

Analyzing Indian General Election Using Google Trends

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Executive Summary

Analyzing the opinions, sentiments, political preferences and understanding the inclinations of the people has always been a mammoth task for every political party. However with the advancement in information and technology, this has never been possible as effectively as it can be today. Various factors responsible for winning or losing an election can be highlighted with the effective use of technology, wherein the insights can act as a window for a larger picture.

The objective of this report is to present the results of the analysis conducted on Indian General Election 2014 using Google trends. The report draws attention to factors which influenced a landslide victory for one particular party and decimation of the other. The document presents an analysis of both pre and post elections using Elections data, Wikipedia and Google trends, capturing information about the trends before the elections which can be attributed to actual outcomes. The report attempts to highlight important factors which if taken into consideration can help a party in India win for future elections.

Keywords: Google Trends, Lok Sabha Elections 2014, Election Analysis, Wikipedia Trends

Business Problem

As cited by Norio Kondo in the paper 'Election Studies in India', political parties are always intrigued to understand the inclinations and voting behaviors of the people such as who votes for whom, for which party and how. Study of Indian Elections has always been important for all the political parties, which allow them to gauge into this behavior. In the past, pre-election judgements by veterans, case studies, surveys have been used to understand the nature of the election results. However these results are very limited because of less data coverage, limited time and targeted only for few thousands of voters. Also the results are analysed for the data in the past and completely ignores the current daily swings.

With the advancement in Information and Technology, a better system can be used to observe the verdict of the people. Google trends is one such technology which can help to analyse the preferences of the people, good or bad, which can help to highlight the moods of the people and their inclinations to the current trends. It allows to analyse this in real time and covers results till date, which can expedite decisions.

Introduction

India is a democratic country which conducts elections to form a Government. The Government is the representation of the people, formed at regular intervals of five years. The elections, conducted by Election Commission of India, empowers the people to choose its candidate or political party which they express it through votes. From Ballot system of voting to Electronic Voting Machine (EVM), there has been significant improvement both in the implementation by the government to conduct and participation by the people to elect. India has conducted 16 Lok Sabha Elections till date. However the 16th Lok Sabha Indian General Election of 2014 is a historic event for many unprecedented reasons.

The ECI conducted the largest exercise in democracy from 7 April to 12 May 2014 to elect 543 parliamentary constituencies of India which ran in nine phases, the longest election in the country's history [1][2]. Some of the key highlights of the election [2]:

- Number of Electors : 834,082,814 (compared to 173,212,343 in 1951-52)
- Over 23 million electors in 18 to 19 year age group which constituted 2.88% of total electors, against 0.75% in 2009.
- Number of electors enrolled as "Others" gender - 28,314 (1st time for LS Elections)
- Highest Ever Turnout of Voters : 66.44% (against 58.19% in 2009)

The election's outcome also saw unprecedented results, a landslide victory for one party and decimation of the long run era of the other. Among the contenders were the two main alliance groups, the incumbent United Progressive Alliance (UPA) led by Indian National Congress and the opposition National Democratic Alliance (NDA) led by Bharatiya Janata Party.

As the verdict goes, Narendra Modi led BJP won 282 and along with NDA tallied 336 seats [3]. It clearly made BJP as a national party with significant presence in almost all parts of the country. BJP bagged highest vote share and become the first party to achieve single handed majority after 1984 elections [4]. Narendra Modi –an ordinary yet extraordinary Indian, was gifted the power to chart the future of the country [5].

The Congress Party, on the other hand, saw its worst ever defeat with a total of meagre 44 seats, a dramatic decline from the 206 seats it captured in 2009 [3]. The total count for Congress was so small that there were questions at them whether they qualify to serve as leader of opposition in Lok Sabha.

So one major question which arises immediately - how did BJP manage to create this history? What were the factors that led to such massive support, such massive following? The slowing economy, rising inflation and a scam-hit incumbent UPA was already facing the heat from the people, while the lack of effective leadership in the name of Rahul Gandhi aggravated the situation. On the other hand, the rise of Narendra Modi – NaMo, who is said to be the single winning factor for NDA rose successfully as the 15th Prime Minister of India. These are some of the factors which resulted in such massive victory for BJP but

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was there any mechanism to gauge them pre-election? Can it be possible to highlight the trends and the swings before the elections which can be useful in formulating important strategies and decisions?

The report attempts to highlight such factors and analyse how Google trends echoed the same emotions way before the results were declared. The report highlights how Google trends can become an effective method to help political parties get an initial understanding of their current situations.

BJP's handsome win was the concoction of factors such as

- Declaration of Narendra Modi as PM candidate by BJP, projecting him as 'White Knight' who arrived to squash corruption and control inflation
- Effective and extensive use of social media to engross with masses especially youth
- 'Modi Wave' or 'Modi Effect' or 'Modi factor' or 'NaMo' – Slogans and chants resonating progress of the country
- Weak Leadership by Congress, anger and frustration of people against rising corruption and slow growth of the country under the incumbent rule
- Winning majority in States such as Uttar Pradesh (80), Maharashtra (48), Bihar (40) [3]
- Coalition of social groups - Large number of votes not only from upper and middle classes but also from Scheduled Tribes, OBCs, and Dalits
- High voter turnout

The reports analyses some of these factors in detail using Google trends, Wikipedia trends as well as election voter's data set obtained from www.indiavotes.com

Learning Objective

Lok Sabha Elections have always been of prime importance for every citizen of the country, whether it is the voter or the political party contesting elections. The trends in the voting pattern of the people has always been a question which every political party tries to resolve. There have been use of pre poll surveys, case study discussions, expert judgements in the past which have attempted to tap the trends relating to these elections. However given the limitation of both time and space, these have been cornered only to a few thousand of voters and thus raises question of credibility.

With the rise of information and technology, it has empowered the political parties to dig at levels unprecedented. The 16th Lok Sabha Elections is a prime example where the use of social media and analytics was used extensively to help the political parties with their campaigns. The use of them had a major impact on the people, leading to discernible patterns and insights which has formed the major motivation for this report. This report attempts to highlight how with the use of such inexpensive yet powerful tool such as Google trends, Wikipedia API, the political parties can take full advantage and make the best use of it. The learning objective for this study has been to come up with analysis to show how political parties can analyse real time data and generate insights based on current trends, good or bad, which can act as window to take decisions more effectively at faster pace.

Methodology and Tools

The report first begins with analysis of some of the most important factors responsible for the massive victory of one particular party and near to complete decimation of the other long running party for the 16th Lok Sabha Election. It then attempts to support these factors by using data collected from National Election Studies – pre and post-election surveys, Google Trends and Wikipedia trend package. Lastly we try to confirm our hypothesis based on Google trends analysis by analysing the actual outcome of the election result from websites such as India Votes.

The entire methodology can be summarised as below

- Highlight the factor responsible for the win or loss of the party during the election
- Support the factor highlighted using data from Google Trends and Wikipedia API
- Support the Google Trends/ Wikipedia data analysis using the actual outcome

Following is the list of all tools used during the analysis of the data

- R - R is a free software environment for statistical computing and graphics
- Google Trends - Google Trends is a public web facility of Google Inc., based on Google Search that shows how often a particular search-term is entered relative to the total search-volume across various regions of the world, and in various languages.
- Wikipediatrend - Wikipediatrend package provides convenience access to daily page view count
- RStudio - RStudio is a free and open-source integrated development environment (IDE) for R, a programming language for statistical computing and graphics.

Data

1. Collection

The data used for analysis is collected from

- National Election Studies – pre and post- election survey findings
- Wikipedia Trend package – To capture the amount of users using Wikipedia page for reading/ gaining knowledge of the underlying subject
- Google Trends – To understand the pattern of searches by people and to understand popularity of the politicians, good or bad
- India Votes website – To obtain the actual outcomes of the past elections (mainly Lok Sabha Elections 2004, 2009 and 2014)

2. Cleaning

The data obtained from the above method is analysed, sliced and cleaned using R-statistical software language. The data is obtained in csv format and analysed using RStudio IDE. ‘Ggplot’ (Grammar of Graphics) library is extensively used to generate data graphs

Analysis and Results

As per this report, following are few factors responsible for the massive victory of BJP and Narendra Modi

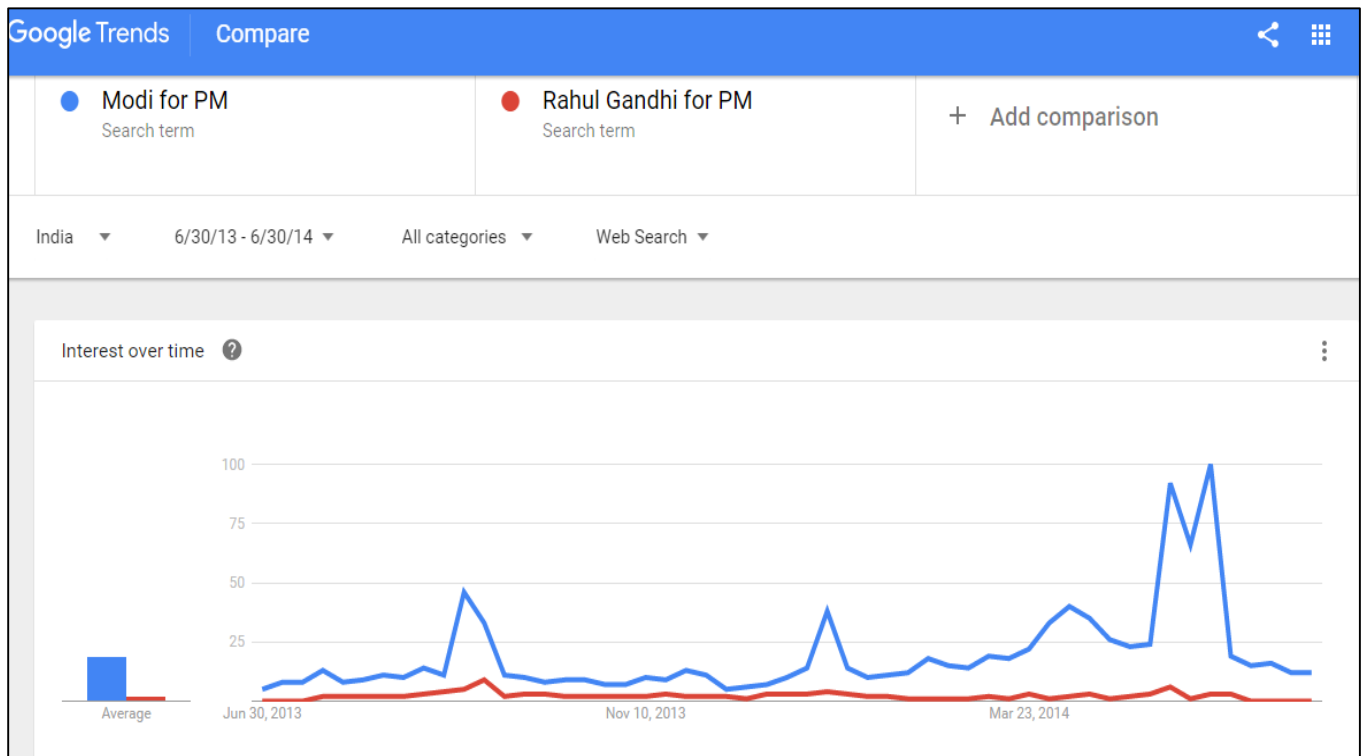
1. Leadership factor by BJP - Declaration of Narendra Modi as PM candidate

