Effectiveness of Make in India Campaign through Sentiment Analysis

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The purpose of this paper is to analyze the behavior, attitude and sentiment of the twitter users about 'Make in India' campaign using social media analytical tools. Based on the unstructured data extracted from the twitter in the form of tweets, we have measured sentiment score and found that twitter users having liking towards the Make in India campaign. In this sentiment analysis anger, disgust, fear, sadness and negative response tweets were less as compared to anticipation, joy, trust and positive response tweets. This clearly explains that people have liked the idea and are supporting the campaign. The findings of the study may be used by the organization and various other government agencies to know the opinion of the customer or public about the services and various welfare policies.

Keywords: Make in India, Social Media analytics, Word Cloud, Campaign, Public Policy.

Introduction

Make in India was an international marketing campaigning slogan coined by the Prime Minister of India Mr. Narendra Modi on 25th September 2014, to encourage the companies and various organizations around the world to make investment and manufacture their product in the Indian market. He launched this ambitious campaign with an objective to turn the country in the global manufacturing hub. Make in India campaign was inspired by the Chinese project "Make in China" which helped boost the economy of China. The project was considered as a big step taken by the Indian Prime Minister because of its potential to reduce the unemployment which

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had become one of the biggest issues of Indian economy. To streamline the economic growth a also a potential to become world's manufacturing hub. Many countries may want to manufacture and invest in the country due to cost advantage it offers, in terms of cheap large number of jobs were required to be created every year. India has rich demographic dividend in terms of higher population in the working age group thus availability of labour and availability of raw material. Make in India though was not only a time bound campaign but a philosophy and an ongoing process. The contribution of Indian manufacturing sector to GDP was less than 20% and it was planned to take it up to 25%. Through this campaign Indian government expected to generate employments, attract much foreign direct investment (FDI) and convert India into a manufacturing hub. Make in India was seen as a policy that would aid the investors by making doing business in India a fulfilling experience lead to overall development of the country. The main objective of this campaign

was to focus on group. The logo of "Make in India" campaign consisted of elegant lion and Ashoka Chakra and was designed in such a way to represent India's success in all spheres. The

"Make in India" campaign was dedicated by the Prime Minister to the Pandit Deen Dayal Upadhaya who was the eminent patriot, philosopher and a great political personality born on the same date in 1916.

Review of Literature – Micro blogging has become one of the major platform for sharing views and ideas among the internet users and generates millions of messages everyday (Pak, Paroubek, 2010). People prefer posting their message on real time opinion on various issues and on the products they use in routine of life on micro blogging websites (Agarwal, A., Xie, B., et. al., 2011) The proliferation of micro-blogging sites like Twitter offers an unique opportunity to create and employ theories and technologies that search and mine for sentiments (Kumar & Sebastian, 2012). Social media has replaced the traditional one-way mass media to consumer communication channel with an interactive dialogue, which helps in creation and exchange of user-generated content. Twitter was used for predicting movie performance (Gaikar, Marakarkandy, & Dasgupta, 2015). Sentiment analysis is a type of natural language processing for tracking the opinion of the public about a particular product or topic. Sentiment analysis, involves building a system to collect and examine opinions, emotion about the product made in blogs posts, comment, reviews or tweets. (Bharti & Malhotra, 2016). With the advancement of web technology and its growth, there is a huge volume of data present in the web for internet users and a lot of data is generated too. Internet has become a platform for online

learning, exchanging ideas and sharing opinions. Social networking sites like Twitter, Facebook, Google+ are rapidly gaining popularity as they allow people to share and express their views topics, have discuss with different communities, or post messages across the world. (Vishal A. Kharde, S.S. Sonawane, 2016). Social media monitoring provides a supplementary tool for the traditional surveys which are costly and time consuming to track security breaches. Sentiment score and impact factors are good predictors of real-time public opinions and attitude to security breaches (Hao & Dai, 2016). The employment of the pipeline for three different monitoring task shows the plausibility of the proposed approach in order to order to measure social media sentiment and emotions concerning the emerged on Google searches. (Avanzo, Pilato, & Lytras, 2016). "Make in India" mission is one such long run initiative which will accomplish the dream of transforming India into manufacturing Hub. Start-ups in the core manufacturing sectors are poised to play an important role in the success of 'Make in India' ambitions. (Mishra & Taruna, 2016). Sentiment classification is detecting of the textual item and expressing sentiment on the basis of negative, positive opinion in general or about a product, a service or a policy (Nakov, P., Ritter, A., et., 2016) for any type of information social media is a boon. It is the gateway to realtime mechanism providing irrepressible and effective information. Twitter is a digital focal point where people converge for information, especially during the natural calamity. (Sangameswar, Rao, & Satyanarayana, 2017). Sentiment analysis has different application in different context in gathering and analysis of social media text on different issues, social, and political events.

