

Analysis of Imran Khan's Tweets About Palestine and Kashmir Issues Through Natural Language Processing Technique

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Abstract

In this paper, the purpose is to carry out the sentiment analysis of Imran Khan's tweets about Palestine and Kashmir Issues, in order to check the negative or positive polarity in his tweets as the Prime Minister of Pakistan. The data consists of all his tweets about Palestine and Kashmir Issues. The number of tweets about Palestine and Kashmir Issues is 139. The data was collected from the official Twitter account of Imran Khan dated from 20th August 2018 to 10th April 2022. The data was collected manually and analyzed quantitatively using software RStudio and then manually analyzed using face theory to reveal the negative or positive face of Imran Khan and subsequently, the findings revealed that all of these tweets contain the more positive sentiments and less negative sentiments and revealed a positive face of Imran Khan as the Prime Minister of Pakistan. The study is useful for the general public by using any platform of social media to extract polarity and identify the positive or negative face from different social media posts of different political or non-political figures.

Keyword: *Sentiment Analysis, Tweets, polarity, positive face & negative face*

Introduction

Sentiment Analysis is one of the techniques of Natural Language Processing, it observes users' expressions and then connects those feelings to the data which is provided (Rajput, 2020). Sentiment analysis, often known as opinion mining, is a technique of NLP that reveals the emotional undertone of a body of text. Sentiment analysis seeks to ascertain a writer's perspective on a particular subject or the general contextual polarity of a work. The author's effective state, or their emotional state at the time they were writing, or their intended emotional communication could all be considered attitudes (that is to say, the emotional effect the author wishes to have on the reader) (Luo et. al, 2013). Unsurprisingly, sentiment analysis's inception and quick development follow social media users. In reality, sentiment analysis is currently directly at the center of the social media study. Hence the sentiment analysis does not only have an important impact on NLP, but may also has an impact on management sciences, political science, economics, and social sciences; as they all are affected by the people's opinion (Liu, 2012).

Social media has recently become a global phenomenon that has grabbed billions of users very swiftly. Users of this social networking platform based on type of electronic communication are able to create and share content in a variety of informational, expressive, visual, auditory, and audio formats. As a result, social computing emerges as a new field of study and development that covers a wide range of subjects, including web semantics, AI, NLP, network analysis, and big data analytics (Farzindar & Inkpen, 2018). Some of the social networking sites; Facebook, Twitter, YouTube, Flickr, Instagram etc. have revolutionized the way we communicate on social media. Twitter has become a significant social networking platform. Twitter is a well-known microblogging platform for monitoring public sentiment towards a certain thing or person. With such a large group of people, it is always drawing its users to share their opinions and viewpoints on any problem. As a result,

numerous domains use Twitter as a data source. In the last several years, a lot of study has been done using Twitter data to examine people's sentiments (Pinto, 2020). Sentiment analysis is a rapidly growing area of natural language processing, and it ranges from document level classification to know the polarity of words and phrases. The purpose of this study is to reveal the sentiments and emotions through Imran Khan's tweets. This study will be helpful to reveal the negative or positive face of Imran Khan and will help the users in opinion-making. The present study will be helpful for the general public by using any social media platform to extract negative or positive sentiments from the social media posts of any political or non-political bodies for face revelation through their choice of words

The goal of this research study is to analyze the sentiments in Imran Khan's tweets from his official Twitter account. There is need to understand the polarity in his tweets as he is one of the most prominent political bodies of Pakistan. The wide range of social media users in Pakistan daily visit these websites and read his tweets also comment on these tweets but do not understand how an individual's sentiments are revealed from his/her post. Earlier studies with sentiment analysis have done in different areas. A study revealing Imran Khan's face during his political campaign in 2018 has also been done. This study will carry out the sentiment analysis of Imran Khan's tweets during his period as the Prime Minister of Pakistan.

In Pakistan a large number of people from almost all layers of the society use social media. The reason to conduct this study is to help people using social media to recognize where a particular sentiment is being revealed by Imran Khan. The current study is about the sentiment analysis of Imran Khan's tweets as the Prime Minister of Pakistan. It will not cover all of his tweets for the sentiment analysis because he became active on Twitter in 2010 and it would not be possible to collect all of his tweets before, during and after his ruling period which covers a time period of almost twelve years, because of the time restraints and limited

words limit for this project. And this study the focus will be on his tweets about Palestine and Kashmir issues. Following are the research questions which are generated in order to check the frequency of tweets with the negative and positive polarity to reveal the sentiments of Imran Khan towards Palestine and Kashmir issue. In this regard, following research questions have been generated:

- How the face is being revealed by Imran Khan's Tweets using Politeness theory?
- What is the frequency of the tweets revealing Imran Khan's positive face?
- What is the frequency of the tweets revealing Imran Khan's negative face?
- What is the frequency of the tweets to avoid face-threatening acts?