BJP's declaration of PM candidate on 13th September 2013 [7] is attributed as one of the important factors for its victory [7]. The projection of Narendra Modi as the Prime Ministerial candidate clearly set the intentions right for BJP, which largely influenced the votes for them. It presented the choice as 'Narendra Modi vs Congress' (and others) which grappled with weak leadership. BJP's leader driven campaign and Congress's indecisiveness gave clarity to the masses as for whom they are voting, which in turn strongly influenced the vote share.

This can be depicted in the following graph, which shows the Google trends result for 'Modi for PM' vs 'Rahul Gandhi for PM'. The trends are generated for a time period from June 2013 to June 2014

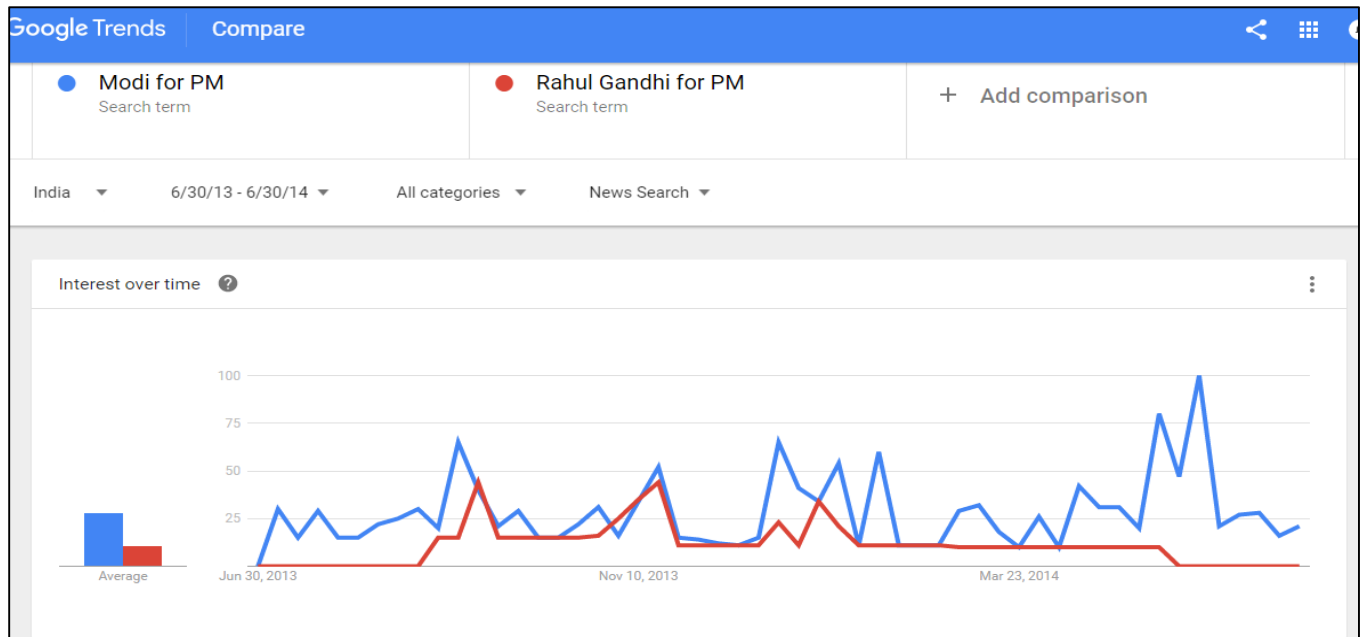
(Keyword: Modi for PM, Rahul Gandhi for PM)

Web search results

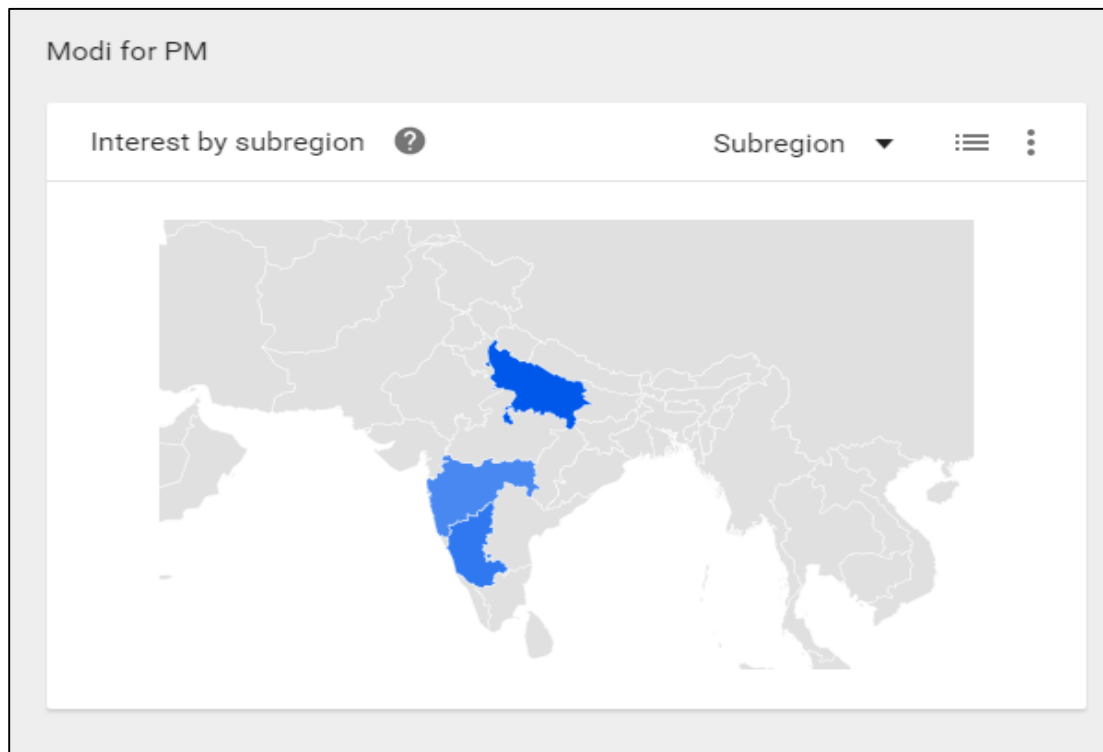


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News search results



Interest by Regions

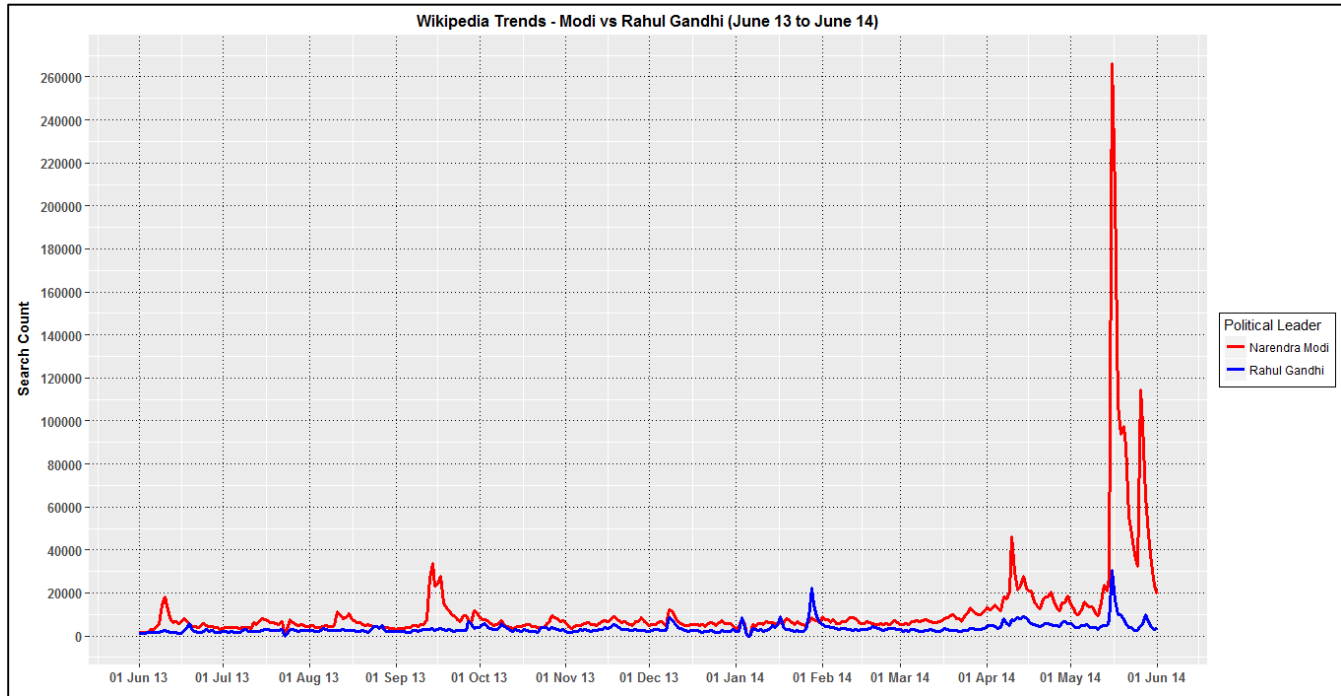


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Google trends results suggested Modi as the choice for PM. Also the interest was observed between politically important states such as Uttar Pradesh, Maharashtra and Karnataka.

