SENTIMENT ANALYSIS USING TWITTER INFORMATION FLOW ABOUT THE NEW EDUCATION POLICY INTRODUCED IN INDIA IN 2020

Nikhil Malhotra* and Twinkle Goyal

Symbiosis Institute of Business Management, Hyderabad

Symbiosis Centre for Research and Innovation,

Symbiosis International (Deemed University), Pune, India

*Corresponding Author

ABSTRACT

The research undertaken focuses on the sentiments among people related to new education policy in India that was announced in 2020 after 34 years of National Policy of education, 1986 (NPE), based on the information flow on Twitter. The tweets related to the hashtag #Neweducationpolicy, are thoroughly studied using sentiment analysis on the software R studio. The study resulted that there was least misinformation and the information collected was relevant, reliable, and accurate. The sentiment analysis used has successfully identified some relevant and accurate sentiments related to new education policy and also identifies that there is prevalence of skepticism among people about the future impact of the policy in the country.

Key words: twitter, sentiment analysis, data analytics, information flow, unsupervised machine learning, text mining, new education policy.

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1. INTRODUCTION

In the simplest words, education can be defined as gaining knowledge. India is one such country that has deep roots in education. In earlier times, there was a concept of “guru”, the teacher and “shishya”, the student, where traditional elements were taught. Even as per Hindu mythology, Lord Krishna gained knowledge under Sandipani Muni, Lord Hanuman learnt under Lord Surya etc.

In ancient times, the university of Nalanda was world renowned for its contributions. In the past twenty centuries the education system has undergone numerous changes and it

evolved to a great extent. The education system, subjects, the way of studying all changed with passing of time and with the coming of Mughals and later the British.

In the 20th century British India had a vast educational network with a western inclination and the dominance of English language. It was the post-independence era that gave birth to the education system we have been seeing till now.

In the past few years, Indian education system received major criticism. The criticism was about the way the teaching is done, assessing the performance of students, the preference of information over knowledge, etc.

In the year 2020, the government created history by introduction of a new education policy in India. The new education policy aims to transform the way education is delivered in India.

The new education policy has many new features that makes it stand out and catches the attention of every Indian. The new policy will replace the current 10+2 system by 5+3+3+4 system which has very strategic structure which will contribute to the development of the child in many ways. This 5+3+3+4 system constitutes 4 stages namely, foundational stage, preparatory stage, middle stage and secondary stage. The new policy aims to increase the Gross Enrollment Ratio (GER) to 100% by 2030. In addition to that the exams will be conducted in such a way that it tests the core competencies of students instead of just checking the memorized facts. Students will be given vocational education from 6th class onwards along with practical exposure in the form of internships. There are many other new features which are being introduced through this new education policy and which makes it worthy of being called revolutionary.

The people are excited over this new policy. Even though the policy has been not yet completely implemented, there is a buzz about this. In this paper we are focused on analyzing the sentiments of the people about the same. In this study, we will be performing sentiment analysis using the popular social media platform 'Twitter'. We will be exclusively focused on the tweets being posted on twitter using the hashtag #Neweducationpolicy. The analysis will be done using a sample dataset of 11644 tweets. This will help us understand the sentiments of the people in general on the social media platform, pertaining to the new education policy introduced in the country.

2. LITERATURE REVIEW

The earlier studies conducted are mostly done on the old education system. Since the education policy being introduced is new, there isn't any study that has been done on the new education policy. In 2019, the government called for feedback from the citizens about National Education Policy. The new education policy could have been the result of that feedback call.

Natasha Puri (2019) has appreciated the step taken by the government in 2019 to invite citizens to give feedbacks on National Education Policy and has regarded it as a big opportunity for the citizens to speak their mind about the education policy which was last reviewed 20 years ago. Writer also criticized it that although the call addresses the citizens, it fails to keep under account the issues that the students face directly, like learning environment, equality of education etc. The writer is highly inclined towards big data and feels that basic education should also be having in focus the teaching of big data analysis. The writer has given 7 detailed recommendations that should be implemented. (Puri, 2019)

Marie Lall (2005) had studied the Indian education system on the basis of accessibility. Appreciating the higher education on the basis of quality, while criticizing the accessibility of lower education in rural sectors. The paper deeply studies the historical evolution of education

in India and the way the government has promoted it as a developmental tool using different policies over the years right from ‘operation blackboard’ in 1987 to ‘fundamental right’ in 2001. Providing education is the responsibility of both state and central government where central government makes the policies and does the planning whereas the state government has the responsibility of implementation. The problem arises when different states have different priorities about allocation of funds, thus creating unequal distribution. (Iall, 2005)

Mohan Gautam, Sunny Singh, Gopal Fartyal, Ankit Tiwari, Kuldeep Singh Arya(2016), in their paper “Education System in Modern India”, have briefly examined the education policy in India and also stressed on the importance of the education policy to convert the citizens into a viable economic resource and to harness the latent potential of the human capital. They have used the capability approach where they have tried to know the potential of Indian citizen to achieve their goals and came to the conclusion that change in education policy and investment in the education of the huge population is the need of the hour. And there is also a dire need to analyze and scrutinize the education policies by the central government and regulatory authorities at the national level. (Mohan Gautam, 2016)