Sentiment analysis also referred to as opinion mining, is an approach for analyzing people's opinion, sentiment, attitude, evaluation and emotions towards an entity. (rout, Choo, Dash, Bakshi, Jena, & Williams, 2018). Social media analytics are used for forecasting for business decision making and planning and help in obtained and modified numerous source code from different sources and run the algorithms by rendering a new technique to generate twitter sentiment (Kabir, A.I., et. al., 2018). Tweets can be used as a forecast to changes in the economy, financial market, and targeted companies. This generates opportunities and challenges for companies and stakeholders. (Juma & Alnsour, 2018)

Research Methodology – The data used in this research is unstructured data. The unstructured data has been extracted from the twitter in the form of tweets. For extracting this unstructured data from the twitter we used the open- source R-Studio software. Developer account was created in the twitter, and then the application to mine the text in the application account of the twitter was used. In this application API Keys, Tokens and secrete keys were generated. Twitter Oauth was setup with the help of this further process of extraction of tweets take place. Authorization was provided by the twitter to extract or fetch tweets with the help of keys and token. In R-studio (Open source) software, these tweets were extracted with the help of packages related to the text mining and 5000 tweets on "Make in India" in English language were selected for the extraction

Fig. 1: Extraction of the tweets from twitter on Make in India
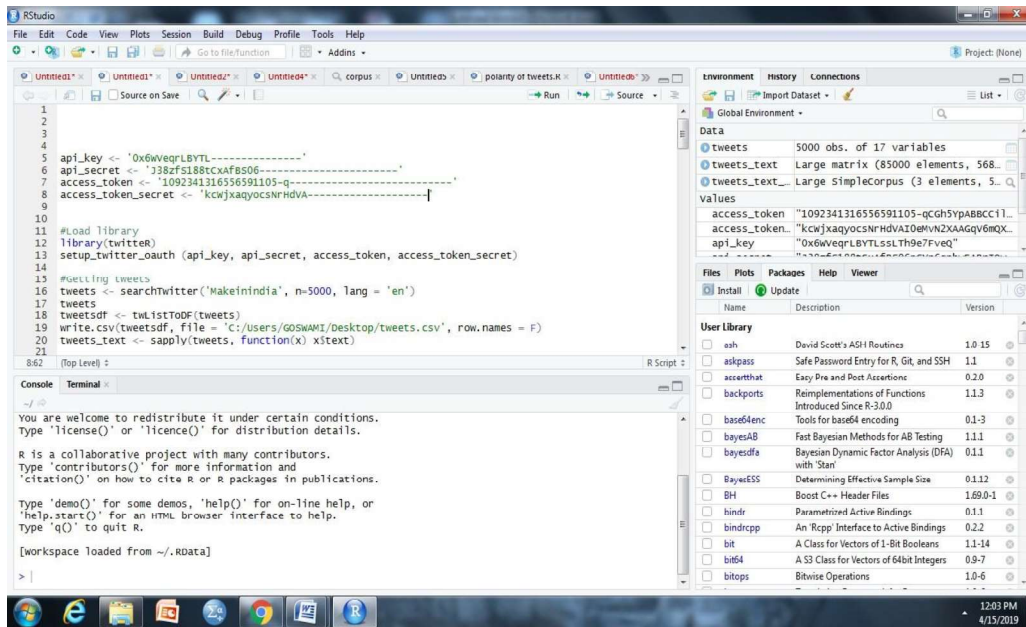
Extracted tweets were converted into the data frame having 5000 observation with 17 variables and were saved into a csv file having the name "tweets". Analysis of the tweets was done on the extracted tweets. In further process with the help of corpus packages these tweets were cleaned and used for subsequent analysis.