Analysis using Wikipedia Trends

The following graph highlights the popularity of the two main contenders for Lok Sabha Election 2014 over their Wikipedia pages. The graph shows the count of users using the Wikipedia page.

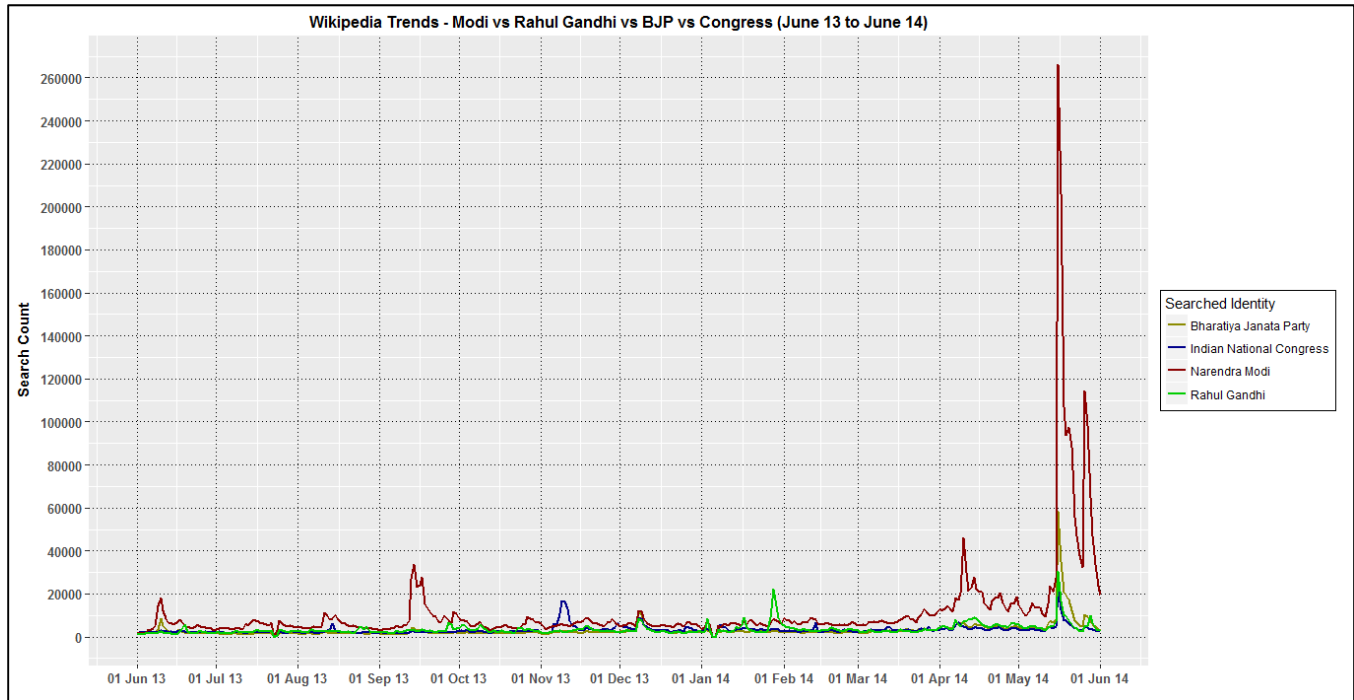


The graph shows that Modi remained ahead of the searches over Rahul Gandhi, and the popularity increased positively after February 2014 (right after Rahul Gandhi's interview with Arnab Goswami)

2. Narendra Modi and 'Modi Wave' or 'Modi Effect' or 'Modi factor' or 'NaMo'

"It is Modi, not BJP that won this election" cited The Hindu in their article dated 1st June 2014. There's no denial that BJP won such massive victory a large part of which can be attributed to Narendra Modi. The following Wikipedia trends shows Modi as the most searched politician over BJP, INC and Rahul Gandhi by fair margins

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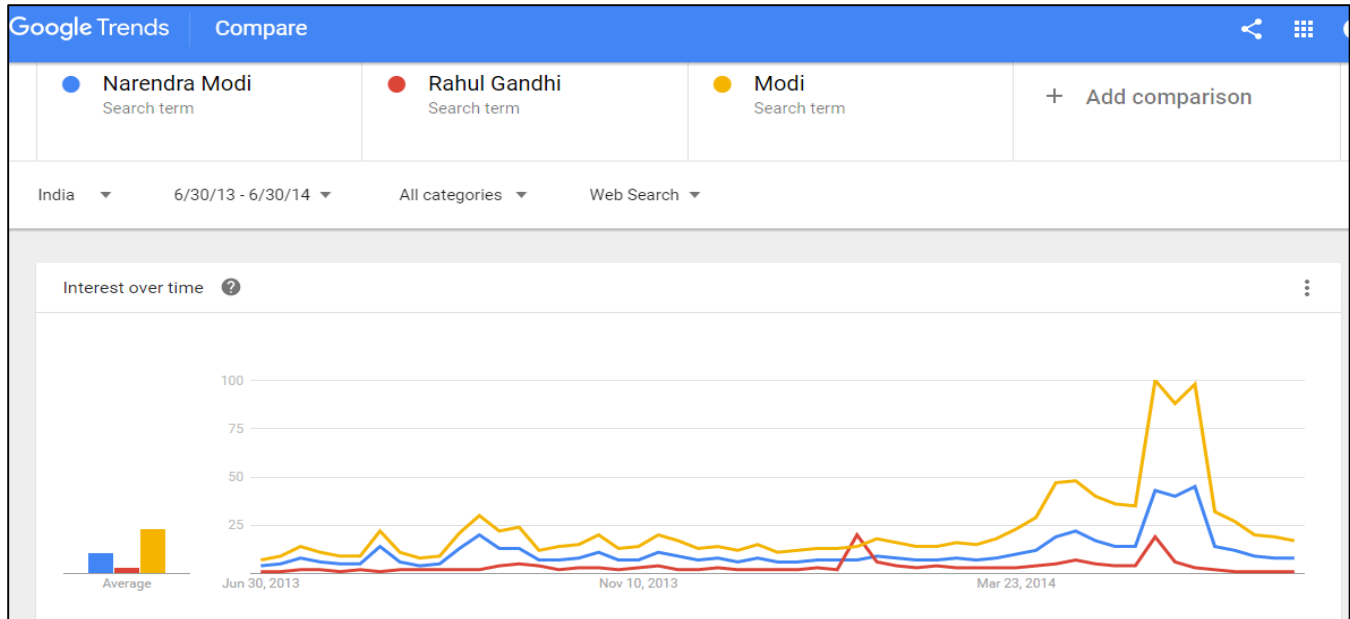


The charismatic leader and a good orator Modi or NaMo had risen up the ladder in the eyes of the people, surprisingly after carrying not so good image as being chief minister of Gujarat during 2002 riots. In a national survey conducted after 2009, only 1.9 % of people responded positively when asked ‘After this election who would you prefer as the next Prime Minister of India’ [8]. However this number rose to staggering 34.6 in a pre-poll survey conducted in 21 states, and the number remained high in a post-poll survey when asked the same question ‘After this election who would you prefer as the next Prime Minister of India?’ at 35.7 %. [9][10]

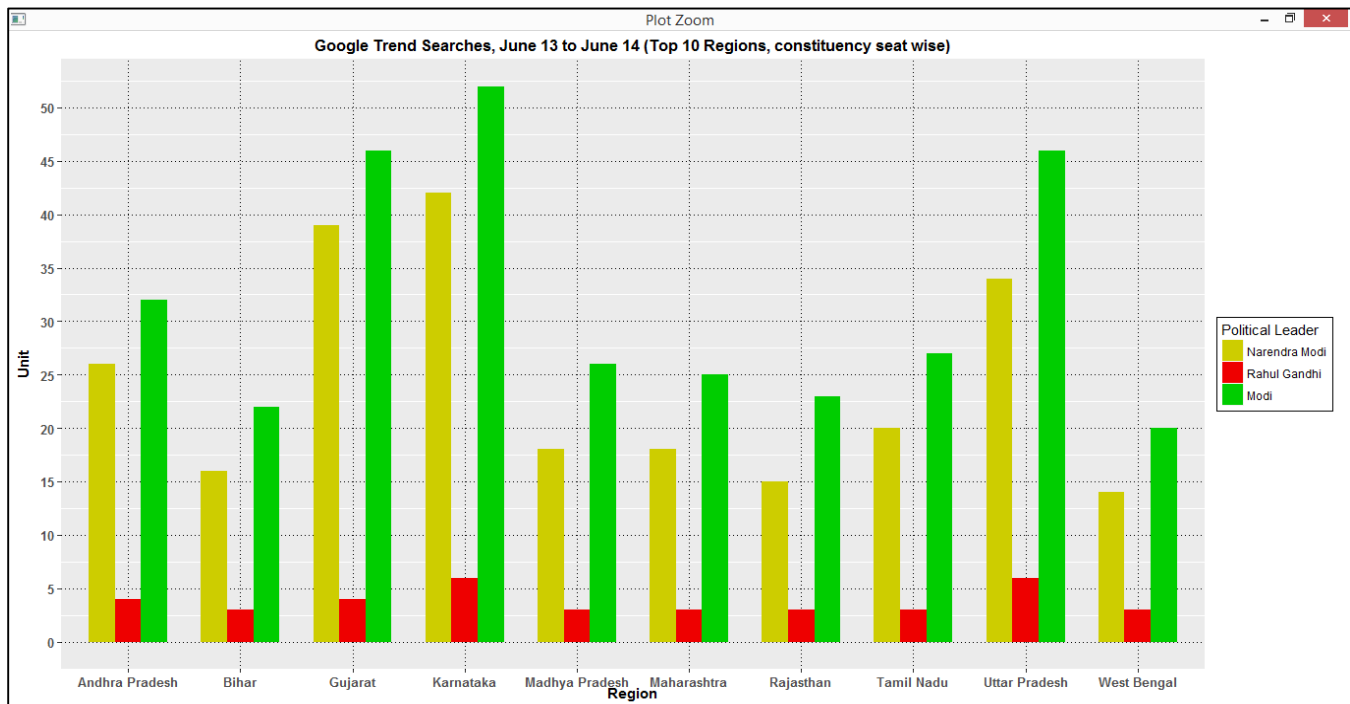
Google trends also suggested Narendra Modi remained the most popular politician in all of India. The trends are generated for a time period from June 2013 to June 2014

