



Decoding Audience Sentiments on the ‘Mann ki Baat’ Radio Broadcast Using Data Mining Approaches

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Abstract

The popularity of any government depends on the ability to communicate with the common people and that effectively conveys its policies, initiatives, and future goals. Political leaders around the nation employ a variety of communication techniques to engage with the public and inform them of their endeavours. Prime Minister of India Shri Narendra Modi chooses radio podcasts as a medium to reach out to the common people through the programme ‘Mann ki Baat’ since it is a significant communication medium that transmits podcasts to remote areas - villages, districts, and cities. In order to connect with as many people as possible, the “Mann ki Baat” programme is also broadcasted on several social media sites, including YouTube. And, the present study deals with the contents of the videos of Mann ki Baat uploaded on the YouTube channel National Doordarshan and the analysis of the comments posted by the listeners. The analysis of all the comments revealed that Mann ki Baat is a direct radio programme that fosters a link between the people and the PM himself. A larger number of comments are heavily concentrated on PM Modi rather than the content of the programme. Numerous residents make use of this channel to express their joy, rage, and enthusiasm. This research offers recommendations to investigate the critical comments of ordinary men to improve the environment in which they dwell.

Keyword: Radio; Sentiment Analysis; Netizen comment; Podcast; Government

Introduction

Mass communication existed since the beginning of time and has always been an integral part of verbal and non-verbal communication. Mass media has undergone significant change over time from being a tool for general interaction into a universal platform for social information sharing where individuals are able to communicate oneself (Wings, 2021). Numerous mass media medium has emerged over time had a profound impact on the communications technological, financial, socioeconomic, and cultural tendencies of every country. Likewise, radio was marked as an efficient and popular communication medium over the globe during the 19th century. In that centennial, radio was a common household fixture used for either news or entertainment purposes (Mihalis, 2019). Yet, the advancement of digital world has greatly diminished the usage of radio. However, the emergence of Information and Communication Technology (ICT) and digital media have radically altered the radio listening landscape into a new radio broadcasting behaviour. Nowadays, classic radio broadcasters routinely broadcast their programmes and interact with their listeners via online media called podcasts. Regardless of the financial situation, everyone has unrestricted

access to the radio because of its remarkable capacity to act swiftly and immediately (Gandhi & Balamurugan, 2017). Therefore, Prime Minister Narendra Modi of India launched a novel media campaign called “Mann ki Baat”, which was broadcast on All India Radio from October 2014 to connect with common people (Upadhyay & Upadhyay, 2019). Prime Minister Shri Narendra Modi was officially consummated on May 30, 2019, the first day of his tenure for the second term. He also previously presided over India as prime minister from 2014 until 2019. Shri Modi has brought about a paradigm shift in governance that has resulted in a comprehensive, development-focused, and corruption-free administration, prompted by the mantra “Sabka Saath, Sabka Vikas, Sabka Vishwas”. Along with several initiatives and policies, PM Modi launched Mann Ki Baat on All India Radio, a monthly programme where he discusses programmes and policies for country-wide articulation, challenges, and a variety of other concerns. The phrase ‘Mann ki Baat’ is in Hindi language, the national language of India which generally means ‘Speaking my Heart’ (Sabaraju, 2022). The show is always hosted in Hindi language which appeals to a large portion of the population who are not fluent in English. The PM utilises the show to spread awareness of strategies, regulations, conflicts, etc., and it always concentrates on the theme that is presently making headlines. Its distribution and audience participation are impressive because it covers the maximum public through radio, YouTube channels, websites, Apps and other platforms. PM Modi has also claimed and requested the audience to broadcast this programme as a non-political event for the countrymen to build a bridge between them (Deora, 2017).

Since, Mann ki Baat has been broadcasted on a large scale by PM Modi himself to the audiences therefore analysing the programme content and its comments becomes very much necessary to know what information is being provided in the programmes and how the audiences are enheartening and what actually matters to audiences. The scope of this study is confined to the videos and comments of Mann ki Baat initiated and anchored by present honourable Prime Minister Shri Narendra Modi since October 2014 displayed in the National Doordarshan on YouTube. The political review expressions analysis provides great insights to understand the public mood and mind. The digital platform like YouTube provides a very enormous opportunity to the public to express the digital traces, like clicks, views, likes, comments, etc., which became the new metrics to understand the public sentiment in the age of algorithms.

This study aims to provide a fresh viewpoint of the public’s reception to the Mann ki Baat program, with a special emphasis on users’ comments broadcasted by conducting a content-driven sentiment analysis. Sentiment analysis is an opinion mining approach or technique that distinguishes between pleasant and unpleasant opinions about a good or service by utilising statistical, artificial intelligence, and natural language processing

methods and strategies (Pak & Paroubek, 2010). It is also a phenomenon to explore whether the audience's engagement is more particularly directed to the thematic content of the program or on the PM himself. And by incorporating real time user data segments for the sentiment and intention analysis, it tries to present factual and detailed insights into the use of participatory digital spaces by political leaders. The findings of the study will be useful for the political leaders, analyst, news agencies and organizer of the such type of the program. The study will offer novelty through its approach and methods in prompting the juncture of political communication between leaders and common people by analyzing its digital content along with viewers' sentiment and intention patterns on a social media platform.