Literature Review

Sentiment analysis is actually a system of knowing polarity (positive, negative, and neutral) in discourse (Saeed, Zahra & Fayyaz, 2021). It is a field of study sometimes known as opinion mining that focuses on views, sentiments, assessments, and appraisals toward various entities, including goods, problems, issues, organization, people, and so forth (Liu, 2012). In order to understand someone's feelings and viewpoints, opinion mining or sentiment analysis can be used to explore or analyze their opinions, feelings, and evaluations in a particular direction. Conversations in everyday life are used to express feelings.

Sentiment can be used to significantly affect and reshape speech, for instance by allowing some features and limiting others (Hartelius, 2017). Polarity can be positive, negative and it can also be neutral, and it can be used to unveil the face of an individual (Mejova, 2009). In the sentiment analysis, the positive and negative words used by individuals are analyzed.

The term Sentiment can be used to determine a range of emotion towards a particular phenomenon. Sentiment analysis can be done at several levels, including at the document, sentence, and word levels. (S.Mandal et al, 2018). Sentiment Analysis helps in decision making as well in opinion mining regarding a particular phenomenon. Sentiments have the

power to enable or disable different functions of the discourse. it is possible that it may divert audience's attention from an important issue to a less important issue (Saeed, Zahra & Fayyaz, 2021). The role of multilingual sentimental analysis in the countries like India which has many languages as the style of language expressions differs a lot (Bera, Ghose and Pal, 2021).

Due to the wide application of sentiment analysis in real life, this is one of the most important reasons that make Sentiment Analysis a popular research problem. Before 2000, there was a little research in the field of NLP or linguistics, and the reason for this is that previously there were few opinion texts. After 2000, it became one of the fastest growing research areas in data mining, web mining, and information retrieval (Liu, 2012). Generally, sentiment analysis investigates mainly at following three levels: (Liu, 2012).

- Document-level sentiment classification is the term used to describe this activity. The study makes the assumption that every document conveys an opinion regarding a single thing, like a single product. As a result, it does not apply to documents that assess or contrast several entities (Liu, 2012).
- Sentence level classification determines whether each sentence expressed a negative, positive or neutral opinion. Neutral means no opinions (Liu, 2012).
- Both sentence-level and document-level analysis do not reveal what people actually liked and what they didn't. The aspect level does a more thorough analysis. The aspect level used to be called the feature level. Instead of looking at constructs (documents, paragraphs, sentences, clauses or phrases), the aspect level looks directly at the opinion (Liu, 2012). In this study sentiment analysis is done on the sentence level.

Theoretical Framework

Brown & Levinson (1987) proposed the politeness model during the years later in 1987. His model has the most fundamental and important component which is described as

Model Person (MP), a willful speaker or user of a natural language. Then model person has more fundamental abstracts which includes rationality and the face. The second fundamental abstract is derived from Goffman (1967). A Model Person has both of the negative and the positive face. Positive face is concerned with the wish of the Model Person to be accepted, approved and appreciated by the others and the negative face is associated with the desire of the model person to show his sole authority on others, and the Model Person desires to be freed from the societal impositions' debts or obligation. Now in order to achieve any of these faces, the model person is needed to make a rational choice. Another important component of the theory is face-threatening-acts now it depends upon the rational decision of the Model Person to do a willful choice in order to save the face. One of the most striking features of this theory is that it comes with the universal notion of politeness, but it becomes one of the points where it is most criticized (Alabdali, 2019).

The theory of politeness developed by Brown and Levinson was the most well-known and commonly used piece of work in the field of interlanguage pragmatic study (1987). The politeness model developed by Brown and Levinson is based on Goffman (1955, 1967), who introduced the positive face and stressed its significance in all social interactions. Positive and negative faces were more evident in Brown & Levinson's (1987) approach, which placed emphasis on the idea that such faces serve as indicators of the "steady wants" of interlocutors. It centers on the notion of politeness. Notable components in the framework of the theory include positive face, negative face and face threatening act. According to Brown & Levinson's assumption in politeness theory based on forms: positive and negative. Brown & Levinson defined positive face in two ways: as "the want of every member that his wants be desirable to at least some others, executors" or "the positive consistent self-image crucially including the desire that his positive image be appreciated" and the negative face was defined as "the want of every 'competent adult member' that his actions be unimpeded by others.