(Keyword: Narendra Modi, Rahul Gandhi, Modi)

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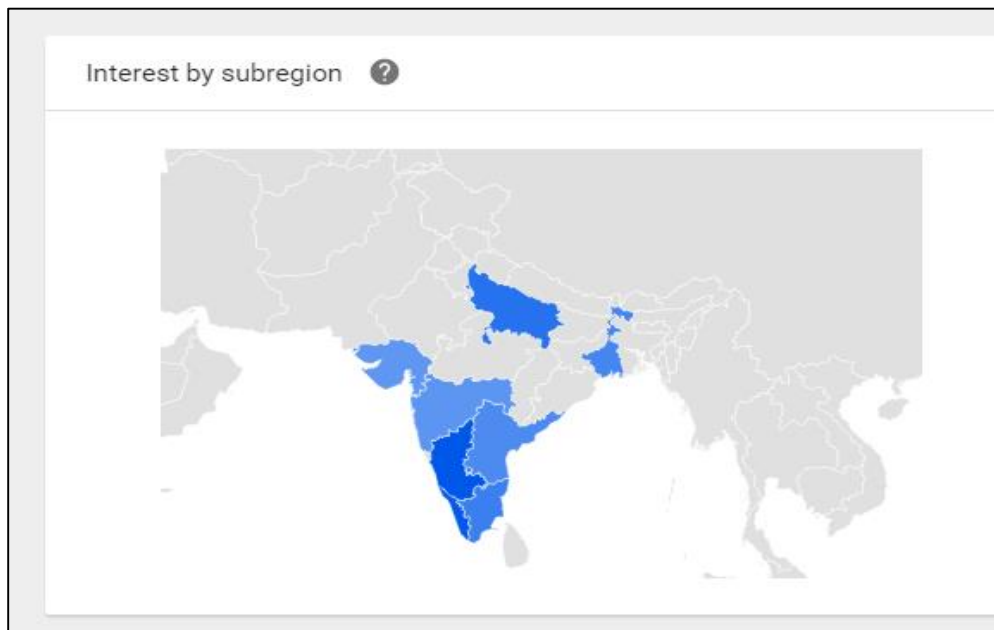
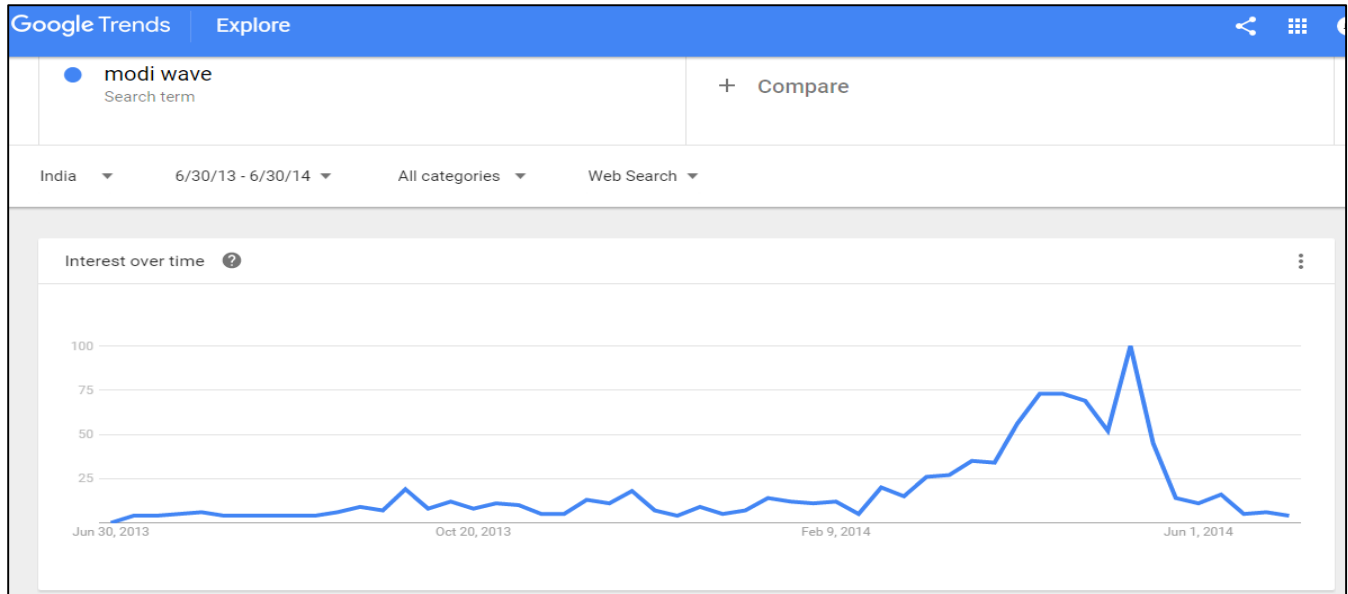
Interest by Region



The above graph shows high interest emanating from politically important states such as Uttar Pradesh, Maharashtra, West Bengal, Bihar and others.

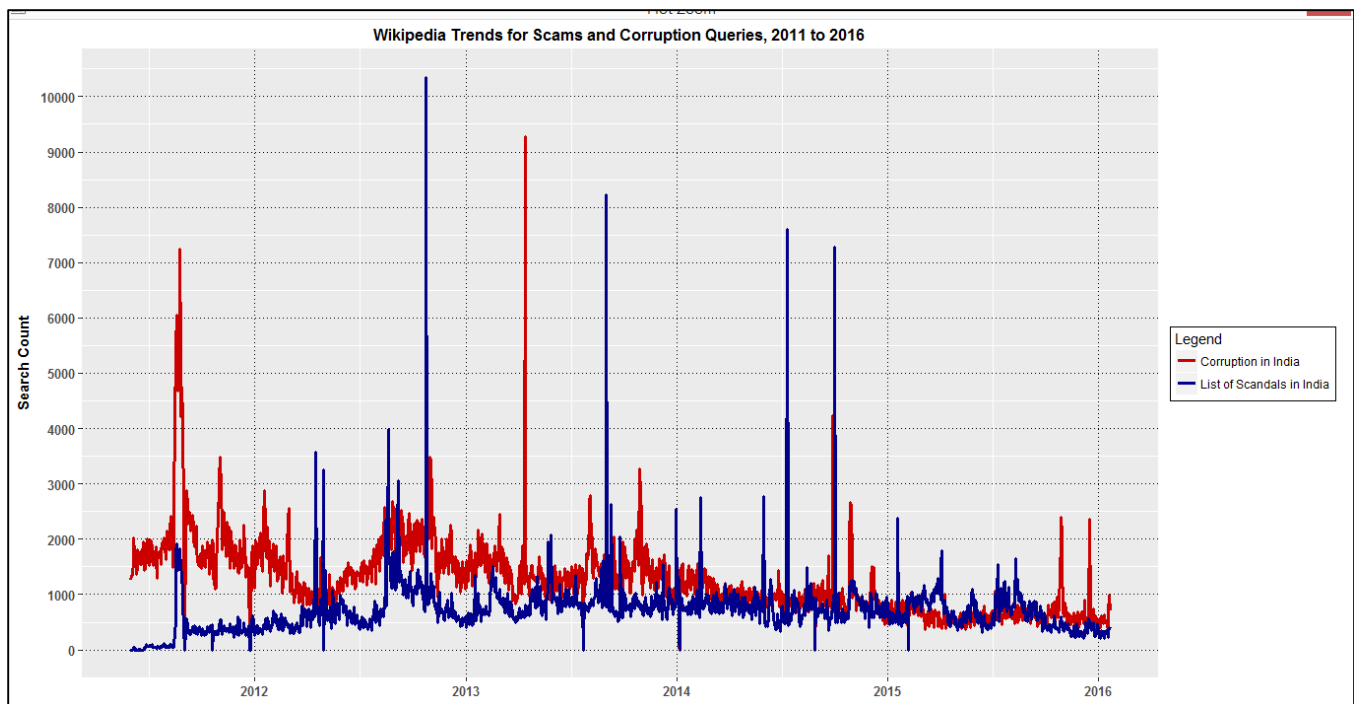
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Analysing from the Wikipedia trends and the previous graphs, it can be said that indeed there was a 'Modi Wave' blowing in the country. Google trend also suggested something similar. The trends are generated for a time period from June 2013 to June 2014



3. Capitalizing on slow economic growth under the Incumbent UPA

One of the most fundamental factor in evaluating the current Government is highlighted in the economic growth of the country. Economic factors always have played a major role in the voting patterns of the people. Positive economic indicators is a mark of a successful government. However India struggled with slow economic growth, high inflation rates during UPA-II and the situation was aggravated with scams and corruption prevailing within the party [11]. The following graph shows wiktrends for two pages related to scams and corruption. The search is seen to be rising after 2011, peaking around 2012 end (UPA-II era) and declining after 2014 (Modi era)



According to a pre poll survey conducted by National Election Studies, the following question and responses highlight what is that which annoyed the voters the most with the incumbent UPA [8]