Literature Review

Various researchers have strived their focus on the programme Mann ki Baat by producing numerous research articles and news articles, eyeing on different aspects of the radio programme. Jayachandran (2016) summed up 16 episodes of Mann ki Baat highlighting the various initiatives undertaken by the government which PM Modi creating awareness in the programme such as the Prime Minister Crop Insurance Scheme, Soil Health Card for farmers and agricultural sectors; Mudra Yojana, Gold Monetisation Scheme for financial management. To know the real time potential and satisfaction of the listeners, Gandhi and Balamurugan (2017) surveyed among 200 respondents shared through google docs/forms about the programme Mann ki Baat hosted by PM Narendra Modi where most of the respondents were satisfied (good, 48.60%). Maheshwari and Khanna (2019) did exploratory research by distributing a questionnaire as well as content analysis of 10 episodes of the programme to specify the major issues, personalities mentioned, and festival importance which highlight that each issue has been picked with consideration, and the triumphs that enhance the public perception of the in-power administration are emphasized. Sharma and Dubey (2021) explained the usage of Motivating Language Theory (MLT) on the radio programme Mann ki Baat by Modi revealing that Modi has been employing motivating language demonstrating empathy, creating significance, to a pretty efficient level, improving his motivation and performance. Kaur and Mishra (2020) conducted a content analysis of Mann ki Baat episodes specially on Covid 19 that reveals that the nation was able to control its resources and obtain time for preparedness on the front of the health sector thanks to PM Narendra Modi's appeals to the public on several instances to battle Corona, in addition to his efforts to raise awareness of its dangers. Sambaraju (2022) studied Modi's political rhetorical concern on adhering to COVID 19 permissible practices because the data demonstrate that Modi expresses guidelines and options for implementing these in terms of anticipated national service. Kaur and Mishra (2022) intend to analyse the Mann ki Baat

program's content on 24 chosen broadcasts through NVIVO. Many studies have been carried out on the programme Mann ki Baat based on Covid 19, political views, motivational language analysis and also numerous content analyses of the episodes. One of the earliest comprehensive studies of Mann Ki Baat was carried out by Garg (2019), who used natural language processing (NLP) on Twitter replies and broadcast transcripts. Makwana and Ganatra (2022) curated Mann ki Baat programme concentrating on content from March 2020 to February 2021 intended to deliver hierarchical clustering, sentiment and thematic word-cloud visualizations using statistical modelling during the pandemic era. However, there is no sign of evaluating the sentiments, emotions and intentions of the comments posted in the programme Mann ki Baat to exactly know the thoughts of the people regarding the program. By means of the free Webometric Analyst and Mozdeh software, Thelwall (2018) presented the Comment Term Frequency Comparison (CTFC) approach as social media analytics to assess YouTube comments. This paper evaluates specific research concerns or parameters regarding YouTube comments, such as the methods for determining gender, sentiment specifications, and networks of relationships between themes, and it explains how to get the responses utilising Mozdeh along with a variety of explanations and visual representations.

Likewise, through sentiment analysis, the customers/audiences can reveal their true acceptance of the product or service that has been provided to them. It can expose the real-life user-satisfaction value of the consumers so the manufacturers have the opportunity to improve and modify the product/service.

Objectives

- a) To know the distribution of videos engraved in the programme Mann ki Baat
- b) To display the distribution of comments posted by the viewers on the YouTube National Doordarshan channel
- c) To exhibit the time series graph of the comments posted by the audiences in the programme Mann ki Baat
- d) To analyze the sentiment, intention and emotion of the English comments on Mann Ki Baat videos
- e) To analyse the top words frequency within the comments

Methodology

The analysis of the sentiments of the comments from Mann ki Baat episode will directly provide a view of the opinion of people towards PM Modi as well as the programme. Mann ki Baat programme is being displayed on many platforms viz. radio channels and many sites such as www.narendramodi.in, <https://pmonradio.nic.in/>, www.pmindia.gov.in and many more. However,

this platform does not provide the opportunity for the common people to share their feedback regarding the programme since this is the only programme where PM Modi is directly interacting with common people through social media networks every month. The YouTube channel National Doordarshan is the key channel to show the radio programme in vodcast format for the audience where the viewers have the privilege to share their opinions in the form of comments. A total of 123 numbers of videos were found in the name of Mann ki Baat programme initiated on August 7, 2013. But the first 26 videos were hosted and elaborated as a talk show manifesting on different socio-economic issues of the country and humanity. Later from October 2014, Prime Minister Modi started hosting the programme moving up to 97 numbers of videos until the date of data collection i.e., October 3rd, 2022.

Fig. 1: Step-wise display of the processes of data collection and data analysis

STEPS	PROCESS	SOURCES/ SOFTWARE
Step I	Selecting the regional YouTube channel to provide full-episode	National Doordarshan
Step II	Acquiring the video Id from each episode manually	Source Page
Step III	Retrieving the YouTube API key	Google Cloud Console
Step IV	Retrieving the basic details of the videos through video IDs as query	Webometrics Analyst
Step V	Extracting the comments posted to videos via through video IDs as query	Webometrics Analyst
Step VI	Manually weeding out the non-English language comments	3937 no. of comments
Step VII	Analysis of Sentiment, intention and emotion was	ParallelDots.com
Step VIII	Extraction of Top word frequency and gender based top users to post comments	Mozdeh

The video Ids for data collection were retrieved from the HTML file of the web page of each video by searching the video Id (annexure 01) on the source page. The extraction of video details and comments was done from the software Webometric analyst (<http://lexiurl.wlv.ac.uk/>) by dotting the video

