau

Proposal for a Seminar

Reference Paper:

Identifying Political Influentials and Opinion Leaders on Twitter

(Dubois & Gaffney, 2014)

Proposed Work:

Identifying the Right Influencer to change opinion

Rakshitha Gnanasekaran

(rgananseka ran@uni-koblenz.de)

Supervised by :

Dr Oul Han

Introduction:

In today's era, social media has become a mainstream source due to its low cost and easy to access nature. There are monthly two billion active users on Facebook[1] and about 330 million on Twitter[2]. Thus, micro-blogs like Twitter or Facebook are utilized as a major source of news information, especially political news. Studies show that 65% of US adult population accesses news through their social media (Anderson and Caumont, 2014) while the time spend overall on these platforms continues to increase[3].

In these recent years, it is has been observed that social media is used as a powerful medium during election campaigns (Hong and Nadler, 2011). Tumasjan, et al., 2010 studies that Twitter has become a legitimate powerful communication channel during election campaigns. This is mainly due to the features like "retweeting" which allows easy diffuse of the news (Tumasjan *et al.*, 2011). There are various political players like politicians, journalist, commentators who are involved in political discussions (Dubois and Gaffney, 2014). But with, the proliferation of digital technology even average citizens can take part in these political discussion (Dubois and Dutton, 2012). Each of these political players tries to influence others. According to the Cambridge Dictionary, the word 'influencer' is defined as "a person to cause someone to change a behavior, belief, or opinion"[4]. There are two theories that emerges on how an individual can influence: Opinion leaders also called as local influencers are influencers who influence his/her personal network using social support and global influencers influence his /her network by broadcasting message. One doesn't become an influencer accidentally or spontaneously but with collective effort (Cha *et al.*, 2010).

Opinion leaders are vital, as they dissipate message to a wider community who doesn't follow message from global influencers. Opinion leaders are knowledgeable and trustable and play an important role in political discussion (Katz, Lazarsfeld and Roper, 2017). Dubois and Gaffney (2014) studied various aspects of opinion leaders. Their studies suggest that opinion leaders have a large number of followers, are seen as an expert, and have a good position in their community. Katz & Lazarsfeld (1955) proposed the Two-step hypothesis which argues that most people form their opinions under the influence of opinion leaders, who are in turn influenced by the global influencers. Identifying global influencers is not so crucial as they influence only a small network of people who are usually opinion leaders (Zuckerman, 1996). To understand how the political system works it is important to understand how these political players interact. To study this, the seminar paper tries to answer the question "Who are the top 20 most influential political players in the 2019 UK general election within the conservative Political community on twitter?".

The literature review outlines the conceptual idea of global influencers and opinion leaders. To investigate the most common way of identifying these political players study was conducted

[1] https://about.fb.com/company-info/
[2] https://www.statista.com/statistics/282087/number-of-monthly-active-twitter-users/
[3] https://www.socialmediatoday.com/marketing/how-much- time-do-people-spend-social-media-infographic
[4] https://dictionary.cambridge.org/dictionary/english/influencer

on the latest well-known European election: UK 2019 election. British are among the highest internet users in the world[5], which helps in making a comprehensive study in a digital environment. Twitter is selected as it is popular among them[6], and it provides a clear set of boundaries for data collection (Dubois and Gaffney, 2014).

Approach:

A community can be influenced by influencers who are either global influencers or opinion leaders. The global Influencers are identified using network metrics like Indegree and Eigenvector centrality. By studying these metrics, we can identify which node (person) has a larger indegree (number of followers), and which of these nodes have popular followers following them (Dubois and Gaffney, 2014).