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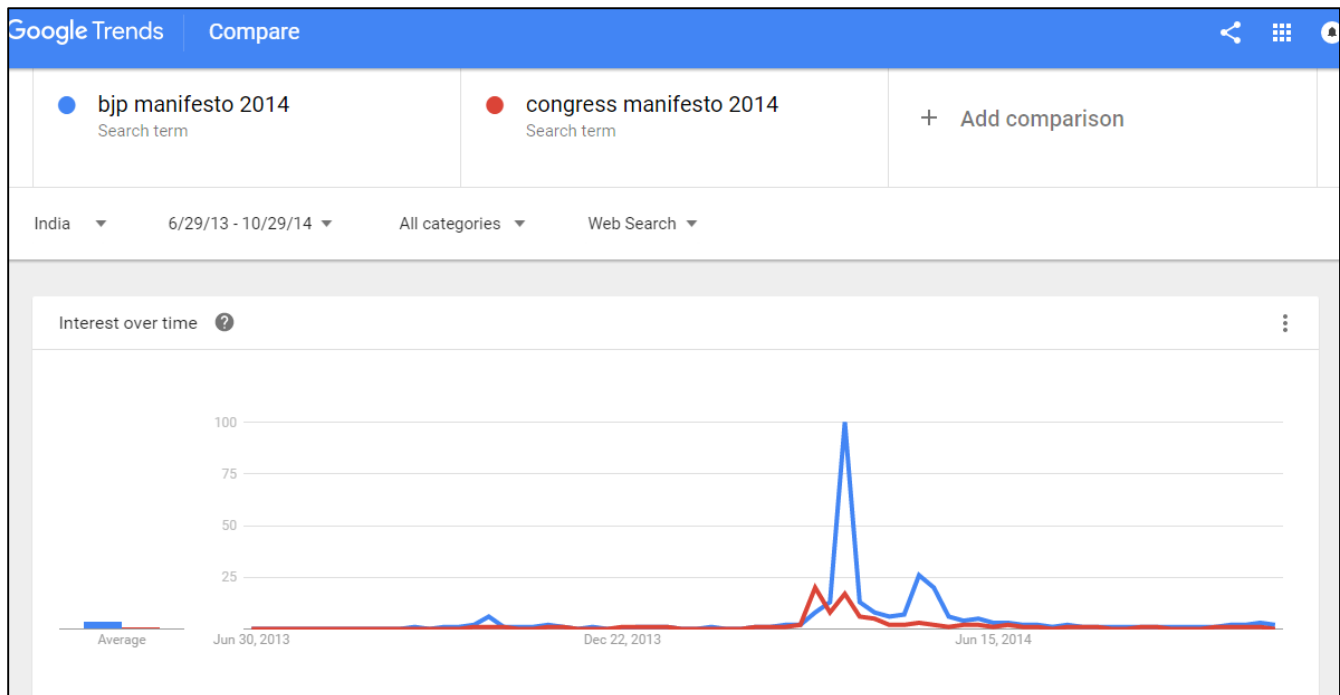
Q. What will be the single most important issue for you when you vote in the next 2014 Lok Sabha election?

Option	(%)
Price rise/LPG hike/Diesel/Petrol etc.	18.3
Development/Vikaas	14.8
Corruption, scams of government	11.8
Employment/Unemployment/Jobs	7.4

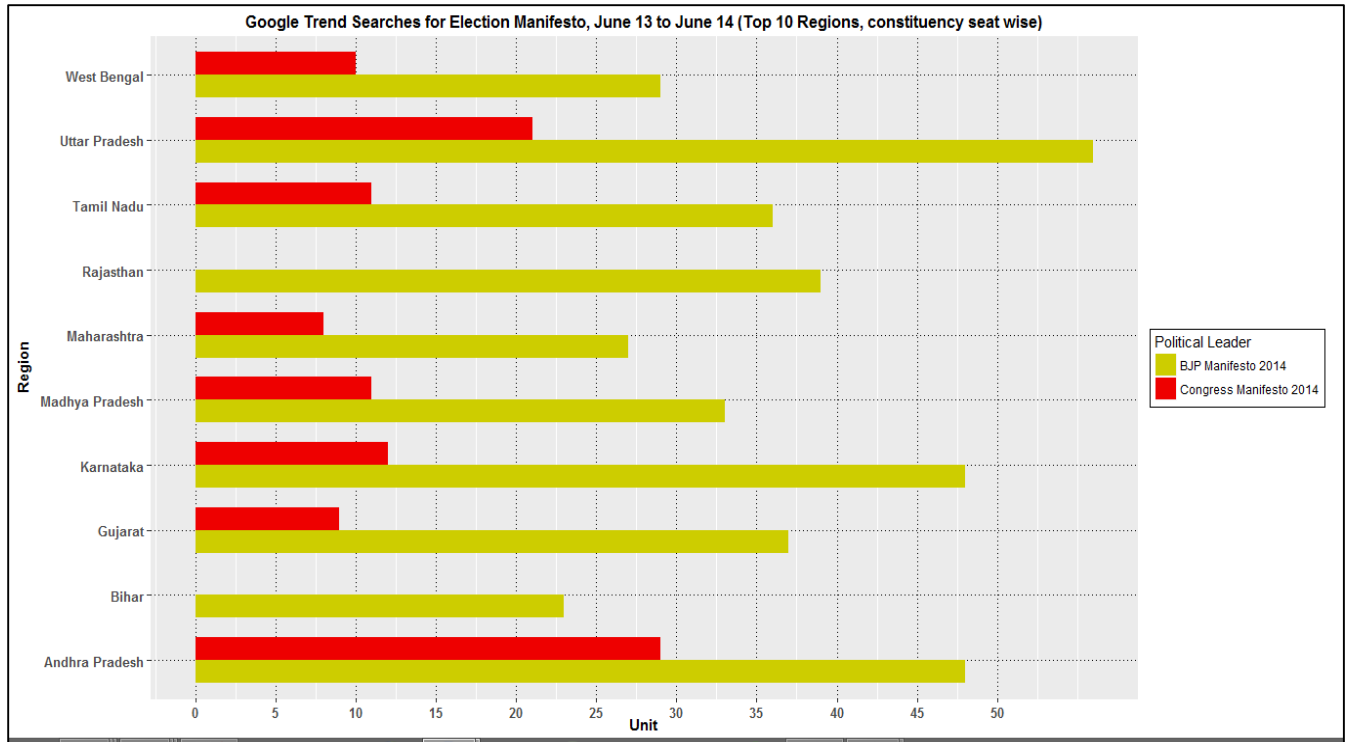
Seeing this opportunity, BJP turned its entire strategy focusing on economy and development. This was thoroughly backed up with Modi's past record in Gujarat which gained a lot of attention. The center piece of the entire manifesto of BJP resonated with such taglines '*Sab Ka Saath, Sab Ka Vikas*', '*Ek Bharat, Shrestha Bharat*' [12].

Google trends also shows that BJP's manifesto was most looked up just before the elections began as compared to congress manifesto. The trends are generated for a time period from June 2013 to June 2014

(Keyword: bjp manifesto 2014, congress manifesto 2014)



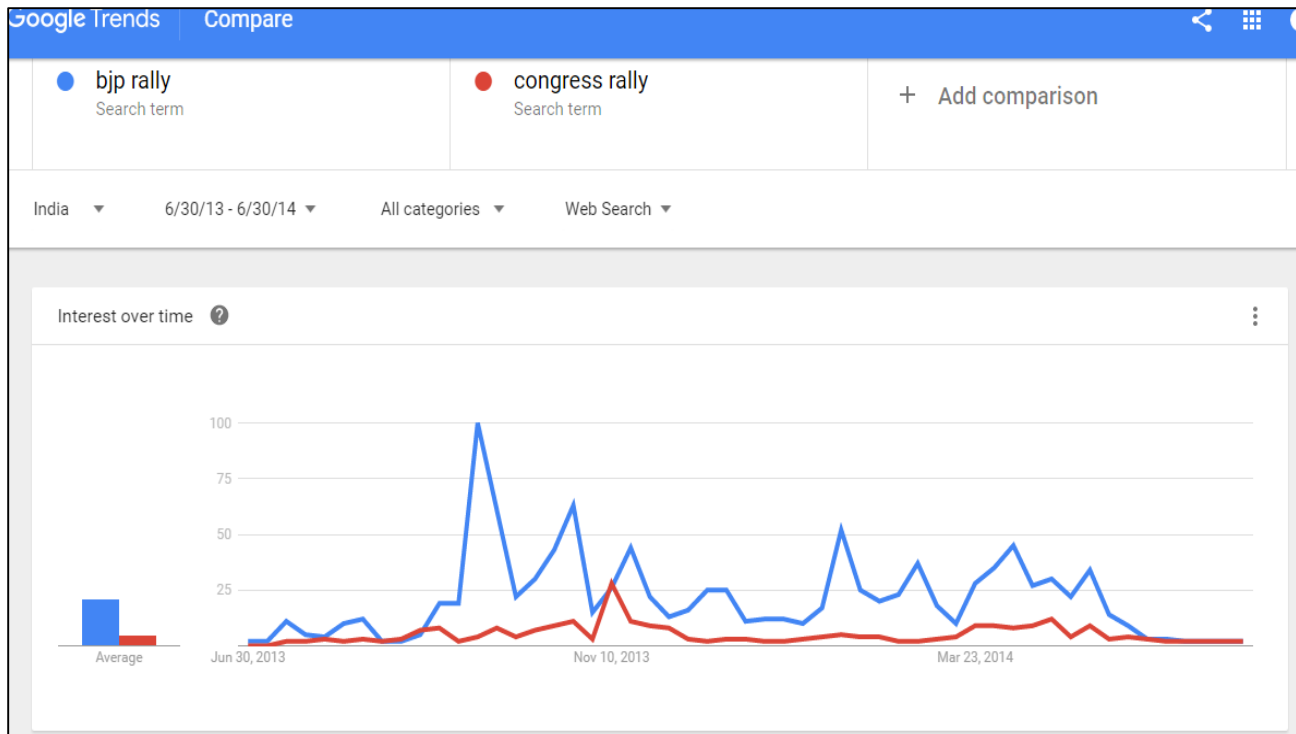
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BJP was also leading when it came to searching for rallies, which can be gauged as people were interested more with Narendra Modi. Google trend results for BJP and Congress Rally searches are as follows. The trends are generated for a time period from June 2013 to June 2014

(Keywords: bjp rally, congress rally)

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The graph depicts the popularity of BJP, Narendra Modi and its rallies over their opponent.