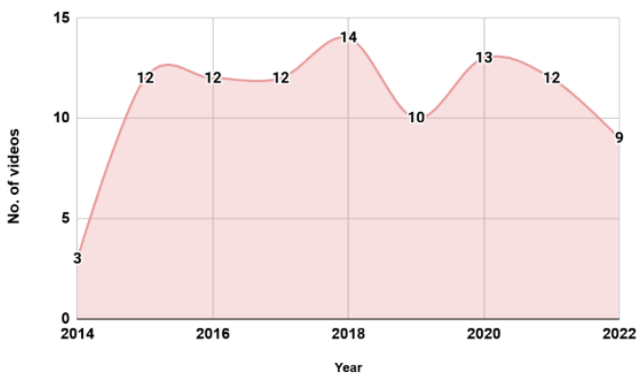
Ids as query. Later, after mining out only English language comments ($n=3937$), the analysis of sentiment, intention and emotion was carried out with the help of the online site Paralleldots.com/Komprehend.io (<https://komprehend.io/>). The paralleldots.com service works as an add-on service implemented in Google Spreadsheet by executing the designated functions/formula (Deori et al., 2021). For top word frequency and top user stat, Mozdeh (<http://mozdeh.wlv.ac.uk/>) software has been used (Deori et al., 2022). The analysed dataset is interpreted in meaningful interaction through various charts, tables and graphs with the help of Tableau, Google Spreadsheet, MS-Excel. And for visualization of the top word frequency, Worditout (<https://worditout.com/>) has been used.

Data Analysis and Interpretation

Year-wise distribution of videos of Mann ki Baat

Fig. 2 shows the year-wise distribution of videos of the programme hosted by PM Modi. The Mann ki Baat programme has been started since August 07, 2013 on the National Doordarshan YouTube channel where certain knowledgeable personalities catch up on one topic for each episode on sociological and psychological issues of society. However, PM Narendra Modi started hosting the show later in October 2014 which has reached up to 97 numbers of videos until September 2022 producing one episode each month. Yet in certain months, the number of videos increases to two episodes per month. In 2018, in the month of November, three episodes were broadcast and the Hindi version of the show Mann ki Baat was telecasted in October 2019. Nonetheless in 2020, a special episode was broadcast in the month of July in sign language for the specially disabled people to encourage them during the harsh situation of Covid 19. In January 2015, PM Modi hosted the programme along with the then-US President Barack Obama.

Fig. 2: Year-wise distribution of the videos of Mann ki Baat uploaded by National Doordarshan



Duration of the videos

Table 1 displays the duration of videos of Mann ki Baat hosted by honourable Prime Minister Modi. The duration of videos is divided into a ten minute intervals where 31-40 minutes has the maximum number (64) of videos followed by 21-30 minutes with 27 numbers of videos. However, the first interval i.e., 0-10 minutes does not have videos. And the lengthiest video is about one hour twenty-three minutes which is a special telecast celebrating the completion of 50th episode of Mann ki Baat hosted by PM Modi entitled “Mann ki Baat: Sab ke Saath”, yet still it does not have many views and likes unlike other sets of videos. The length of the video is also a key element that helps the audience to decide whether to absorb by the video or not. The table indirectly reflects that the longer period of videos does not attain much grip over the audiences.

Table 1: Duration of the selected Mann ki Baat videos

Duration	No. of videos	View count	Like count
0-10 minutes	0	0	0
11-20 minutes	4	55575	1109
21-30 minutes	27	471163	10429
31-40 minutes	64	3162892	86277
41-50 minutes	1	15445	443
51-60 minutes	0	0	0
61-70 minutes	0	0	0
71-80 minutes	0	0	0
81-90 minutes	1	2932	71

Resolutions of the selected videos of Mann ki Baat

Within the two defined resolution criteria, the videos are mostly broadcasted in high-definition (HD) with 62 videos while the rest 35 videos are in standard definition (SD). The picture quality in HD is outlined to have more clarity and vision of the imaginings rather than the SD. The SD resolution was grasped for visualization during the first initial years i.e., 2014 (3 videos), 2015 (9 videos), 2016 (3 videos), 2017 (12 videos) 2018 (7 videos) and 2019 (1 video). However, the espousal of HD resolution has grown faster since 2015 to until now. The distribution of HD resolution over the years is represented as 2015 (3 videos), 2016 (9 videos), 2018 (7 videos), 2019 (9 videos), 2020 (13 videos), 2021 (12 videos) and 2022 (9 videos). The none broadcasted episodes are in live and all the episodes are in 2-dimensional view.

Comment Assessment of videos

Table 2 presents the assessment of the highest number of comments extracted from the software Webometric Analyst of each video ids as a query. A total of undertaken 97 videos of Mann ki Baat have induced a number of 16943 comments within the date of data extraction i.e., October 3rd 2022. The

episode of 20th August 2020 of PM Narendra Modi's Mann Ki Baat has attained the maximum number of comments with 4693 comments followed by the episode of PM Narendra Modi's 16th Edition of Mann Ki Baat 2.0 on 27th September 2020 with 2863 comments and PM Narendra Modi's Mann Ki Baat - 26th April, 2020 with 1832 comments. The maximum number of comments that have been extracted by the queries is seen in the immediate years like 2020 and 2021. This can be because of two reasons either the programme has gained more recognition over the years of continuous telecast or the audiences are enhancing more on the importance of social media power. On the other hand, the preceding years like 2015, 2014 have the minimum number of comments.

