The use of Twitter as a tool to predict opinion leaders that influence public opinion: Case study of the 2016 United State presidential election

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Total SM users in the world on by the year 2020 is expected to reach 2.95 billion users that is about one third of Earth’s total population.

Twitter alone averaged 305 million active users monthly

Social media shaped the communication channels it is today used by governments, and politicians to reach, Influence users and learn information about them

Several scholars have argued that SM such as Twitter are playing a major role in political communication like that played by the traditional media

The Barack Obama 2012 presidential campaign is the best example of this phenomenon. In the 2012 election, candidates Obama and Mitt Romney demonstrated a new way to use SM as a tool to influence public voting
**INTRODUCTION: BIG DATA**

*Big Data* is the scientific and popular term of the massive data from social media.

*Big Data* in simply small data but bigger in size.

*Big Data* is a major factor that has contributed to changes for the whole world.

During the past few years, *Big Data* has started to grow and to attract attention by almost every field.

Discovering *Big Data* patterns and understanding the reasons behind these patterns allows many information professionals and specifically politicians to gain access to valuable information.
INTRODUCTION: OPINION LEADER

Opinion leadership are an individual’s ability to influence others’ behaviors and attitude.

Opinion leaders have easier access to information, and they can use this information to influence other users.

Opinion leaders Characteristics:

- Innovative individuals
- High social status
- Highly involved
- Large number of social connections
PROBLEM STATEMENT

There is very little understanding of the types of Twitter users and the nature of their relationship in the Twitter network.

There is a knowledge gap in the literature concerning the role and impact of Twitter opinion leaders when they participate in political election discussions.

This study investigated the effectiveness of using Twitter as a tool for predicting political elections and opinion leaders in the 2016 United States presidential election.

This study addresses two main research questions, investigating the types of users that interacted in the context of the United States presidential election, and exploring the influence of the opinion leaders in the United States presidential election.
METHODOLOGY

A mix method approach was used consisted of a network analysis and content analysis

Population consists of the active Twitter users involved in the American President election discussion using the hashtag #Election2016

#Election2016 have reached 340,023 Twitter users

The data collected included 18,000 Tweets and a total of 3400 Twitter accounts/users

The data measured was divided into two stages: First to discover the opinion leadership by measuring the In-Degree; Second is the involvement and identity of the top ten Twitter users with high In-Degree centrality
**NETWORK ANALYSIS: NETWORK COMPONENTS**

<table>
<thead>
<tr>
<th>Network Components</th>
<th>Definition</th>
<th>Shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertices (Nodes/Agents/Entities/Items)</td>
<td>People, workgroups, teams, organizations or social network users</td>
<td>![Vertex Shapes]</td>
</tr>
<tr>
<td>Edges (Ties/Links/Relationships/Connections)</td>
<td>The lines and arrows indicating the relationship between nodes</td>
<td>![Edge Arrows]</td>
</tr>
</tbody>
</table>

(Hansen, Shneiderman, & Smith, 2011)
## NETWORK ANALYSIS: NETWORK METRICS

<table>
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<tr>
<th>Network Metrics</th>
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<tr>
<td><strong>Degree</strong></td>
<td>A simple count of the total number of connections linked to a vertex</td>
</tr>
<tr>
<td><strong>In-Degree centrality</strong></td>
<td>Measures the number of edges (relation) directed toward the nodes (users)</td>
</tr>
<tr>
<td><strong>Betweenness Centrality:</strong></td>
<td>A measure of how often a given vertex lies on the shortest path between two other vertices</td>
</tr>
<tr>
<td><strong>Closeness Centrality:</strong></td>
<td>Capturing distance between a vertex and every other vertex in the network</td>
</tr>
</tbody>
</table>

(Hansen, Shneiderman, & Smith, 2011)
NETWORK ANALYSIS: #ELECTION2016
RESULTS: TWITTER USERS TYPES

Regarding the first research question, the data were filtered and analyzed, a process which eventually concluded with the top 100 nodes with high In-Degree.

The results indicated that the majority of the nodes were individuals.
RESULTS: TWITTER USERS TYPES

The users were divided into two groups:

1. Individuals that consists of
   - GENERAL USERS
   - ELECTION CANDIDATES
   - JOURNALISTS

2. Organization that consists of
   - NEWS AGENCIES
   - ELECTION CAMPAIGNS
   - CONSULTING COMPANIES
RESULTS: 2016 USA ELECTION OPINION LEADERS

Regarding the second research question, the In-Degree centrality was used as an indicator of the opinion leadership in this network.

The higher In-Degree centrality of a node, the more central the node location in the network is, the more trust, power, and authority.
## RESULTS: 2016 USA ELECTION OPINION LEADERS

<table>
<thead>
<tr>
<th>Nodes (Twitter users)</th>
<th>In-Degree</th>
<th>Type</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bernieverse</td>
<td>240</td>
<td>Organization</td>
<td>Election Campaign</td>
</tr>
<tr>
<td>Lindasuhler</td>
<td>153</td>
<td>Individual</td>
<td>General User</td>
</tr>
<tr>
<td>Realdonaldtrump</td>
<td>112</td>
<td>Individual</td>
<td>Election Candidate</td>
</tr>
<tr>
<td>Prinsesachinita</td>
<td>104</td>
<td>Individual</td>
<td>General User</td>
</tr>
<tr>
<td>CNN</td>
<td>98</td>
<td>Organization</td>
<td>News Agency</td>
</tr>
<tr>
<td>Wessmith123</td>
<td>98</td>
<td>Individual</td>
<td>General User</td>
</tr>
<tr>
<td>Shooters_Wife</td>
<td>96</td>
<td>Individual</td>
<td>Journalist</td>
</tr>
<tr>
<td>Foxnation</td>
<td>83</td>
<td>Organization</td>
<td>News Agency</td>
</tr>
<tr>
<td>Hillaryclinton</td>
<td>65</td>
<td>Individual</td>
<td>Election Candidate</td>
</tr>
<tr>
<td>Opaiiya</td>
<td>43</td>
<td>Individual</td>
<td>Journalist</td>
</tr>
</tbody>
</table>
RESULTS: 2016 USA ELECTION OPINION LEADERS NETWORK
given the diversity of the occupations held by the nodes, the results do indicate that a user with a specific occupation is more likely to be the opinion leader.

A very crucial Finding is how important the role of the general Twitter users in a political discussion is.

The result of this study will help the general user understand their position in the election process, and if they are affecting the election outcome.

The findings can be a guide line to any future or current political candidate to understand how to use Twitter and how effective is this tool reach and effect the voters’ opinions.

The result can help the winner or the loser of the election to rethink their approach strategy or even strengthen it.

The findings of the study showed how important and useful is SM analysis and Big Data, and the endless way to use this vast amount of data.
FINAL THOUGHTS

Would President Donald Trump have Won the Election if he did not use social media the way he did?

“When somebody says something about me, I am able to go bing, bing, bing and I take care of it. The other way, I would never get the word out.”

“I doubt I would be here if it weren’t for social media, to be honest with you.”

Donald Trump, Fox Business Network channel, 22 October 2017
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