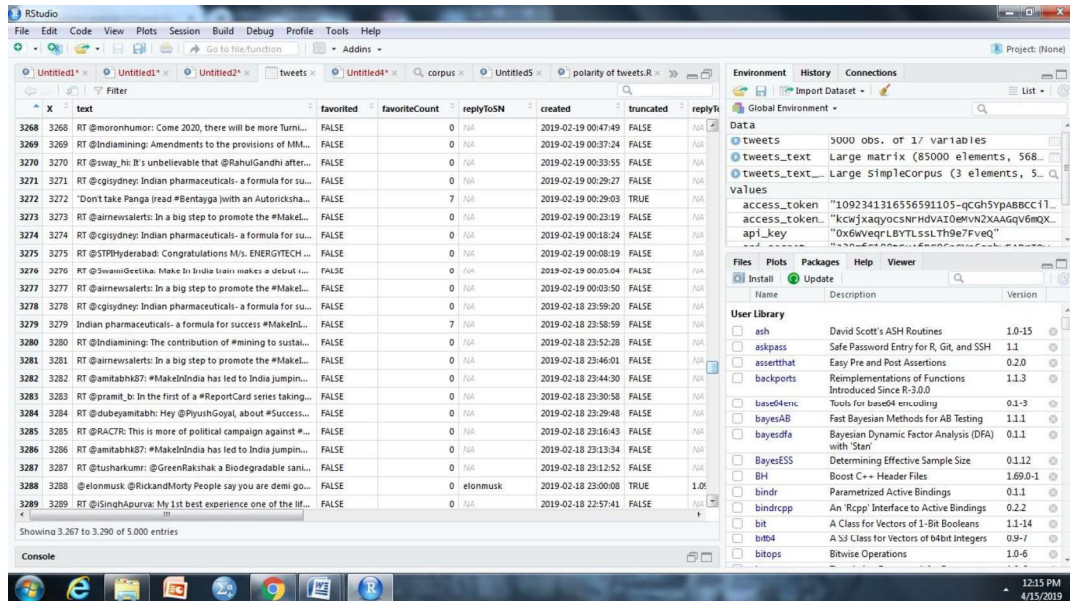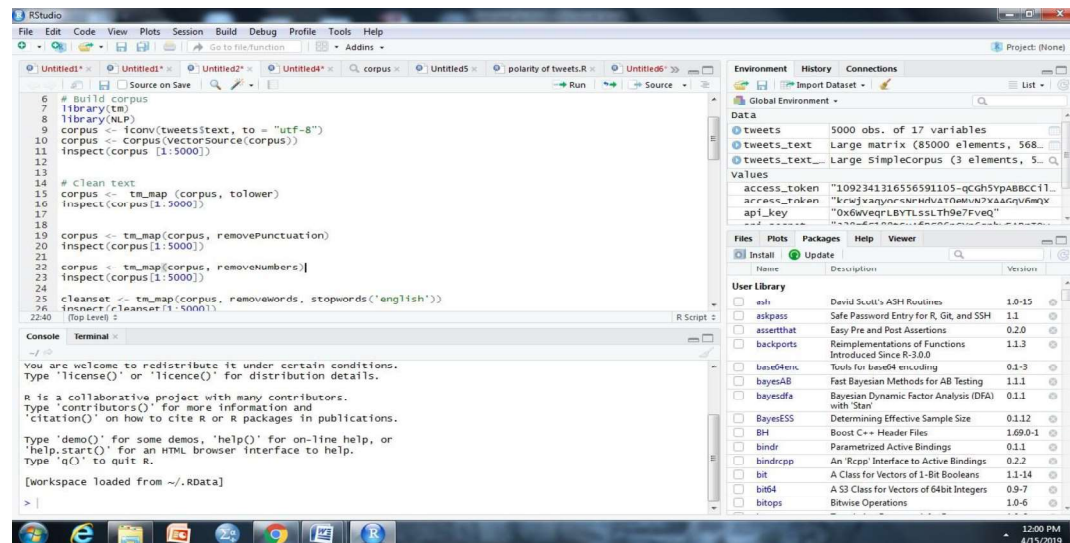Fig. 2: Data frame of 5000 tweets of 17 variables.