Table 2: Top videos to attain maximum comments

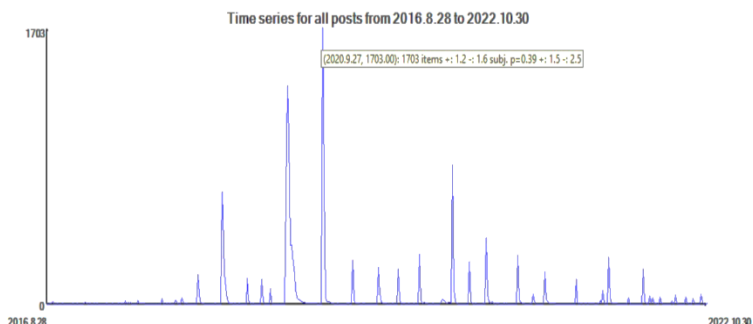
Video Name	Video ID	Date of publication	No. of comments
PM Narendra Modi's Mann Ki Baat	gQURE9PWM1U	August 30th 2020	4693
PM Narendra Modi's 16th Edition of Mann Ki Baat 2.0	hXQ8rP3Z8Q0	September 27th 2020	2863
PM Narendra Modi's Mann Ki Baat	gbrjxmeCHKg	April 26th 2020	1832
PM Narendra Modi's 21st Edition of Mann Ki Baat 2.0	CrxhyPALEbo	February 28th 2021	839
PM Narendra Modi's Mann Ki Baat	Cc4ELRvKauA	June 28th 2020	577
PM Narendra Modi's 23rd Edition of Mann Ki Baat 2.0	nYuPX-gSxA	April 25th 2021	529
PM Narendra Modi's 83rd Edition of Mann Ki Baat	6zoTT5Yhs7E	November 28th 2021	387
PM Narendra Modi's 18th Edition of Mann Ki Baat 2.0	FZIX-n_Z4qY	November 29th 2020	384
PM Narendra Modi's Mann Ki Baat	c0Lugly96H8	May 31st 2020	378
PM Narendra Modi's 24th Edition of Mann Ki Baat 2.0	QYI2N36Aq38	May 30th 2021	370

Time series representation of the comments

Fig. 3 demonstrates the time series graph of the comments extracted from the queries. The graph represents the post of comments by the audiences per day and the graph was created on October 30, 2022, from the software Mozdeh. The spike of the graph reveals that on that particular day i.e., September 27, 2020, the comments posted to the video PM Narendra Modi's 16th Edition of Mann Ki Baat 2.0 have led to a maximum extent of 1703 comments. And the second spike is shown on September 01, 2020, with 1039 comments to the video PM Narendra Modi's Mann Ki Baat on August 30,

2020. The shape of the graph represents the upside-down U-shape which reflects that the middle year videos have received the maximum attention and comments from the audiences specially in the year 2020 the key prevalence of Covid 19 virus and lockdown.

Fig. 3: Time series graph of the comments



Identification of Top Commenters

Table 3 picks out the top commenters amongst the audiences in the selected videos of Mann ki Baat categorizing into gender outlook. Amongst approximately three million viewers of the programme Mann ki Baat in National Doordarshan YouTube channel, only 16943 comments have popped out in the comment section. Yet the majority of the commenters from the audiences have not defined or unidentified their gender while creating their own YouTube channel. Only 1.33% of the commenters have identified themselves as male (225 commenters) and female (226 commenters), while the rest 97.34% commenters unidentified their gender as a result of which they belong to the category 'Undefined' with 16492 commenters. Rita Patil is the top commenters in female category with 11 posts uploaded in the comment section while Mohammed Saifulla H is the top commenters in the male category by only commenting 6 post all total. But Swadha Nandy is the one to grab the top position as commenter in the undefined category with 35 posts in all 97 videos of Mann ki Baat hosted by PM Modi.

Table 3: Display of Gender-based Top Commenters

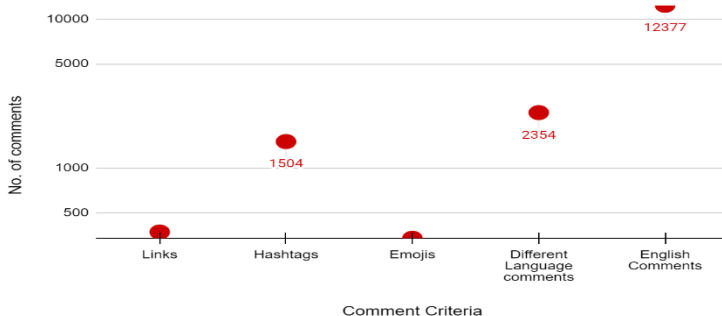
Gender Category	Rank	User	No. of post
Female	1st	Rita patil	11
	2nd	Vicky Kumar	7
		Usha Ravi	
Male	1st	Mohammed Saifulla H	6
	2nd	Jack Sparrow	5
		prince general knowledge	
Undefined	1st	Swadha Nandy	35
	2nd	Ehtesham Mohammed	22

Categorizing the Variety of Comments

Fig. 4 exhibits the comments posted by the audiences to the videos of selected Mann ki Baat programme in a variety of categories. The comments have been induced to each category by observing the framework of the comments manually. The comments have been divided into five categories such as links, hashtags, emojis, variety of other languages and English comments. Of all the extracted comments, the comments with emojis are the least in numbers with only 337 comments and the second least is the comments with links (371 comments) where the majority of the links are the YouTube links that are mostly irrelevant to the programme. The hashtags category has a strong prevalence in the overall comments with 1504 in numbers. In the hashtags (#), most of the comments were about “Rojgar” or “Employment/Job” and certain comments were specifically mentioned as “#speakupforSSCrailwaystudents” and “#stopuppclprivitization” and some of hashtag’s comments were focusing on the supporting the farmers.