According to Katz and Lazarsfeld (1955), influencing people through Opinion leaders follows 'Two-step flow hypothesis'. They argued that global influencers influence small network of people: opinion leaders, and opinion leaders aims on how news flow to their local community. Figure 1 illustrate how this hypothesis works. At first direction global influencers like mass media, Twitter, Politicians influence opinion leaders and in the second direction these opinion leaders influence their community, thereby influencing wider network of people (Bakshy *et al.*, 2011). It is studied that global influencers provide information at first hand to the opinion leaders (Dubois and Gaffney, 2014). This two-step hypothesis has been tested with multiple settings by modifying the steps (Katz, 1957). It is been tested by combining with theories like agenda setting - mass media filters and shapes out what we see (Brosius and Weimann, 1996), and with theories applying it on digital media (Norris and Curtice, 2008). Andersen et al (1996) studied about the importance of identifying the global influencers and inferred that global influencers are less important in political discussions as they dissipate only to a small network, but they are crucial for veracity of information (Andersen, Huckfelt and Sprague, 1996). In recent advancement of technology various players use variety of tool for political discussion (Chadwick, 2011). Hence in today's hybrid environment, political players like average users, politicians, media can reply, respond, ask questions, broadcast or even post links to interact. It is very difficult to describe which of the players are influencers or opinion leaders. It can be problematic because it is difficult to distinguish the structure of social connection or strategies that are necessarily unique to influencers (Dubois and Gaffney, 2014). To address this issue, various metrics are used to identify influencers. The most common yet a labor-intensive method is the Two Step flow hypothesis, where people are questioned who they are influenced by and whether they believe that they can be an influencer. But with recent studies influencers are identified by determining the number of followers a particular person has, the number of tweets he/she has tweeted (Cha *et al.*, 2010) and how far the message has been dissipated - retweet (Rattanaritnont, Toyoda and Kitsuregawa, 2012). The facet of influence that Dubois and Gaffney (2014) rely on in identifying influencers are their followers count. The most common approach that is used to study about influencers are their positions in the network

[5] https://www.statista.com/topics/3246/internet-usage-in-the-uk/
[6] https://www.statista.com/statistics/242606/number-of-active-twitter-users-in-selected-countries/

(Gruzd and Roy, 2014). This seminar paper uses approaches defined by Gruzd (2014) and Dubois (2014) to study various political players involved in changing people's opinion.

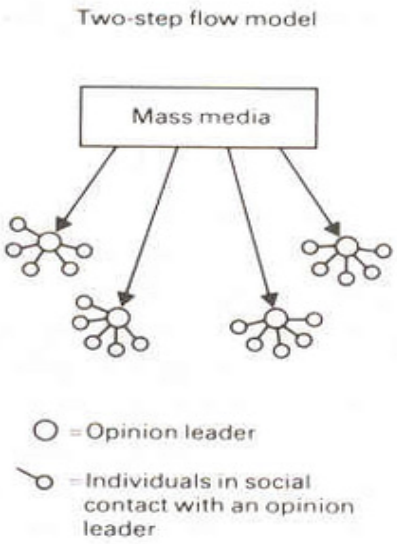

FIGURE 1 TWO STEP FLOW HYPOTHESIS.(KATZ, LAZARSFELD AND ROPER, 2017)

Network metrics like local clustering coefficient can be used to identify opinion leaders. These opinion leaders have a very low clustering coefficient in wider network because they follow global influencers (Dubois and Gaffney, 2014), making global influencers have a higher clustering coefficient. So, by removing these global influencers from the network, the clustering coefficient of the real opinion leaders increases. The user who has the highest clustering coefficient has access to all information and positioned in a way he/she can dissipate more information hence making him/her a local influencer. The global influencers are removed based on a threshold. This threshold is not an arbitrary figure, rather determined with respect to all the eigenvector centrality scores within the network.

To identify influencers and opinion leaders in 2019 UK elections, about 450000 Tweets with hashtags #VoteConservative, #GetBrexitDone and #RealChange, #ForTheManyNotTheFew, #VoteLabor12December are collected. A base index of about 3500 users are created for both Conservative and Labour party. A network graph is created where each node represents a user and their edges represents followers. To answer the research question, 3 metrics are applied: Indegree: It is expressed as a number of directed edges pointing towards a particular node. In other words, influential players have a greater number of people connected towards them. Eigen Vector Centrality: It expresses the importance of a node. In other words, it is a measure of importance a person has on his/her community depending on who he is followed by. For example, a person with 300 unpopular followers will have low eigenvector centrality than someone with 300 popular followers like Boris Johnson. Clustering Coefficient: It expresses how well the community is connected. To identify various political players – media, journalist, politician and average citizen, top 20 users from these 3 metrics are manually examined.