4. Effective and extensive use of social media to engross with masses especially youth

The proliferation and use of social media has never been so high in any Indian Election till date until 2014. Social media and its influence was so high that Lok Sabha 2014 Elections was termed as 'Social Media Elections' [13].

Following factors highlight the successful use of digital media for Narendra Modi and NDA

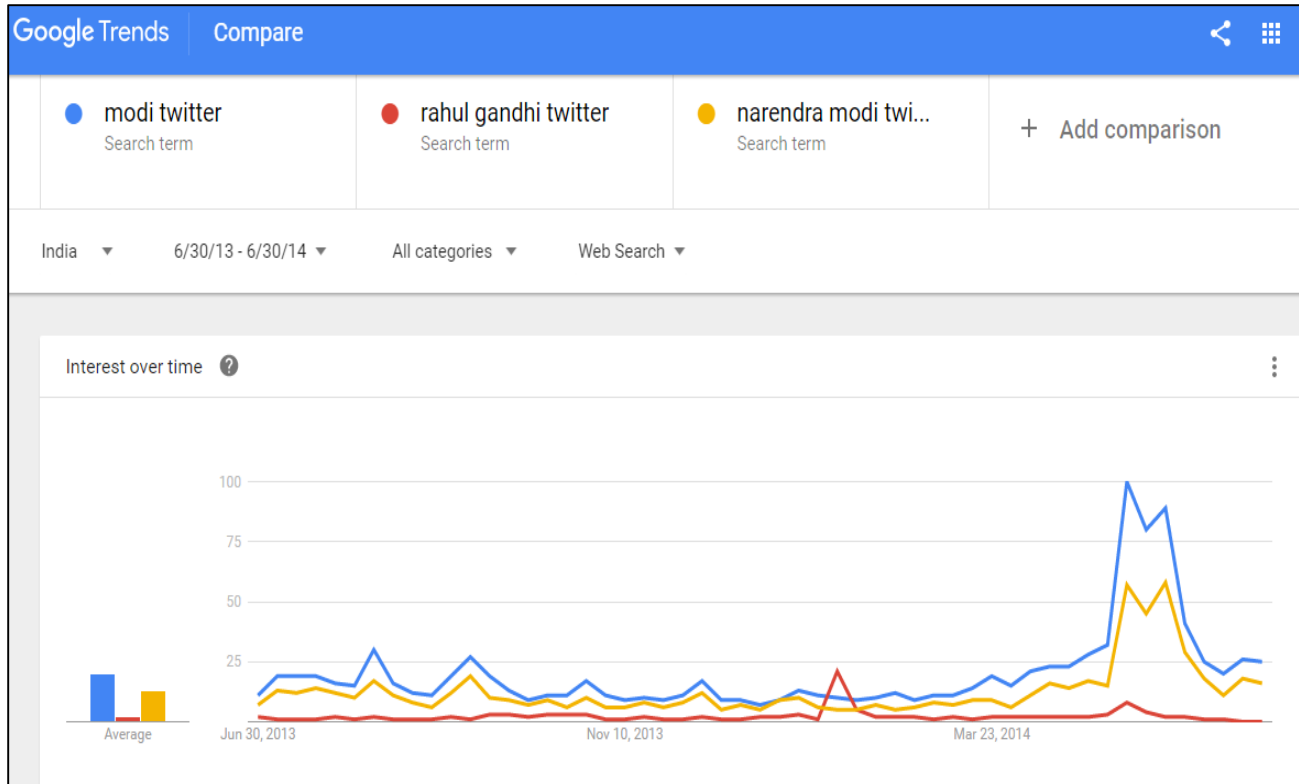
a. Communications through Twitter

Modi is known as the most tech savvy leader who likes to keep the people updated about his activities through his twitter handle. This allowed him to evaluate the support and fan following which he was receiving.

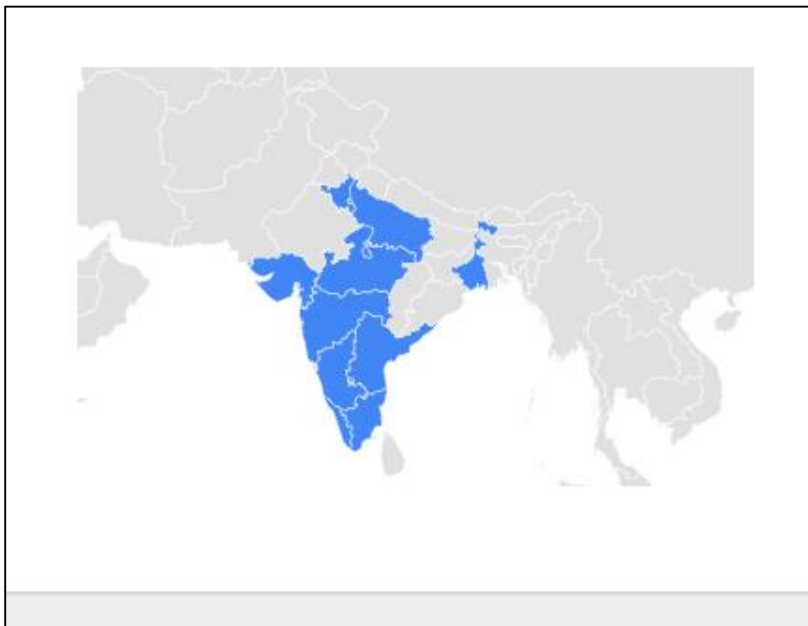
Google trends shows Modi's twitter handle was very popular as against other politicians. The trends are generated for a time period from June 2013 to June 2014

(Keyword: modi twitter, narendra modi twitter, rahul gandhi twitter)

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Interest by sub regions



We observe that the results emanate from political important states such as Uttar Pradesh, Maharashtra, West Bengal and others.

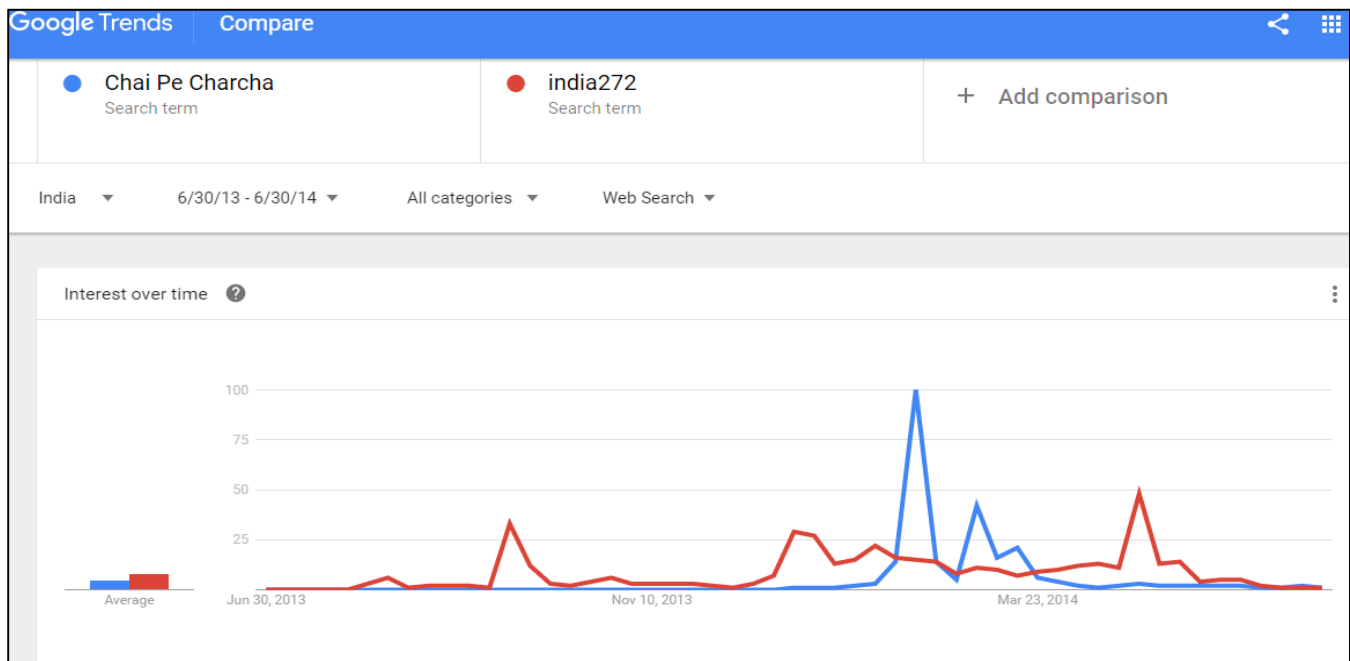
b. Chai Pe Charcha and other social media campaigns

‘Chai Pe Charcha’ – a campaign launched by Narendra Modi to better connect with the people, especially from low economic background. He discussed many issues related to black money, trust and called it as ‘Footpath Parliament’ [14]. It was one of its kind programme which held discussions across several geographical locations at the same time via video conferencing.