The English comments have the highest prevalence over all the comments with 12377 comments that have been classified accordingly later in Fig. 6. However, the category of variety of languages has another level of significance all over the comments with 2354 comments. The various languages that are seen in the comments are mostly Indian Languages such as Hindi, Punjabi, Tamil, Telugu, Gujarati, Kannada, Bangla and Malayalam. Despite being an Indian show, there were certain foreign language comments in Thai, Urdu and Burmese which signifies that the Mann ki Baat broadcast hosted by PM Modi has gained recognition at an international level. However, for the study of the sentiment, emotion and intention, only English comments shall be accepted.

Fig. 4: Distribution of variety of criteria in comments posted by the audiences

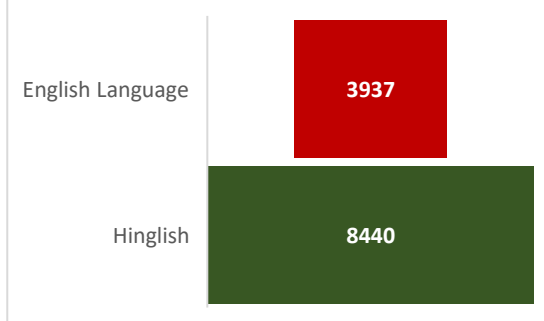


Classification of English Comments

Fig. 5 penetrates the display of the variation of language intrigue in the English language comments. The English language comments have been classified into two different categories based on the recognised formal language i.e.,

English Language and Hinglish. The English language is the comments where terms or sentences have English meanings. While according to Oxford Languages, Hinglish is an informal language which is a combination of Hindi and English, particularly a form of English used by Hindi speakers that frequently uses Hindi vocabulary or grammar. Hinglish began to gain recognition in the 1960s, where an Indian author Shobha De began using a language in her works combining both languages i.e., Hindi and English. Amongst 12377 comments identified English language, 8440 (68.19%) comments are in Hinglish language and only the other 3937 (31.81%) comments are purely in English language. Anyhow, to study the sentiment, intention and emotion of the comments, only the English Language comments (3937 comments) are undertaken since the tool (paralleldots.com) which is used to analyse the sentiments does not support multiple languages other than English. Yet the statistics of the comments reveal that average Indians primarily prefer Hinglish over English.

Fig. 5: Variation of comments in terms of English language

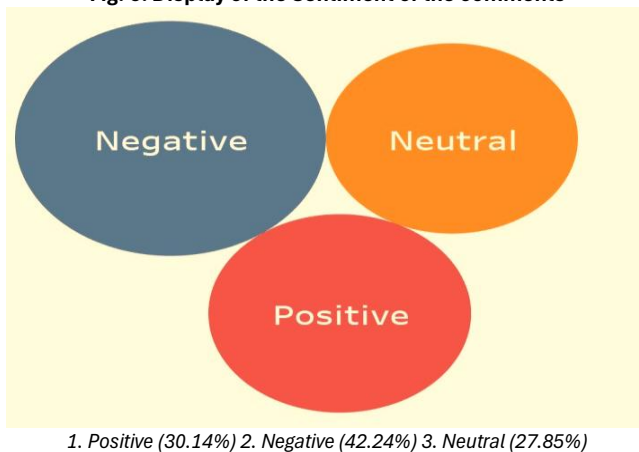


Sentiment of the comment

Fig. 6 depicts the sentiment of the extracted English comments from the programme Mann ki Baat. The sentiments of the comments are analysed by using the online site paralleldots.com also called as Komprehend.io. About 1184 (30.14%) comments were interpreted to have positive sentiments regarding the programme and PM Modi as a host. The audiences with positive comments are proud and support PM Modi. From all the 3937 comments, most of the comments are seen to have negative sentiments with 1659 (42.24%) comments that represent that the audiences are unhappy or unsatisfied. The audiences or common people chose the programme Mann ki Baat as a platform to share their disappointment with PM Modi and his government. Most of the negative sentiments portray their unhappiness regarding certain issues such as unemployment of youth, corruption, inflation, economy of the country, and privatization of government organizations like hospitals, airports and many more. Some of the viewers are

depressed with PM Modi due the unsolved problem of farmers. The comments with neutral sentiments (1094 comments; 27.85%) are the comments which are either irrelevant to the context or request to PM Modi that do not consist of any positive and negative terms such as 'speak on job', 'speak for students', 'speak for SSC railway exam' and many more. The evaluation of the sentiment shows that the comments are more about PM Modi rather than the programme Mann ki Baat itself.

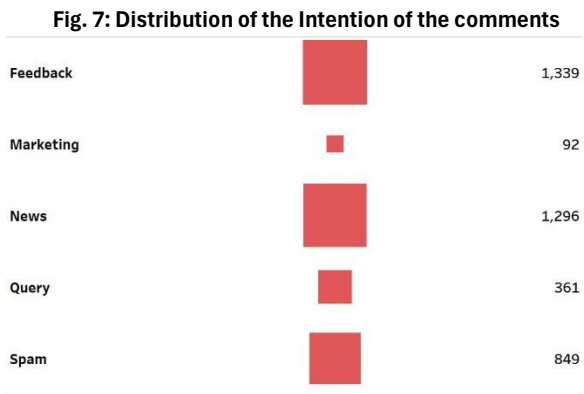
Fig. 6: Display of the Sentiment of the comments



Intention of the comments

Fig. 7 represents the intention of the viewers towards posting the comments in the videos of Mann ki Baat. The analysis software Paralleldots.com already put ahead the five-default categorization of intentions such as feedback, marketing, news, query and spam. These five intentions can provide a clear view about the main motive of the commenters towards the content of the videos. From all the undertaken English comments, it is found that most the viewers are eager to convey their feedback with 1339 (34.09%) comments. The feedbacks can be either positive or negative like asking for help from the PM, appreciating the PM and also trying to reveal the actual situation of the common people. Feedback is then followed by news with 1296 (32.99%) comments where the audiences acknowledge the schemes and policies while requesting the PM to take interest in the unemployment condition of the youth and its corruption. The spam (849 comments, 21.61%) comments are either irrelevant for the study or the comments does not give any clear meaning to the sentences. The category of query (361 comments, 9.19%) represents the phase where the audiences ask explanations about certain issues as such declaration of results for both employment and examination of students; about unemployment; lockdown; privatisations and policies to

PM Modi. The category with the least numbers of comments is Marketing (92 comments, 2.34%) which generally advertise of products and promotion of YouTube channels or make positive comments about the PM Modi.



