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Opinion Mining For Social Networking Platforms

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Abstract

Online social networks have become a popular communication tool for the masses. People are constantly sharing their opinions on social media. By analyzing the various opinions expressed on such sites, we can determine how well a product is doing in the current market. This paper proposes a system that can give the user information in the form of graphs and charts, about the opinions of other users on the product or service. The user can review his own status as well as he can view the topics based on the use and analysis of social networking. The system is also useful for the user's who need review about their new idea. The reviews are collected from users and are analysed based on the minds and thoughts of users. The research involved a comprehensive literature review and opinion on social networking platforms. This paper has made an attempt to understand the use of social networking on various aspects.

Keywords: Opinion mining, sentiment analysis, Social Networking Sites

Introduction

Opinion mining for social networking sites is a web application where users post opinions related to a topic, which are viewed and commented on by other users. The system accepts comments from different users and based on the comments, the system will designate whether the topic of the post is good, bad or worse. Users can change their profile picture and update their status. Multiple users can see these changes. The system's database contains various keywords, expressed as negative and positive words, which help the system to identify reviews and categorize them accordingly.

As the number of participants in social networking sites increases, the analysis and evaluation of information becomes increasingly complex. Opinion mining, also known as sentiment analysis, is the field of study that analyzes people's opinions, sentiments, evaluations, attitudes, and emotions about entities such as products, services, organizations, individuals, problems, events, subjects and their characteristics.

Literature Review

RAVI PRAKASH SINGH (2016) Social networks play an increasingly important role in people's daily lives these days, and the use of social networks has become an increasingly important way of communication in the last few years. Social networking sites like Twitter, Facebook, YouTube and MySpace etc. are gaining more and more popularity. Of the social networking sites, especially the "big tree" services like Facebook, Twitter, and YouTube have grown tremendously over the past few years. Politicians are now using social media and the internet, and in turn are enabling a new arena for local politics. The main objective of this paper is to study the role of social networking sites like Facebook, Twitter and YouTube etc. in Indian politics.

NOOR AZUAN HASHIM ET AL (2016) The emergence of social media has made it possible for a person with an internet connection to communicate with thousands of other people. Due to the heavy use of social media, there is considerable interest in making this medium a commercial site, especially among entrepreneurs who want to explore the potential of their business. Any entrepreneur can experience various benefits and effects from advertising their products and services on social media, including increased fans and ad views and/or increased sales and ROI, as product and business information on social media goes to targeted customers at minimal cost.

EMMANUEL UNEKWU OJIH ET AL (2015) This study was able to clearly demonstrate the effect of Facebook use on the academic performance of students in tertiary institutions in Kogi State. Observations obtained from empirical data revealed that students have accepted the use of Facebook and its academic use is on the rise, although some students still find Facebook downright distracting, many have incorporated it into their learning tools such as research, homework, connecting with friends and lecturers.

SARA SAMEEN (2013) This study examines the use of social networking sites (SNS) to screen candidates in the recruitment process and highlights the factors employers consider when selecting or rejecting candidates. These factors are usually visible on a candidate's SNS profile. A sample of 228 hiring professionals working in small and medium-sized enterprises (SMEs) was used as the data set for the study. The results indicate that LinkedIn is a widely used SNS for screening candidates and that hiring professionals consider professional qualifications, organizational competence and communication skills to be the main determinants of candidate selection or rejection.

SONIA LIVINGSTONE AND DAVID BRAKE (2010) This article summarizes recent findings regarding children's and adolescents' social media practices to identify implications for future research and public policy. They focus on the interdependencies between opportunities and risks, the need for digital or media literacy education, the importance of incorporating security considerations into the design and management of social networking sites, the need to pay more attention to "at-risk" children, and the importance of a children's rights framework in policy-making based on evidence in this area.

ZAHID HAMEED ET AL (2013) The purpose of the study is to assess the influence of social networks on students' academic results and their behaviour. The variables that determine the use of social networking sites as independent variables and dependent variables are student academic performance and student behaviour. The results of this study show a positive and significant relationship between social networking sites and students' academic performance and behavior. Students use Facebook and Twitter most often. The findings of this study are limited as it only covers the education sector.

Background Knowledge

Opinion mining techniques are beginning to focus on social media and incorporate the trend to apply it as a proactive mechanism rather than a reactive one. Almost all works on Twitter opinion mining use machine learning techniques. The networking platforms such as twitter, Instagram, Facebook and other media platforms are the social media management systems that analyze social media and business data to detect brand trends. Social networking sites allow their users to identify social shopping signals, send global or geo-targeted messages across multiple social networks, view brand performance, and track trends, brand health, and performance competitors. Data were extracted from the questionnaire, and the main results were analyzed and synthesized. First, we start by defining the research question. Next, identify the attributes in need for the search. Search for potentially relevant literature and select relevant literature. We then synthesize the relevant information from the literature, and then analyse and interpret the data to report the results of the review.

Objective

Opinion mining is a system that implements the desired functionality. Users post reviews related to a topic and other users will see and comment on that post. Users can change their profile picture and update their status. Use a database of sentiment-based keywords with positive or negative weightings in the database, then rank keywords used in user reviews based on that sentiment keyword. The role of the administrator is to add articles and add keywords to the database.