Result:

Table 1 shows the top 20 global influencers in 2019 UK election. To study global influencers two network metrics are used. The network metric, indegree explains the number of followers a particular player has. Though indegree measures the level of influence, it is not very accurate as it just finds the most popular player rather than influential player (Cha *et al.*, 2010). Eigenvector centrality provides an accurate measure of influence as it calculates the score depending upon two criteria: the number of followers and who he/she is followed by. When an influential person like Boris Johnson is connected to a player, he/she has a high score than the player who is connected to an average user. From Table 1 one can see that Global influencers are usually Politicians, Media, or Journalist. This result also supports Two Step flow hypothesis. From rank 15 – rank 18 one can understand that even average users can be global influencers. @HHepplwhite, who is an average user was considered influential than @Sajidjavid, who is a politician. This is explained by the following reasons: These average users have many followers as well as they have powerful political players like politicians and media following them.

Table 1 Global Influencers

Metric	Indegree		Eigenvector	
Community	Conservative		Conservative	
Rank	User	Political Player	User	Political Player
1	BorisJohnson	Politician	BorisJohnson	Politician
2	Conservative	Politics	Conservative	Politics
3	patel4witham	Politician	SteveBakerHW	Politician
4	SteveBakerHW	Politician	Patel4witham	Politician
5	DominicRaab	Politician	StandUp4Brexit	Media
6	JamesCleverly	Politician	DominicRaab	Politician
7	Andrealeadsom	Politician	DanielJHannan	Politician
8	StandUp4Brexit	Media	AmandeepBhogal	Politician
9	Sajidjavid	Politician	Andrealeadsom	Politician
10	DanielJHannan	Politician	OwenPaterson	Politician
11	MoggMentum	Politician	MoggMentum	Politician
12	AmandeepBhogal	Politician	JamesCleverly	Politician
13	Tomhfh	Journalist	Tomhfh	Journalist
14	OwenPaterson	Politician	GiftCee	Politician
15	CCHQPre	Media	HHepplwhite	Average User
16	MPlainDS	Politician	MannersJack	Average User
17	NadineDorries	Politician	EssexPR	Average User
18	Trussliz	Politician	PatWill97926440	Average User
19	MattHancock	Politician	Sajidjavid	Politician
20	HHeppelewhite	Politician	Andybrexiteer	Average User

Table 2 points out the top 20 local influencer by calculating the clustering coefficient. By analysing these nodes, one can see that these top 20 users are not global influencers like media, politician, political party or journalist. These users are well positioned to influence locally. These local community can also be quite small (Dubois and Gaffney, 2014), meaning the users can have a low number of followers. To avoid this kind of discrepancy in the result, a minimum threshold is set. Before applying a threshold, users had an in-degree score from 0 to 5. Table 2 is obtained by using a minimum in-degree level of 10 (Cha *et al.*, 2010).

Table 2 Opinion Leaders

Metric	Clustering Coefficient		
Community	Conservative		
Rank		Rank	
1	A48percenter	11	Kenpyrah
2	Stevieinselby	12	Mambear04
3	DavidLance3	13	HammerrKath
4	Robotmummy2000	14	KSouzai
5	Marshall_proEU	15	KimFerg583487
6	JulieAForshaw	16	KimFerg583487
7	AnnaAnnaou	17	Nancyholiday
8	Dance_daffodil	18	chris_traynor
9	WellGreenBarn	19	julian47hill
10	jentoo44	20	Paulhar043055

Conclusion:

The main focus of this seminar paper was to understand how political players interact, which is studied by using three network metrics. Content analysis from both the tables was large enough to provide a variety of political players but it wasn't large enough to provide a meaningful qualitative analysis and also lines with the past study done by Cha (2010) which was also about influencers on Twittersphere. This seminar paper shows that global influencers are usually politicians, media or journalist in Twittersphere and are identified using eigenvector centrality and indegree. However, the obtained result had 5 average users who were also global influencers. This can be because they were followed by highly influential players. The result is also supported by Katz (1995), the Two-step hypothesis (Figure 1). By considering how socially embedded a user is within his/her tightly knit community, opinion leaders can be identified using clustering coefficient. Unlike journalists and politicians, who have network-wide influence, opinion leaders are average citizens and influence those in their personal network. They take advantage of their position in their network. When we look in-to the Two-step hypothesis, we understand that Global influencers directly influence a small network of players. This small network of players are opinion leaders who influence a wider network (Bakshy *et al.*, 2011). So a future study can be done on an interesting question "Why not politicians target opinion leaders to influence his/her tightly knit community to win an election efficiently?".

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