“Positive and negative face” are universal in human society, claim Brown and Levinson. A face-threatening act is one that, by acting against the needs and goals of the other, naturally harms the addressee's or speaker's face. According to their assumption, one of the most important reasons for flouting one or more Grice’s maxims (1975), this assumption is proved to be logical when the situations are considered where abiding by them resulted in impolite utterances (Alabdali, 2019). Environmental factors and political revolutions are the most important subjects to be taken into account along with the rationality because these are considered as influential factors in redefining polite expression in some eastern countries (Omar, Ilyas & Kassem, 2018).

Research Methodology

The purpose of this research study is to carry out the sentiment analysis of Imran Khan’s tweets in order to check the polarity in his tweets. The main process of the research starts with the collection of the data base from social media platform Twitter. Next stage involves the pre-processing of the collected data, followed by the construction and evaluation of the sentiment analysis model. Sentiment model of keywords methods is applied to check the polarity words such as anger, anticipation, disgust, joy fear, trust, surprise and sadness. The data collected for this study has been collected from the official account of Official Twitter account of former Prime Minister of Pakistan Imran Khan. I collected the tweets of Imran Khan from 20th August 2018 to 10th April 2022, the time span in which he served as the Prime Minister of Pakistan. I collected data from this time span because of his services as the Prime Minister during this, after achieving highest votes in the General Elections of 2018.

The collected data is pre-processed before the analysis. In the phase of pre-processing, some of the shortened spellings such as mtg (meeting), abt (about), org(organization), esp(especially), mths(months), govt, (government) etc. are replaced with the correct spellings. Some Urdu words such as Jalsa, Naya Pakistan, Insaaf, Tehreek, Awan are

replaced with their English substitutes. Some of the grammatical mistakes are also corrected. In the current study, in order to do the analysis a software R-Studio is used in order to check the sentiments in Imran Khan's Tweets to check his positive or negative face. R-Studio is open and free source for the data analysis. In R-Studio, different packages are available for the text analysis. The directory in which all these packages are stored for the text analysis is called a library. In order to do the sentiment analysis of the Tweets, the researcher downloaded the 'syuzhet' package. The collected data is changed into a CSV file from the word file. In the final phase, the data is analyzed through software 'R-Studio'. After the computational sentiment analysis of the tweets the results of the tweets were manually analyzed using face theory to reveal a positive or negative face of Imran Khan as the Prime Minister of Pakistan.

Data Analysis

This part of the research article contains the analysis of the Tweets using one of the Natural Language Processing Techniques, Sentiment Analysis. It discloses the results of the Sentiment analysis of the Tweets generated by software R-Studio. The results of the analysis show negative or positive polarity in the written discourse and reveals the negative or positive face.

The number of Tweets collected for the analysis are 139, and the total corpus is 8,914. The results derived from R-Studio are displayed in graphs. The Tweets are further divided into 1 to 3 variables by R-Studio after the analysis. All of the variables have different sentiment scores with the same sentimental scales. After uploading the converted CSV files on R-Studio, the software automatically generated variables of the tweets. Different scales were generated by the software R-Studio for the sentimental analysis including anger, anticipation, disgust, fear, joy, sadness, surprise, trust including negative and positive (R-Studio, 2021) which shows the final scores for negative and positive polarity and reveals the

face of Iman Khan. Table:1 has been given below representing the variables and sentimental scales.

Table 1

Variables and Sentimental scales (R-Studio Team, 2015)

Category	Number of Tweets	Variables	Sentimental Scales
Kashmir and Palestine	139	Variable I Variable II Variable III	anger, anticipation, disgust, fear, joy, sadness, surprise, trust, negative and positive

Description of Variable I of Palestine and Kashmir Issues

The detailed description of the variable I of the Palestine and Kashmir issues is discussed in this section of the study. The sentimental scale for the variable one is given in the table given below:

Table 2

Sentimental Scales of the variable I (R-Studio Team, 2015)

Variable	Sentimental Scale									
I	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust	Positive	Neg.