This application is available for users who like to post information about certain events that have taken place or who can post views about events that are going to take place. This application can also be used as an advertisement to make many people aware of the published topic. This is useful for users who need to see a specific event published. This network opinion clustering technique identifies topics and their development in online social media discussions, as well as active participant interactions.

Expected Outcomes

Social networks have become an important actor of communication. The vast amount of data and opinion on micro-blogging website makes it a rich resource for opinion mining and sentiment analysis. This proposed project, although still ongoing, is producing promising early results. Our goal is to extract useful opinions from social networks and analyze them to determine the performance of products in the market. In interpreting the network, we try to perform various natural language processing steps to derive meaning from the extracted sentences. Using this, we can successfully create a system that extracts opinions from Twitter feeds and categorizes them into positive, negative, and neutral sentiments.

Scope of Research

Online social networks have become a popular communication tool for the masses. People are constantly sharing their opinions on social media. Therefore, social networking sites are rich sources of opinion. By analyzing the different opinions expressed on these sites, we can determine how a product will perform in today's market. It is the system used by the popular microblogging site Twitter to extract user opinions on products or services.

Our proposed system provides a way to extract data from Twitter and perform linguistic analysis on it. By combining artificial intelligence and natural language processing techniques, we analyze data to detect opinions expressed on social networks on a given topic. Social media platforms like Twitter, Facebook, Google+, Whatsapp, Instagram, etc. is a platform that allows people to share and express their views, thoughts, reflections and experiences on any topic, by posting worldwide.

Methodology

To study the analysis on users based on 'opinion mining on social networking platforms' and the reviews collected according to the responses, the questionnaires were developed using Google forms. The targeted responses are mainly from students, employee, entrepreneur and others. The questionnaire was sent to them through email, Whatsapp, and other messengers. The survey carried out for a week time period and was able collect 67 responses out of 90 responses sent. The response gathered includes professional individuals, college and school students, and other group of individuals out of which college students were most, and opinion regarding those category includes the most.

Limitations

There are many risks associated with social media platforms. Many of these risks stem from the blurring of boundaries between our professional and personal lives. We bring our work home and often our personal life to work. The personal information you share can be used against you or your colleagues. The more information you share, the more likely someone is to impersonate you and trick one of your friends into sharing personal information, downloading malware, or giving access to restricted sites. The certain limitations faced in research are:

- Respondents lack the accurate emotional connection on his/her feelings and thoughts.
- Review by online communication lacks to express the feelings and opinion on social networking rather than connecting through physical mode.
- Facilitates laziness to respondents because it makes inconvenient on responding the activities through social networking and causes distraction on reading certain facts.

Data Analysis and Interpretation

Table 1

Occupation of Respondents

Sl. No	Occupation	Number of Respondents	Percentage
1.	Student	41	63.1
2.	Employee	10	15.4
3.	Entrepreneur	10	15.4
4.	Other	4	6.1
Total		**65**	

(Source: Primary Data)

Table 1 discloses the occupation classification of respondents selected for the study. The study gets a maximum of 41 respondents (63.1 per cent) as students followed by 10 respondents (15.4 per cent) in both employee and entrepreneur and 4 respondents (6.1 per cent) in other category on occupation.

Fig 1 – Occupation of Respondents

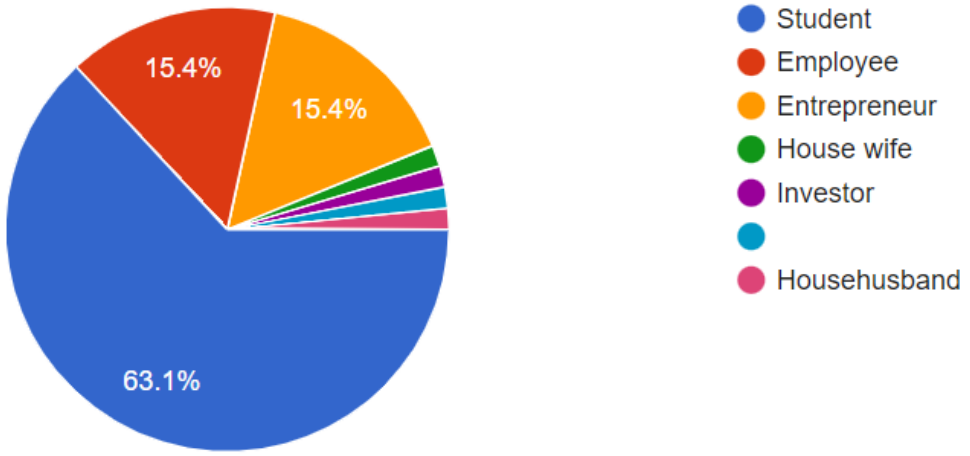

Table 2

Age of Respondents

Sl. No	Age	Number of Respondents	Percentage
1.	**18 - 25**	50	76.9
2.	**25 - 45**	12	18.5
3.	**45 and Above**	3	4.6
Total		**65**	

(Source: Primary Data)

Table 2 discloses the age-wise classification of respondents selected for the study. It knows that a maximum of 50 respondents (76.9 per cent) belonged to age group of 18-25 years followed by 12 respondents (18.5 per cent) belongs to the age group of 25- 45 years and 3 respondents (4.6 per cent) in the age group of 45 and above.