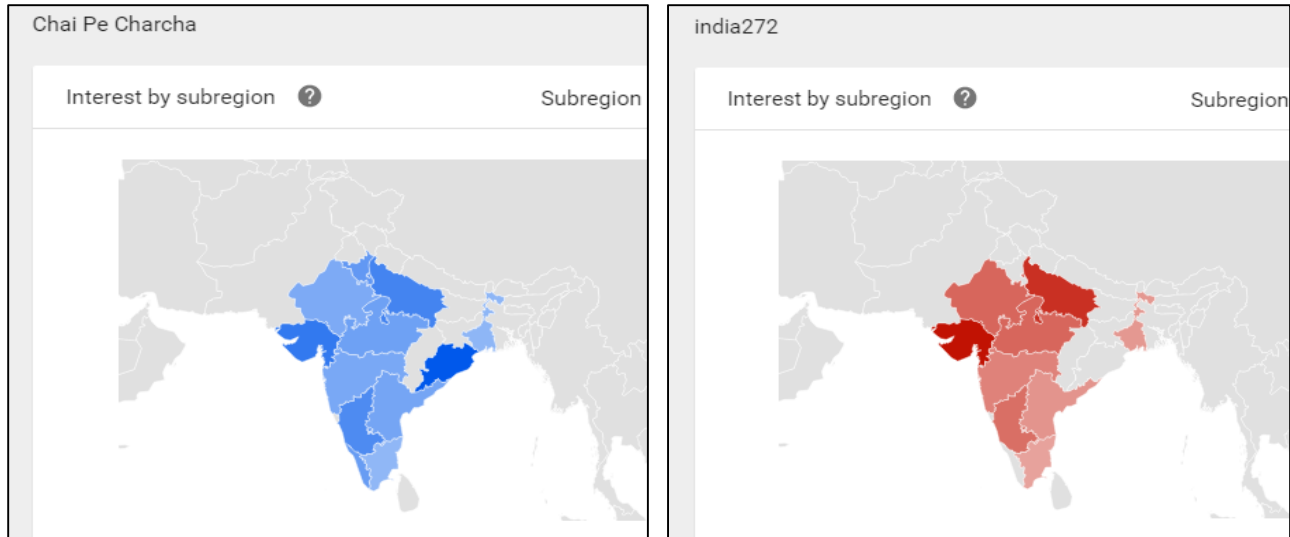
In addition, websites such as www.namnumber.india272.com was launched to increase the network of voters and reach to maximum people

Google trends also highlight the popularity of these out-of-the-box campaigns. The trends are generated for a time period from June 2013 to June 2014

(Keywords: chai pe charcha, india272)



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The result shows interest from almost all parts of the country especially from Uttar Pradesh and Gujarat.

c. Catchy phrases and taglines

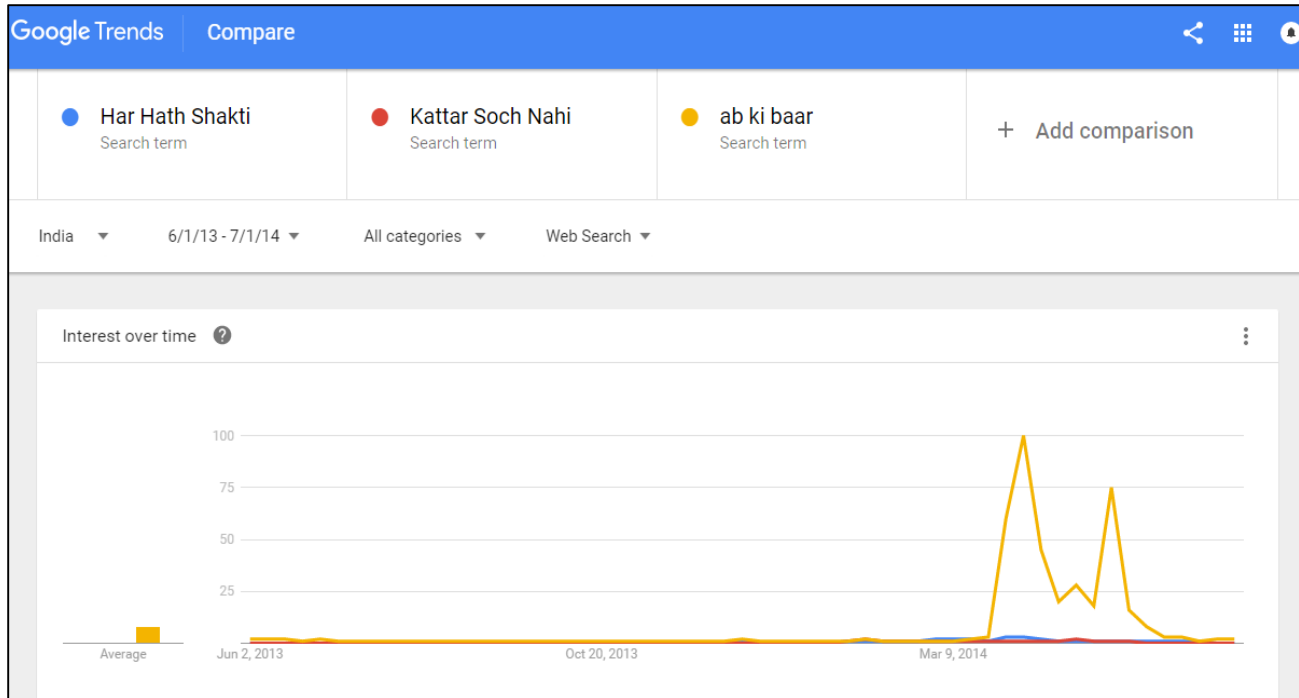
As cited by BBC in its article ‘India’s colourful election slogans’ [15], a good slogan can bring together people usually separated by religion, region, caste and language, but a bad one can crush political ambitions. The use of catchy phrases such as ‘Ache Din Ane Wale Hai’ and the flagship slogan ‘Ab Ki Baar Modi Sarkar’ became hugely well-known, both with the party’s admirers and opponents. The slogans became viral over social media platforms and which helped Narendra Modi in grabbing the attention.

Congress, stressing on development for all, came up with multiple slogans such as *Har Hath Shakti*, *Har Hath Tarakki* (power in every hand, progress to everyone), “Face of the Congress – Kattar Sooch Nahi, Yuva Josh”, *Main Nahi Hum* (Not me, but We) [16]

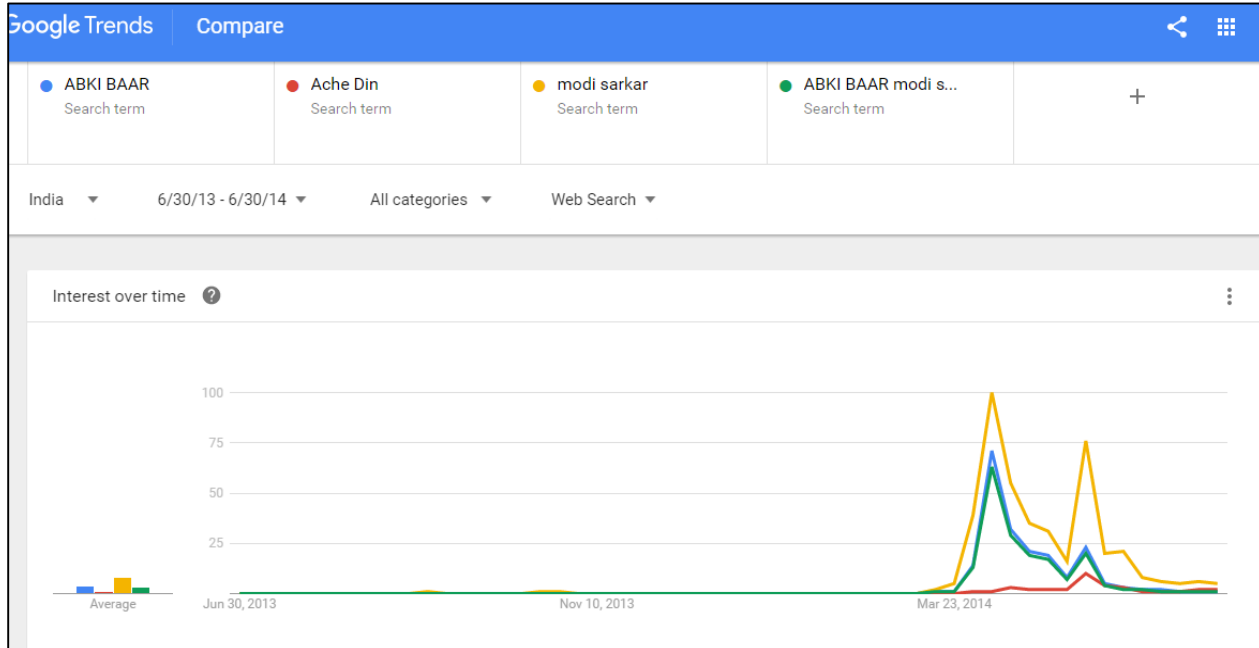
However, Google trends suggested Modi and it’s slogans as the most searched topic, almost crushing Congress

(Keywords: Har Hath Shakti, Kattar Soch Nahi, Ab ki baar)

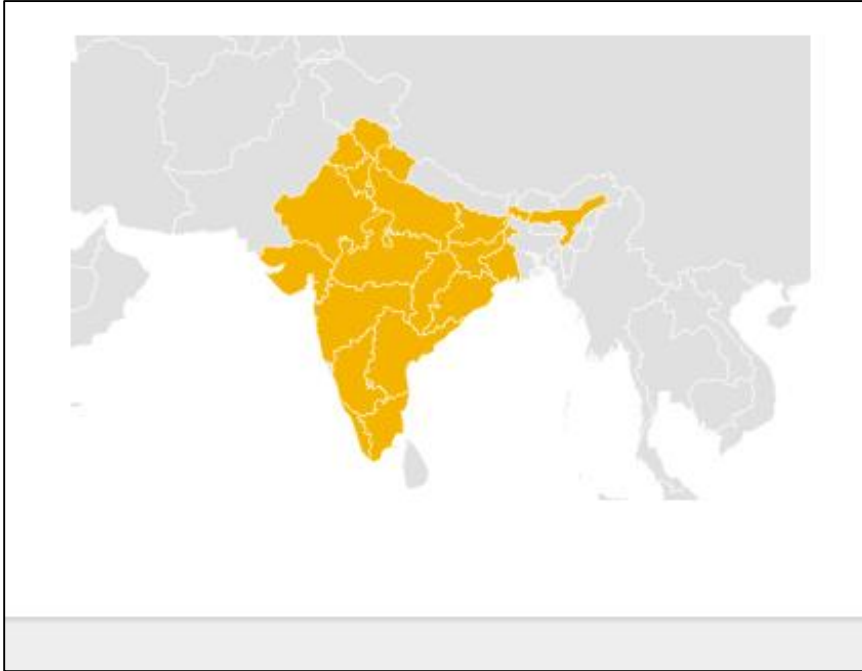
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(Keywords: abki baar, ache din, modi Sarkar, Ab ki baar modi sarkar)