The table above represents the sentimental scales generated by R-Studio for this variable: anger as a negative sentiment, anticipation as a positive sentiment, disgust as a negative sentiment, fear, joy, sadness, surprise, trust as positive sentiments. Overall, it represents the positive and negative scale for tweets (R-Studio Team, 2015)

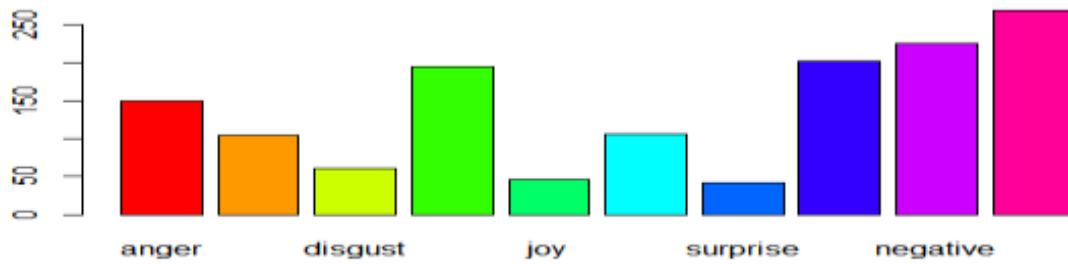
Score Count of the Variable I

With reference to the variable I of the category V, ‘Kashmir and Palestine issues’ total tweets are 139, regarding this, the score for anger in this category is 150, the score for

anticipation is about 100, the score for disgust is about 50, the score for fear is 200 which is the highest score for this scale from all categories since now, the score for joy is about 50, the score for sadness is 100, the score for trust is less than 200 and more than 150 out of 250 as represented in the figure given below. The overall sentimental results of the first variable show the number of tweets with positive polarity are still greater than the number of tweets with the negative polarity. Although for addressing the issue of ‘Kashmir and Palestine Issues’ the choice of Khan’s words was full of anger and disgust. The overall results show the score for positive polarity is 250 and the score for the negative polarity is 200.

Figure 1

Sentiment Analysis Score of Variable I of Kashmir and Palestine Issues



Description of Variable II of Palestine and Kashmir Issues

The detailed description of the variable II of the Palestine and Kashmir Issues is discussed in this section of the study. The sentimental scale for the variable one is given in the table given below:

Table 3

Sentimental Scales of the variable II (R-Studio Team, 2015)

Variable	Sentimental Scale									
II	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust	Positive	Neg.

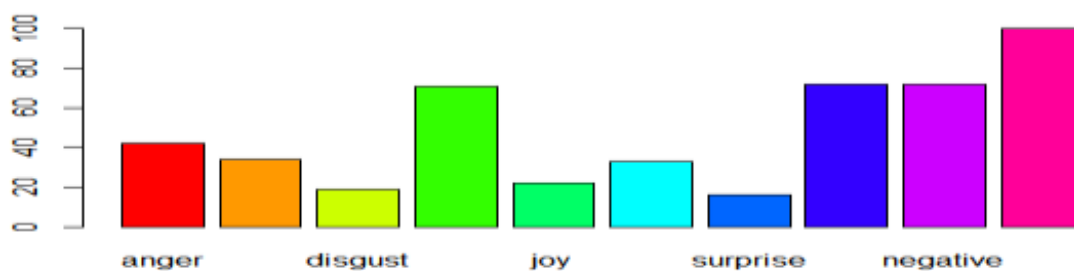
The table above represents the sentimental scales generated by R-Studio for this variable: anger as a negative sentiment, anticipation as a positive sentiment, disgust as a negative sentiment, fear, joy, sadness, surprise, trust as positive sentiments. Overall, it represents the positive and negative scale for tweets (R-Studio Team 2015)

Score Count of the variable II

With reference to the variable II of the category V, ‘Kashmir and Palestine issues’ the number of total tweets is 139, the score for anger is around 40, the score for anticipation is less than 40 and more than 35, the score for disgust is about 20, the score for fear is less than 80, the score for joy is more than 20, the score for sadness is about 40, the score for surprise is less than 20 and the score for trust is more than 60 but less than 80 out of 100. The overall results of the sentiment analysis shows that the number of words in this variable with the positive sentiments is larger than the number of words with the negative sentiments. The score for negative polarity has less than 80 score and the score for positive polarity is 100 out of 100 as represented in the figure given below.

Figure 2

Sentiment Analysis Score of Variable II of Kashmir and Palestine Issues



Description of Variable III of Palestine and Kashmir Issues

The detailed description of the variable III of the Kashmir and Palestine Issues is discussed in this section of the study. The sentimental scale for the variable one is given in the table given below:

Table 4

Sentimental Scales of the variable III (R-Studio Team, 2015)

Variable	Sentimental Scale									
III	Anger	Anticipation	Disgust	Fear	Joy	Sadness	Surprise	Trust	Positive	Neg.