Emotion of the selected comments

Fig. 8 reveals the emotions of comments by analysing the comments of the selected videos of Mann ki Baat through Paralleldots.com into six different categories. The emotions of the comments disclose the distinctive feeling of the audiences. The maximum comments of the audiences are angry with 34.83% followed by happy (24.82%) emotions. The angry emotions of the audiences depicted the unsatisfactory and unhappiness about the strategies or tactics used by PM Modi to run the government and mostly about unemployment. The happy emotion of the comments shows the respect and love for PM Modi as well as the programme Mann ki Baat. The Excited (16.80%) category is about both being supportive comments and request comments for some changes to PM Modi; and the next following emotion is sad (13.34%), fear (5.93%) and bored (4.51%). Most of the emotions of the comments are gloomy and fuming about PM Modi and his decisions regarding the strategies to run the government as well as the programme Mann ki Baat.

Depiction of the Top words

Fig. 9 illustrates the most frequently used words in the comments on the videos. Word frequency is a compilation of classified sets of words that are ranked by how frequently they appear in the corpus, which aids in identifying the bustle and trend of comments on YouTube content. The software Mozdeh was used to extract the top 1000 terms where the software’s home page displays a drop-down menu of analysis options and individuals can click on the Analyze tab. Clicking List of top words will provide two text files, one containing the entire list and the other with 1000 top words, where the top

terms and the frequency of occurrence have been documented. The demeaning keywords are eliminated manually, and use WordItOut (<https://worditout.com/>) to showcase the top 160 terms. The Fig. reveals that the term ‘Modi’ is most frequently used by the audiences with 1971 frequency. Most of the other commonly used terms are ‘berojgari’ meaning ‘unemployment’; ‘rojgar’ meaning employment; exam; bharat; Indian; election and many more key elements. This top frequently depicted word shows the actual view and concern of the audiences towards PM Modi and his strategies.

Fig. 8: Determination of different emotions of the selected comments

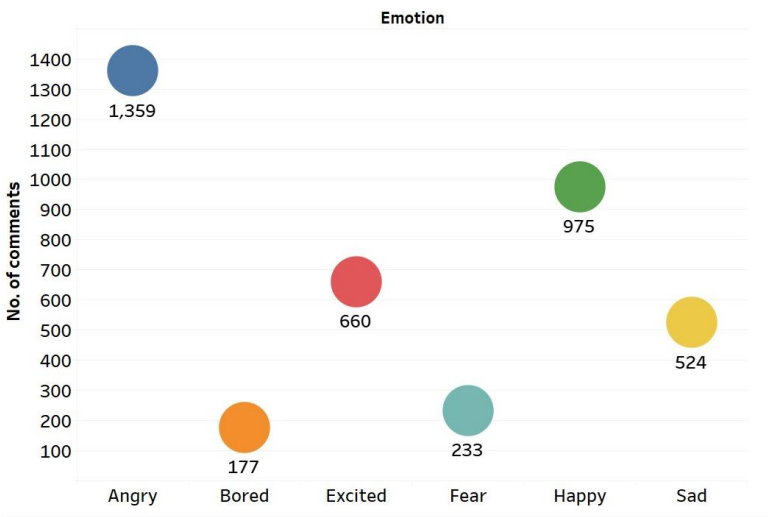


Fig. 9: Top word frequency of the comments



Conclusion

Sentiment analysis has given new perceptions to different services, products and organizations by giving out actual people's view on it. Since, countless consumers use the Internet and social media to express their ideas, thoughts, emotions, and life events. Nevertheless, closer examination reveals that most of these opinions and emotions are useful; for instance, the majority of commercial enterprises and political campaigns rely on gathering information about public viewpoints and sentiments via social media and evaluating if they are neutral, negative, or good (Aqlan, 2019). Likewise, the present tried to sum up people's opinion from the comments of YouTube videos of Mann ki Baat hosted by PM Modi. The Mann ki Baat was basically started in August 2013 however, PM Narendra Modi began to host the radio programme later October 2014 and since then only 97 videos. Mostly the duration of videos

were about 31-40 minutes with 64 videos which had the maximum view counts 3,162,892 and likes counts of 86,277. Majority of the Mann ki Baat videos in the National Doordarshan channel of YouTube are in high definition (HD) rather than standard definition (SD) resolution. During the time series analysis of the comments, on the date of 27th September 2022 maximum number of comments have been posted by the audiences. The categorization of the comments exposes that maximum number of comments are in English whether it is in pure English language or Hinglish. The mining of all the comments has shown that a greater number of comments are focused on PM Modi rather than the Mann ki Baat programme since it is a direct radio programme that builds a connection between the people and the PM himself. And the people take this platform as an opportunity to speak out their happiness, anger and excitement. However, the analysis of the sentiments of the English comments reports that most of the audiences have negative opinions about the strategies and policies of PM Modi of how he governs the country. The anger of the audiences is mainly regarding the unemployment of the youth which has been highlighted in Hinglish language also. The study gives out a statement for the policy makers and the government/PM Modi as well to check out the grievances of the common people to make it a better place to live.

