

Impact Analysis of Demonetization using R

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Abstract— The demonetization of Rs500 and Rs1000 was a policy enacted by the Government of India announced on 8th November 2016. The scrapping of Indian 500 and 1000-rupee currency notes has set the entire country in a whirlpool of confusion. In this scenario study and analysis of impact of Demonetization effect and opinion of general public has greater significance. With the help of “impact analysis”, we can understand how many are supporting this decision and are against this decision. The opinions may vary from time to time and state to state. The analysis is extended to analyze the tweets based on date and location like state. The graphs plotted reveal how many people are positive and negative towards this decision.

Key words: Demonetization, Government of India

I. INTRODUCTION

Twitter is a popular social networking service where users interact and post messages (“tweets”) restricted to 280 characters. Opinions about various topics are expressed by these tweets. For sentiment analysis to be conducted, data is collected from Twitter in different phases in 2017. To study the trend change from one week to another of how people felt splitting of data collection was taken place. This paper describes various steps required to perform sentiment analysis on Demonetization using the tweets and conducting a fair judgment about this scheme launched by Government of India.

II. LITERATURE SURVEY

Active users to examine their influence, and to address the question of the relation between being active and being influential. Moreover, the methods in [8] lack the conceptual behavior of influence, as the rate of tweets and the date of joining are not indicators of being influential. Also, being influential in the past does not necessarily mean being influential at present or future. Ref. [2] showed that there is no strong correlation between the retweet rate and the network-topology as a small percentage of retweeted messages and messages with mentions were between interconnected users.[2]. Found that in the case of hard-political news (politics, economics, crimes, and disasters) hashtags, the retweet rate was higher between interconnected users. Unlike [2]; found that the network-topology is not the main feature in analyzing retweetability. Additional analysis in showed that the content of messages played a strong role in the message propagation. Moreover, showed that using the well-known “geo-tagged” feature in twitter to identify the polarity of a political candidates in the US could be done by employing the sentiment analysis algorithms to predict the future events such as the presidential elections results. Comparing to previous approaches in sentiment topics, additional findings by [5] showed that adding the semantic feature produces better Recall (retrieved documents) [5] and F-Score (a measure of a test accuracy as it considers both the precision and the

recall of the test to compute the score) in negative sentiment classification [3], see (1), (2), (3). It also produced better Precision (the relevant documents) [3] and F-Score in positive sentiment classification. [5] Found that using machine learning algorithms such as Naïve Bayes.

III. SYSTEM DESIGN

Tweets related of #Demonetization are been extracted from the twitter using twitter R package. A sequence of strings been broken down into pieces like keywords, words, symbols, phrases and other elements called tokens is the job of tokenization. Often punctuations are been removed in this process. A polarity score is then been assigned to each of the element. In order to determine the sentiment behind the text the aggregated sum of the score is been calculated. Depending on the calculated score the text is been classified as positive, negative and neutral.

A. Special resources required:

- R studio and dependent libraries
- Twitter API
- A Personal twitter account.
- Excel
- A comprehensive and publicly available sentiment lexicon.

B. System and data sets:

The system architecture that is proposed for this project is shown in Figure. This project proposes a hybrid approach involving both knowledge based methodologies and machine learning based methodologies to analysis the sentiment orientation of the tweets. Tweets are accessed through a Twitter API. The collected reviews are proposed in R and saved to an excel file. The words were extracted and stored in a feature vector. The words were scored into their relative sentiment orientation using a sentiment lexicon which was sourced from the internet and was publicly available. The excel file was then entered into R and a corpus was produced. The corpus was then divided into a ‘training set’ and a ‘test set’ and feature were extracted from each respectively. From the ‘training set- feature extraction’ a machine learning algorithm was produced from the ‘test set-feature extraction’ a model classifier in the form of Naive Bayes classifier was produced. Naive Bayes does not consider the relationships between features such as emotional keywords and emoticons. This is ideal for sentiment analysis as often these features do not always relate to one another such as in the use of a smiley emoticon at the end of a negative tweet. Naive Bayes Classifier analyses each of the features of the feature vector individually as it assumes that they are equally independent of each other. The conditional probability for Naive Bayes can be defined as

$$P(X|y_j) = \prod P(x_i|y_j)$$

‘X’ is the feature vector defined as $X = \{x_1, x_2, \dots, x_m\}$ and y_j is the class label. In the tweets collected for

feedback on Demonetization and hence can be used for better decision-making approach. As discussed, that tweets collected from different phases, in that some of tweets were positive tweets, while other tweets were negative tweets. This shows a clear dip towards the negative side in both phases. Hence, based on the analysis carried out post demonetization it is observed that people were not in favor of #Demonetization.

VIII. FURTHER DEVELOPMENT

This Research is based on Sentiment Analysis. Sentiment Analysis is also known as opinion mining. In which we Analysis the view on twitter. then we use this view and recognized the how many positive , negative and neutral text using the different programming applied. This demonetization will help eradicate the 5% of the black economy which is put in cash. Also we move towards digital economy. After conducting evaluation and receiving user feedback, it became clear the several improvement to the system are needed. First to speech to text transcription module should be adapted to a smoother conversational flow. Second "Happy" and "Sad" expression should be redesigned to denote happiness more actively and sadness. The Sentiment Analysis need to incorporate negation handling and emphasis handling in order to improve its classification accuracy.

Finally, it is important to recall that opinion are multidimensional object. In which we classify tweets into polarity classes, we are essentially these multiple dimensions to one single dimension. Furthermore, it is not clear how to project tweets having mixed positive and negative expression to a single polarity class. we have to be know that the sentiment classification of tweets may lead to the loss of valuable sentiment information

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