Fig. 3: Cleaning of tweets through "Corpus"

The sentiment analysis of the tweets revealed 10 factor sentiment (anger, anticipation, disgust, feat, joy, sadness, surprise, trust, negative and positive).Further the word cloud generated of the tweets which is the pictorial representation of the various words in the software was generated. The cloud highlights the most used words in the tweets and most talked words in the centre of the cloud and the word cloud was generated by using the word cloud package of R. The clouds also represent the importance of the 'Make in India' campaign. The word cloud was plotted with the help of the word cloud package of R-Studio. In next step Bar graph was plotted which represent the words which are used

most often in the tweets. The maximum used 50 words were plotted on the Bar graph.

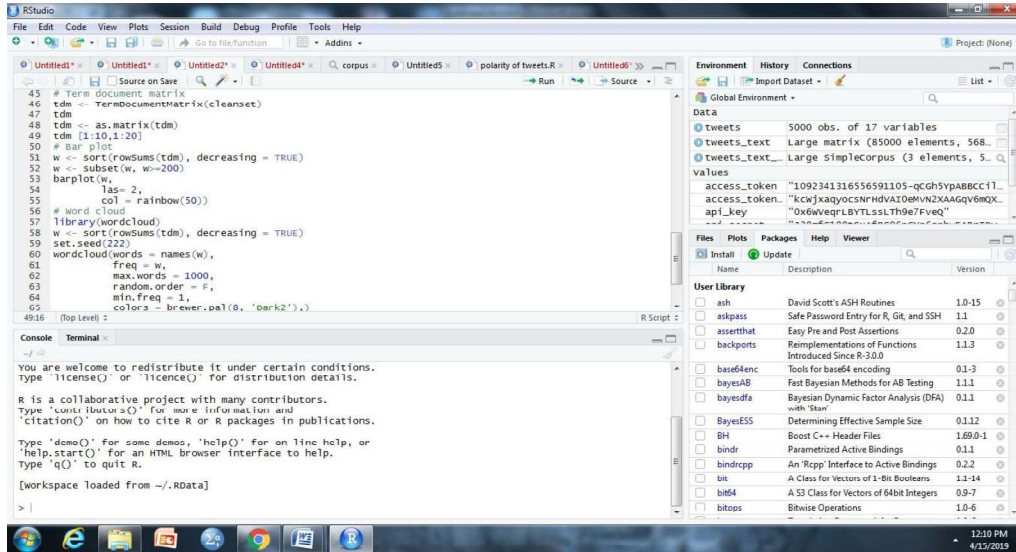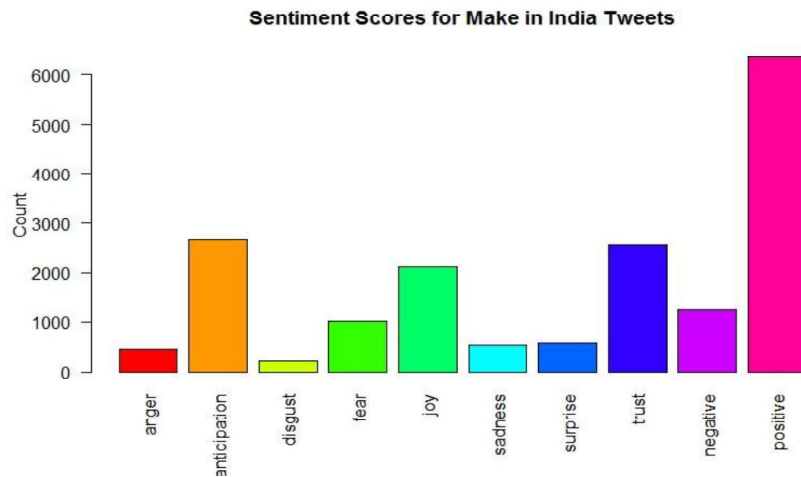Fig. 4: Formations of "Term Document Matrix" and "Word Cloud".

Fig. 5: Sentiment Scores for Make in India Tweets.