The study also had certain limitations while accomplishing the processes of the methodology. Since the software/site (paralleldots.com) used for analysing the sentiment, intention and emotion did not have the efficiency to support multiple language and it also could not detect sarcasm used by the commenters who posted comments on the videos of Mann ki Baat. The incompetency of the tool to analyse the Hinglish language has brought out a bigger section of the comments to be unable to make any definite statement. The inefficiency of the analysing tool has certainly pushed the result of the comments to differ a bit, however the evaluation of the English comments

made out a clear indication about the opinions and feeling of the audiences. The present study provides ample scope for further studies of sentiment analysis on different speeches delivered by important key persons like presidents, prime ministers and other high-profile political leaders across the globe which will provide the common people's feelings and sentiments on those particular speeches. To determine the precise information on such important speeches time to time such studies are very important and necessary.

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Her contributions to the current study are manuscript review; referencing and revision

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Annexure I: List of queries (Video Ids) for data extraction

S.N	Video name	Video Ids
1	Mann Ki Baat	h7wdQxzcDyU
2	Mann Ki Baat	PSDI28ecRjc
3	Mann Ki Baat	jMVU3BAE914
4	Mann Ki Baat	3b-SaC3z6sk
5	Mann Ki Baat	lNlgldgXsg0
6	Mann Ki Baat	ZMOqSloYmXc
7	Mann Ki Baat	3cAfgoY-S6M
8	Mann Ki Baat	TB0HjAkBQEU
9	Mann Ki Baat	Aj__dcdk1b0
10	Mann Ki Baat	RTF__OaewLPM
11	Mann Ki Baat	6zoTT5Yhs7E
12	Mann Ki Baat	IsCrcn0MMW8
13	Mann Ki Baat	-MwETmoKq0I
14	Mann Ki Baat	nmKbVmT-KMs
15	Mann Ki Baat	tUYW6YH1Ky4
16	Mann Ki Baat	S5h8NAXh_cl
17	Mann Ki Baat 2.0	QYL2N36Aq38
18	Mann Ki Baat 2.0	-nYuPX-gSxA
19	Mann Ki Baat 2.0	4N3F5dKRuyo
20	Mann Ki Baat 2.0	CrxhyPALEbo
21	Mann Ki Baat 2.0	9Y0cWk5FwF4
22	Mann Ki Baat 2.0	0XcnfWKO9XA
23	Mann Ki Baat	BRnrBuN5Gkc
24	Mann Ki Baat 2.0	FZIX-n_Z4qY
25	Mann Ki Baat	Z2inBzVsmjg
26	Mann Ki Baat 2.0	hXQ8rP3Z8Q0
27	Mann Ki Baat	gQURE9PWM1U
28	Mann Ki Baat	9qaYDrveSKU
29	Mann Ki Baat: With Sign Language	hvN_oSLDgCc
30	Mann Ki Baat	Cc4ELRvKauA
31	Mann Ki Baat	c0Lugly96H8
32	Mann Ki Baat	gbrjxmeCHKg
33	Mann Ki Baat 2.0	ZwGs8p2-63c
34	Mann Ki Baat	yEzXeH4U_KY
35	Mann Ki Baat	UrIsuFNSD-w
36	Mann Ki Baat	xyHnsw9zmPU
37	Mann Ki Baat	qfum4H3nVOA
38	Mann Ki Baat	XieypZtNLLw
39	Mann Ki Baat	lMeJ3ELvrdg
40	Mann Ki Baat	-19nW78l0ec
41	Mann Ki Baat	xw6XeZ7kiuE
42	Mann Ki Baat	1ywj9FRMTg
43	Mann Ki Baat: New India Sankalp / Part 100	7QyeY8YyffA

S.N	Video name	Video Ids
44	Mann Ki Baat: Sab Ke Saath	-4BjRNVZZ8k
45	Mann Ki Baat	RL93BI8rX88
46	Mann Ki Baat	DMK82O65zEQ
47	Mann Ki Baat	O_PMpkiwwec
48	Mann Ki Baat	nQBG0n_Pb3l
49	Mann Ki Baat	hSvoAuOZzOY
50	Mann Ki Baat	0Fh66U-wnPc
51	Mann Ki Baat	k_jxJRb1Gxk
52	Mann Ki Baat	RB02xYxWhQQ
53	Mann Ki Baat	kshW6Aa-2a4
54	Mann Ki Baat	uN4koPonJBA
55	Mann Ki Baat	mjGPNesjPzE
56	Mann Ki Baat	iRK6xZk8KII
57	Mann Ki Baat	w6BP2nbKCrI
58	Mann Ki Baat	X0m1E7QA2Hs
59	Mann Ki Baat	Fz0P6CShcVk
60	Mann Ki Baat	FTqWFwfsAul
61	Mann Ki Baat	VPBhe8so_WQ
62	Mann Ki Baat	tJK0iEIXRj8
63	Mann Ki Baat	pgAJIZQ-EDg
64	Mann Ki Baat	x2cDapZd0sc
65	Mann Ki Baat	teGBajAAHx0
66	Mann Ki Baat	4CwejrRp88VA
67	Mann Ki Baat	M_7iKXvIcnA
68	Mann Ki Baat	kWXJIRWLzJk
69	Mann Ki Baat	kIK5C1oegcg
70	Mann Ki Baat	fAVWq4UnUlc
71	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	aXQCcHkB2bk
72	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	IOoTN8_KiYo
73	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	MJoNqX4LiXM
74	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	PoHuVvbdob8
75	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	2DdlpdF9zIQ
76	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	U9yclk66fEY
77	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	m-9-BQGMt28
78	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	0AdF7Q_LXK0
79	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	uHZp6EVQ5nQ