Interest by Regions



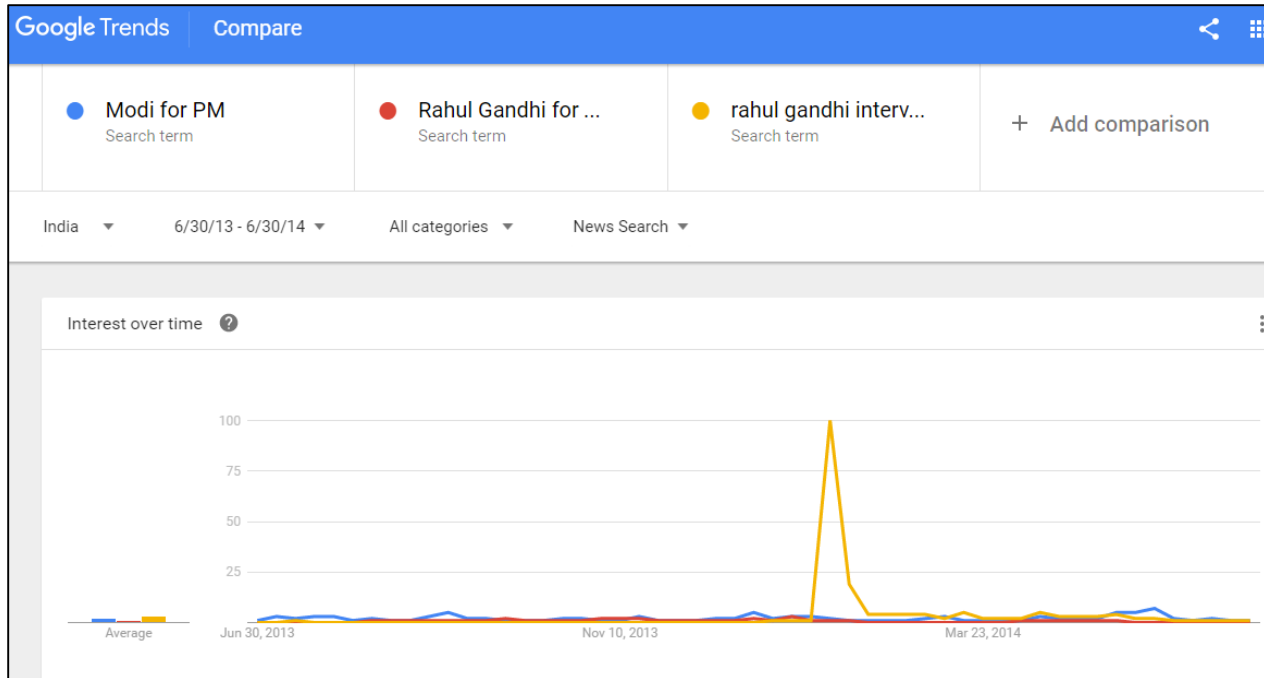
The keyword ‘modi sarkar’ had captured almost all parts of the country

5. Weak Leadership by Opposition and handling of critical interviews

Congress grappled with the issue of leadership before elections, particularly more when incumbent PM Manmohan Singh decided to retire after the completion of his term. The onus of carrying Indian National Congress largely dependent on Rahul Gandhi.

However in what is called as the ‘Interview of The Year’, Rahul Gandhi’s interview with Arnab Goswami aggravated an already troubled Congress [17]. The interview caught the nation’s attention which projected Rahul Gandhi even weaker, someone who did not answer well during the interview and how he could have tackled the questions differently

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Rahul Gandhi's interview caught nation-wide attention and as cited by The Hindu 'will have disappointed supporters' [17]



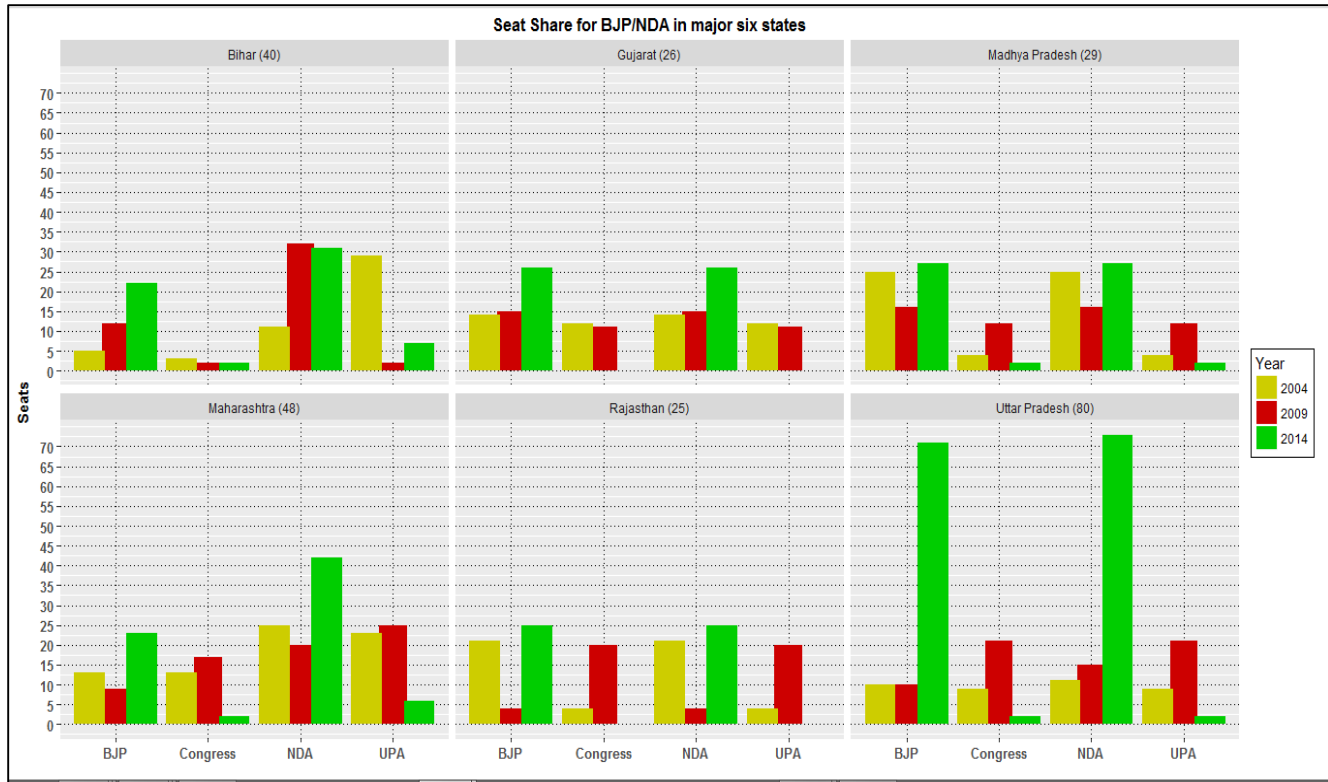
6. Actual Election Outcomes – Capture of Important Indian States

Uttar Pradesh, Maharashtra, West Bengal, Andhra Pradesh and Bihar are political important states in India which play a major role in determining the outcome of the Indian elections. The top 10 constituencies' together makeup for 382 seats in Lok Sabha [6].

UP	80
Maharashtra	48
West Bengal	42
Bihar	40
Tamil Nadu	39
Madhya Pradesh	29
Karnataka	28
Gujarat	26
Rajasthan	25
Andhra Pradesh	25
UP	80
Maharashtra	48
West Bengal	42

NDA swept handsomely in most of these states, won majority by large margins which clearly set the path for them at the centre. The following graph depicts the actual seats won by NDA and BJP over the past 3 elections in six of the above mentioned states

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Key highlights in 2014:

- Extraordinary win for BJP and NDA in UP, as compared to 2004 and 2009
- NDA almost crushing Congress/UPA in Maharashtra
- Complete decimation of UPA in Rajasthan and Gujarat
- Maintaining NDA's hold over the years in states like MP and Bihar

Conclusion

The 16th Lok Sabha 2014 elections presents a strong case of people's choice of growth and development. It showed that in a democracy like that of India, given the sheer size and diverse nature, the inclinations, voting behaviors and the choices of the people can be estimated using the modern age tools such as Google trends and Wikipedia trends. The trends discovered can be used to evaluate the progress of the incumbent government, and can also act as a motivation for the opponents during their campaign.

The use of social media platforms and out-of-the-box initiatives can help a party to connect with the people more deeply and the engagement can be tracked against Google Trends at all times. The use of such tool can be helpful in determining quick overview of the trending scenarios which can be used to alter or improve or invent new methods and decisions.

Lastly we also conclude that in order to remain in power, it is very important for any government to maintain a corrupt-free image, and at the same time display strong leadership skills to handle a vast economy like that of India. Economy of the country is an active indicator of the support from the people.

Recommendation and Business Solution

The use of Google Trends can help a government or political party to gather information regarding the current and past scenarios, can be extensively used to gauge interest and likings of the people. The use of Trends can instantly provide a country wide overview of the scenario, expediting the process of decision making. Use of Wikipedia trends can add value in terms of the authenticity, interest and genuineness of the content displayed over the website.

Feasibility and Limitation

The analysis is possible only for the searches which were performed by the people (Key words searched). It completely ignores all others who are off the internet. Hence it is mandatory for the people to perform a search. The trends are not particular to a region within a state, but to the state as a whole. Also it is important to search with appropriate keywords to generate maximum positive result.

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Source Codes

- R codes can be accessed from this location:

<http://rpubs.com/HardikGupta/223096>

- The data set used can be accessed from this location:

https://github.com/HardikLGupta/Indian_Election