Finding – After extracting tweets from the twitter related to the Make in India sentiment score analysis was done on the tweets through the bar graph as shown in bar graph clearly explains that twitter users having liking towards the Make in India campaign as there are very less number of negative response as compared to the positive response. In this sentiment analysis anger, disgust, fear, sadness and negative response tweets were less as compared to anticipation, joy, trust and positive response tweets. This clearly explains that people have liked the idea and are supporting the campaign.

Figure 6 Make in India Tweets Word Cloud
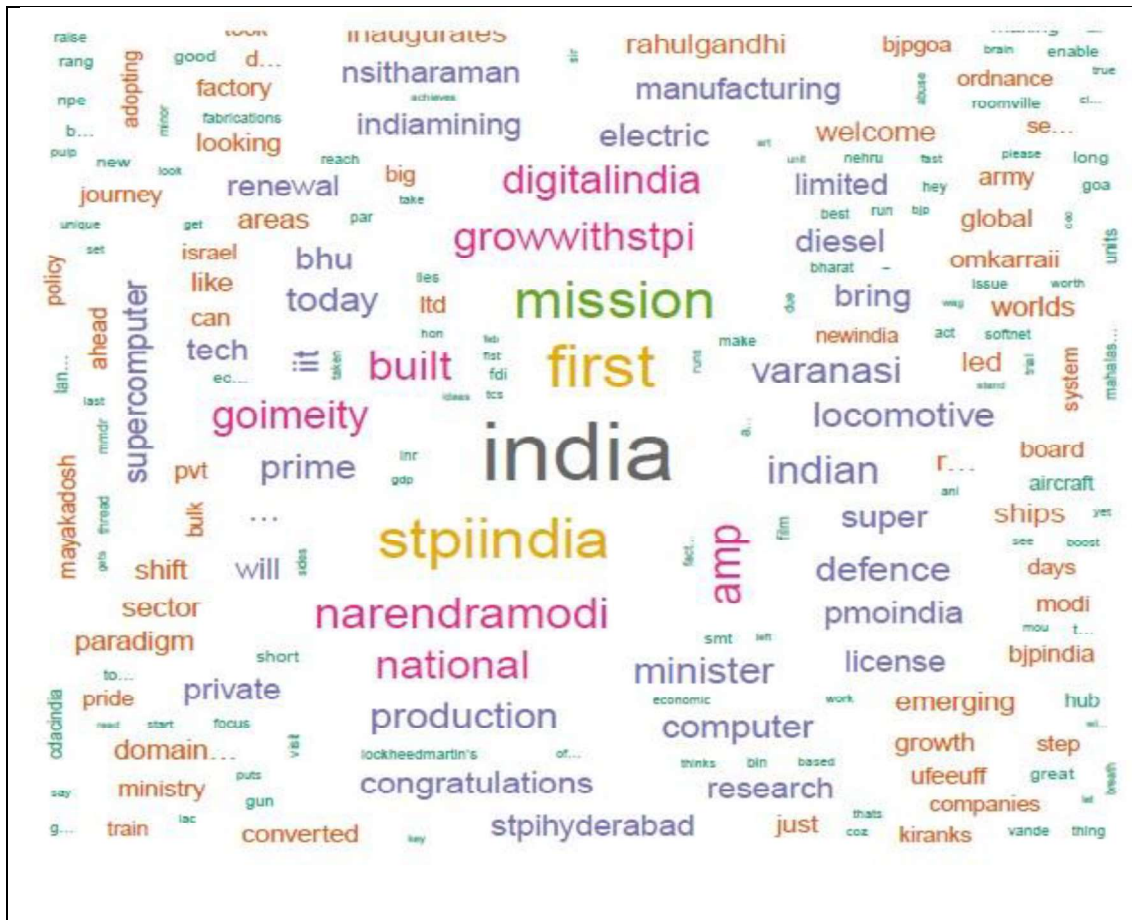
Word cloud of tweets was also generated with the help of R-Studio software (*Figure 6*). The word cloud clearly indicates that 'first' is highlighted word because this type of campaign policy was first time introduced in the India. In this word cloud 'mission' word is also heavily used this shows that this campaign take place throughout the country at a large scale as a mission. Another word highlighted in the word cloud is Narendra Modi that shows that he is perceived to be an integral part of this campaign. It is well known fact that behind this campaign Narendra

Modi's creative mind and efforts were associated. In the word cloud 'digital India' word is also highlighted that indicates digital India play a big role in the success of this campaign and also in creating online awareness of the programme another heavily used word in the word cloud is 'Built' this indicates that the main objective of this campaign is to build the product inside the country and to develop India as a manufacturing hub. The Bar graph is plotted which represent the words having maximum

frequency in tweets and top 50 words
having maximum frequency.