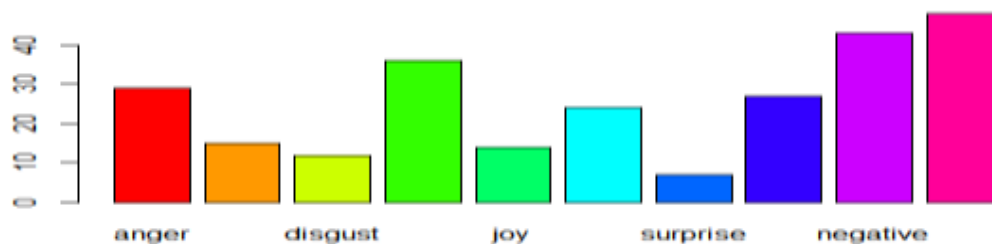
The table above represents the sentimental scales generated by R-Studio for this variable: anger as a negative sentiment, anticipation as a positive sentiment, disgust as a negative sentiment, fear, joy, sadness, surprise, trust as positive sentiments. Overall, it represents the positive and negative scale for tweets (R-Studio Team, 2015)

Score Count of the variable III

With reference to the variable III of the category V, ‘Kashmir and Palestine issues’ the number of total tweets is 139, regarding this, the score for the sentiment of anger is about 30, the score for the sentiment of anticipation is less than 20 and more than 10, the score for disgust is more than 10, the score for fear is less than 40 and more than 30, the score for joy more than 10, the score for sadness is less than 30 and more than 20, the score for surprise is less than 10, the score for trust is more than 20 and less than 30 out of 40. The overall results of the sentiment analysis of the current variable shows that there are a larger number of words with the positive sentiments used in Imran Khan’s tweets than the words with the negative sentiments. The sentiment score for the negative polarity is less than 40 while the score for positive polarity is 40 out of 40 as shown in the figure given below. The number of tweets in this category is 139 which are divided into three variables by the software. All of these tweets contain the more positive sentiments and less negative sentiments.

Figure 3

Sentiment Analysis Score of Variable III of Kashmir and Palestine Issues



The total number of Imran Khan's tweets about Palestine and Kashmir Issues is 139. Out of 139 tweets 84 tweets are positive according to the computational analysis and 55 tweets are negative. The percentage of positive polarity is 60.43% and negativity in his tweets is 39.56%.

Theoretically Driven Analysis

Current study does the sentimental analysis using R-Studio and then analyses obtained results through the lens of the Politeness model given by Brown & Levinson (1987). As the notion of polarity is alike the concept of face in the politeness model given by Brown & Levinson (1987). It is revised version of Goffman (1967) face theory. This model seeks to explain the phenomenon of politeness and the similarity of the utterances people use to express themselves linguistically. (Brown & Levinson, 1987). They continued to explain that the face of person can be divided into two aspects; 'Negative Face' and 'Positive Face' defined as follow:

Negative Face

The desire of each "competent adult member" to be free from interference from others.

Positive Face

Every member wishes that their desires will appeal to others. (Brown & Levinson, 1987).

According to Brown & Levinson (1987), these two concepts are threatened during interaction and give rise to the term 'Face Threatening Acts' therefore, there is need for politeness strategies to save the face. It can be regarded as a good strategy in order to check negative and positive polarity in the discourse. the results of the sentiment analysis shows

that a positive face represents the political need of working in collaboration and negative face represents the power and authority of a political leader and his independency in taking decisions without any interference. After taking the oath of Prime Minister Imran Khan shown his positive face due to the ambition of working in coordination with others so he tried to save his positive face from the 'Face-threatening Acts' by adopting the politeness strategies.

Conclusion

This study intends to explore the sentiments of Imran Khan's tweets about Palestine and Kashmir Issues. It justifies the aim of the study by measuring the frequency of positive and negative polarity in Imran Khan's tweets. The results reveal that Imran Khan's tweets positivity is 60.43% and negativity is 39.56% revealing a positive face of Imran Khan. The findings of this study provided the clear answer to the proposed research questions in light of pragmatic theory. This research could be helpful for the future research in different areas including law, history and forensic using sentiment analysis. Moreover, it could be used for the behavioral and psychological analysis and further be implemented in the historical texts to check the polarity in the texts and to reveal the face by applying face theory or Politeness theory. As well, the sentiment analysis of the tweets of two different political leaders and comparative analysis of the face could be done. Although the results of the sentiment analysis help in saving time but it can be more accurate if the developers work on this software for face revealing without manual analysis.

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