S.N	Video name	Video Ids
80	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	s1sPrhDz9D4
81	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	l5hkPRxO9-8
82	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	wWtSjDgq4pc
83	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	8pBVqZr9i90
84	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	r1FSzXGRdSs
85	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	w73YWUrsBCI
86	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	nUCCgGODbXM
87	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	DE4Zyv74WcU
88	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	NXhjtlgqqzs
89	Mann Ki Baat	0kTpHqfDhWk
90	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	kg1vMsSHv00
91	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	9iV_MfBERjU
92	Mann Ki Baat with farmers	LtwB1m2yez0
93	Mann Ki Baat: Prime Minister Narendra Modi shares some thoughts with us	tr0dyX_G5Lc
94	Mann Ki Baat: Prime Minister Narendra Modi and US President Barack Obama	kNBwx1Rvj08
95	Mann Ki Baat: PM Narendra Modi shares some thoughts with us	9ezZaDJMQYI
96	Mann Ki Baat: PM Narendra Modi shares some thoughts with us	vUkm1wOmF0E
97	Mann Ki Baat: PM'S FIRST ADDRESS TO NATION ON AKASHWANI	hiCzNdT5a88

Annexure II: Distribution of comments according to each video IDs

SN	Video ID	No. of Comments	SN	Video ID	No. of Comments
1	0AdF7Q_LXK0	1	50	lMeJ3ELvrdg	6
2	0Fh66U-wnPc	6	51	lNlgldgXsg0	27
3	0kTpHqfDhWk	0	52	LtwB1m2yez0	8
4	0XcnfWKO9XA	290	53	M_7ikXvlcnA	1
5	-19nW78l0ec	6	54	m-9-BQGMt28	1
6	1ywjD9FRmtg	1	55	mjGPnesjPzE	11

SN	Video ID	No. of Comments	SN	Video ID	No. of Comments
7	2DdlpdF9ziQ	1	56	MJoNqX4LiXM	1
8	3b-SaC3z6sk	78	57	-MwETmoKq0l	34
9	3cAfgoY-S6M	54	58	nmKbVmT-KMs	226
10	-4BjRNVZ8k	1	59	nQBG0n_Pb3l	0
11	4CwejRp88VA	4	60	nUCCgGODBxM	0
12	4N3F5dKRuyo	338	61	NXhjtlgqqzs	1
13	6zoTT5Yhs7E	387	62	-nYuPX-gSxA	529
14	7QyeY8YyffA	2	63	O_PMpkjwec	6
15	8pBVqZr9i90	0	64	pgAJlZQ-EDg	1
16	9ezZaDJMQYI	4	65	PoHuVvdbob8	2
17	9iV_MfBERjU	0	66	PSDI28ecRjc	43
18	9qaYDrveSKU	364	67	qfum4H3nV0A	31
19	9Y0cWk5FwF4	320	68	QYl2N36Aq38	370
20	Aj_dcdk1b0	236	69	r1FSzXGRdSs	4
21	aXQCcHkB2bk	4	70	RB02xYxWhQQ	3
22	BRnrBuN5Gkc	43	71	RL93BI8rX88	0
23	c0Lugly96H8	378	72	RTF_OaewLPM	50
24	Cc4ELRvKauA	577	73	s1sPrhDz9D4	6
25	CrxhyPALEbo	839	74	S5h8NAXh_cl	102
26	DE4Zyv74WcU	2	75	TB0HjAkBQEU	54
27	DMK82O65zEQ	5	76	teGBajAAHx0	1
28	fAVWq4UnUlc	8	77	tJK0iEIXRj8	2
29	FTqWFwfsAul	13	78	tr0dyX_G5Lc	6
30	Fz0P6CShcVk	11	79	tUYW6YH1Ky4	306
31	FZIX-n_Z4qY	384	80	U9yclk66fEY	1
32	gbrjxmeCHKg	1832	81	uHZp6EVQ5nQ	1
33	gQURE9PWM1U	4693	82	uN4koPonJBA	13
34	h7wdQxzcDyU	74	83	UrIsuFNSD-w	51
35	hiCzNdT5a88	0	84	VPBhe8so_WQ	2
36	hSvoAuOZZoY	24	85	vUkm1wOmF0E	13
37	hvN_oSLDgCc	41	86	w6BP2nbKCrl	13
38	hXQ8rP3Z8Q0	2863	87	w73YWUrsBCl	1
39	IOoTN8_KiYo	1	88	wWtsjdGq4pc	0
40	iRK6xZk8KIl	11	89	X0m1E7QA2Hs	6
41	IsCrcn0MMW8	98	90	x2cDapZd0sc	5
42	jMVU3BAE914	53	91	XieypZtNLLw	27
43	k_jxJRb1Gxk	11	92	xw6XeZ7kiuE	8
44	kg1vMsSHv00	2	93	xyHnsw9zmPU	70
45	klK5C1oegcg	20	94	yEzXeH4U_KY	77
46	kNBwx1Rvj08	10	95	Z2inBzVsmjg	343
47	kshW6Aa-2a4	5	96	ZMOqSloYmXc	55
48	kWXJIRWLzJk	3	97	ZwGs8p2-63c	326
49	l5hkPRxO9-8	1	Total	16943	