Fig. 7: Maximum Frequency word used in the tweets
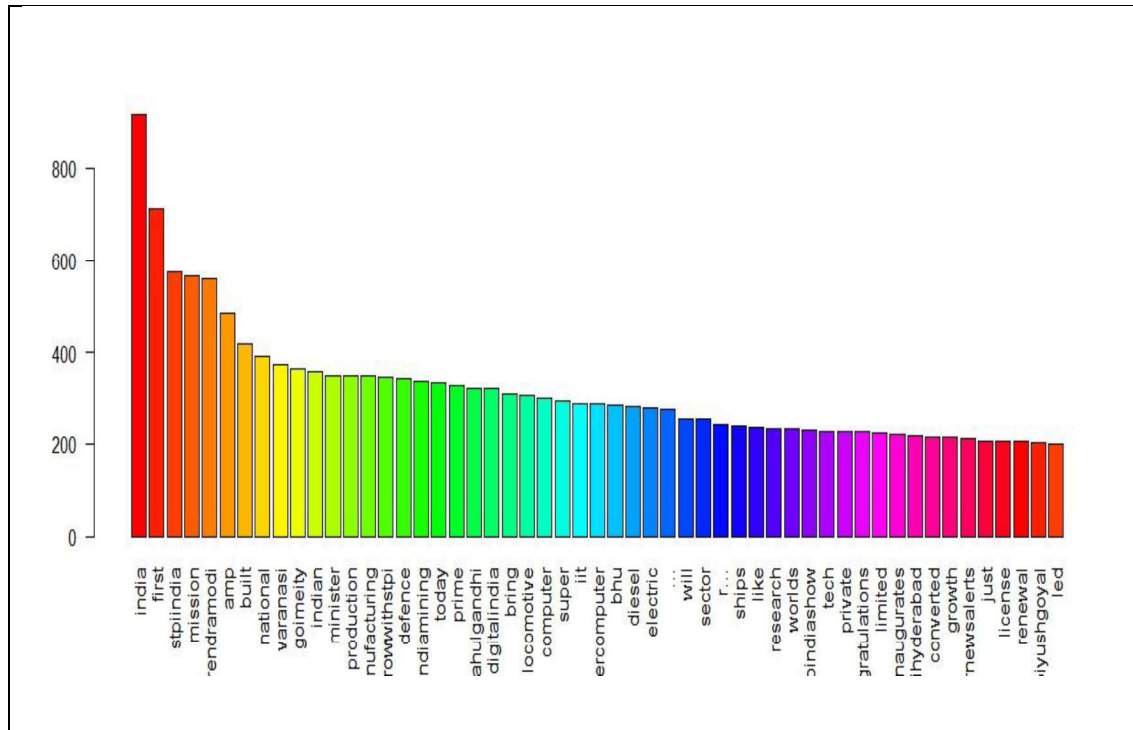
Implication – Social media analytics can be used by the organization and various other government agencies to know the opinion of the customer or public about the service and various welfare policies. It can be suitable tool for the managers and policy makers for taking business decision. The effectiveness of campaign also translates into effectiveness of policy and has implications for future decision making. Although the results of the scheme or policy can only be judged based on factual data the perception and opinion of public can be judged using these analytics tools. Social media analytics can also help to do a mid course correction in the policy if sentiment is against the move.

Conclusion

The analysis revealed that for the campaign "Make in India", majority of the tweets related to anticipation, joy, trust and positive responses as compared to anger, disgust, fear, sadness and negative responses. This clearly explains that people have liked the idea and are supporting the campaign and shows that this campaign initiative is a success. These types of social media analytics help government for making

further improvement and implement any policies or schemes that are beneficial for the growth of country. Although the success of the campaign not necessarily translates into the success of the policy yet it reflects public sentiment and acceptability of such scheme.

Author's Note

This article is an extended version of paper presented at NASMEI Summer Marketing Conference 2019, IIM Indore.

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