Dr. R. N. Nadar, attempted to highlight the issues related to education policy in India and provided some solutions to resolve them. Author has examined the education policy at different levels of education in one’s life. And the author concluded that the issues in the present education system that are daunting the growth of this country can be tackled effectively if constructive and committed actions are taken by the Government to resolve them. (Nadar, 2018)

Ms. Sujatha Ramesh and Dr. K. Natarajan, studied the New education policy of India and the education system prevailing in America. The authors have done a comparative study between both the education systems in a detailed manner and concluded that there should be a flexibility in the education system of India so that the right students embark on right educational program to promote optimal national productivity. (Ms. Sujata Ramesh, 2019)

Kareena Bhatia and Manoj Kumar Dash, studied the education policy from higher education perspective and also compared the education policy for different countries. Authors have also presented the study taking various inputs that a country gives to provide quality education into consideration and concluded that India have huge inputs to be given but the significant improvement in optimum allocation is needed. In overall the authors gives a complete view of the need of value in higher education system in India. (Kareena bhatia, 2010)

3. RESEARCH METHODOLOGY

In this study, the researchers have retrieved tweets on the new education policy in India that was announced in 2020. The data extraction has followed the hashtag #Neweducationpolicy, and a random sample of 11644 tweets was downloaded in R studio using the package “twitteR”. After downloading the tweets, they were cleaned in R to get rid of unnecessary elements. The sample of 11644 tweets was the maximum that were available for download using the package and twitter API keys. The downloaded tweets are preprocessed using a text mining package “tm” in R and converted into a corpus of text. After creating the corpus, analysis on the text was done, to determine the sentiments of the people about the new education policy.

For data visualization plot diagram was created to get the most frequently used words. Lastly a word cloud was created using “wordcloud” package to see the words that appeared maximum number times in the tweets. It is verified that there are no stop words or any special characters.

After finishing the processes in R, sentiment analysis was performed. Firstly, tweets were converted into a text corpus using “syuzhet” package in R. The percentage of presence of ten different emotions namely, “joy”, “trust”, “disgust”, “fear”, “sadness”, “negative”, “positive”, “anger”, “surprise”, “anticipation”, using NRC sentiment dictionary in R was determined. A two dimensional matrix has also been created which is also called term document matrix whose rows and columns are terms and documents respectively. After creating the term document matrix, the researchers have successfully identified the frequent terms pertaining to the new education policy.

4. RESULTS AND FINDINGS

The sentiment analysis that was conducted on the tweets suggested that most of the tweets about the new education policy in India are positive and joyful and a good number of people are still anticipating the impact of the new policy in the country. People are quite surprised about the sensational step taken by the government and the public is putting their trust in government’s novel step. Some individuals on the other hand also expressed their anger towards this initiative, reason being the un-surety they hold in their minds about what it holds for the future of Indian education. People are doubtful also because the government policies proposed are good but the problems arise at the implementation stage. Some people also express their opinions that this step should have had taken a long time ago.

Figure 1 Emotions In New education policy Tweets

If we notice the frequency of the words repeating in the term document matrix, these are extremely relevant to the topic ‘New Education Policy’. The words like knowledge, improving, values, skills, progressive, neptransformingindia are found to the most repeated in the context of the title. These words point towards the opinion of the people which is found to be, that people are linking the new education policy directly to improving, progressing and transforming India in terms of skills, education and knowledge. For any government it is of their utmost importance to increase the productivity of the country which can only be done by providing quality education to the citizens. Repetitiveness of words like promotion and integration spectates that the new education policy promotes the individual’s productivity and integrates it with the country’s productivity. The word “knowledge” has been found nearly 3000 times which is self-explanatory in itself as it shows true sentiments of the people who

have made use of the word knowledge so many times in order to describe the new education policy.

Figure 2

5. CONCLUSION

After completing the twitter analysis, the study concludes that the information available on twitter related to new education policy was most accurate, relevant and rightly depicts the emotions and sentiments of the people. There is optimism in the minds of people for the new education policy as compared to earlier policies. On the other hand, people are also showing anger and negative thoughts but its quantum is very less as compared to positivity and joy; the government officials also used twitter handles to spread positivity about new education policy. We can see positive sentiments among people dominating the overall tweets as expected because of the step taken by the government after almost 34 years. We can see the excitement of people and especially students regarding this policy. Some of the most used words like “knowledge”, “neptransformingindia” and many more helped to make this analysis easier and conclusive. It can be observed that citizens and officials put their trust on twitter in order to showcase their sentiments from their perspective. For analysts also, twitter can be considered as the most preferred social media platform as compared to others to analyze the current emotional state of the population regarding a trending topic in a country related to politics, education, events etc.

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