Fig 2 – Age of Respondents

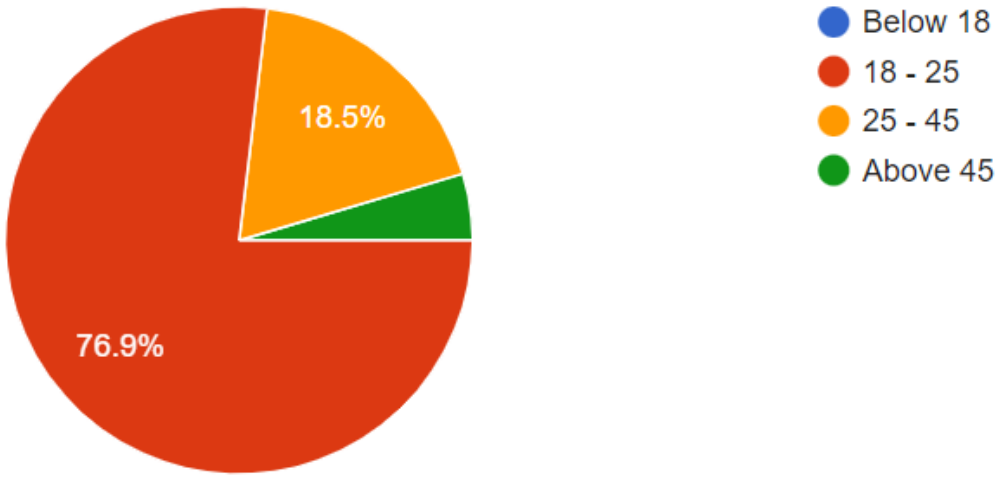

Table 3

Usage of Social Networking Platforms

Sl. No	Statement	Yes	No	Sometimes
1.	Do you use social networking platforms	45	5	15
2.	Can we address social problems of society through media?	40	5	20

(Source: Primary Data)

Table 3 portrays the number of respondents involved in social media platforms and the social problem of society through media. Around 45 respondents (69.2 per cent) use social media platforms and around 15 respondents (7.7 per cent) use it on a varied basis and 15 respondents (23.1 per cent) don't use social platforms. On addressing social problems through media 40 respondents have supported positively and the remaining supported partially and others doesn't support the statement.

Table 4

Frequency of Visit

Sl. No	Frequency of Visit	Number of Respondents	percentage
1.	Everyday	50	78.1
2.	Twice a week	9	14.1
3.	Once a week	3	4.7
4.	Once a month	2	3.1
Total		**64**	

(Source: Primary Data)

Table 4 shows the frequency of visit by the respondents on social networking sites like Whatsapp, Instagram, LinkedIn and Others. 50 respondents (78.1 per cent) visit everyday on media platforms and 9 respondents (14.1 per cent) visit twice a week and 3 respondents (4.7 per cent) visit once a week and the rest 2 respondents (3.1 per cent) visit once a month on social platforms.

Fig 3 – Frequency of Visit

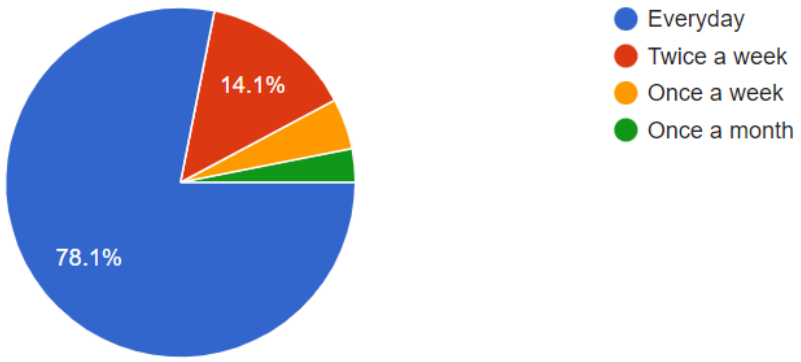

Table 5

Time Spend on Social Media

Sl. No	Time Spend	Number of Respondent	Percentage
1.	<2 Hrs	23	35.4
2.	2-4 Hrs	30	46.2
3.	4-8 Hrs	8	12.3
4.	>8 Hrs	4	6.2
Total		**64**	

(Source: Primary Data)

Table 5 discloses the amount of time spend on social networking platforms. 23 respondents (35.4 per cent) have spent Less than 2 hours, 30 respondents (46.2 per cent) have spend 2-4 hours, 8 respondents (12.3 per cent) have spend 4-8 hours, and 4 respondents (6.2 per cent) have spend for more than 8 hours on social platforms

Table 6

Attraction on Specific Platform

Sl. No	Media Platform	Number of Respondent	Percentage
1.	Facebook	2	3.1
2.	LinkedIn	6	9.3
3.	Instagram	48	75
4.	Google+	4	6.3
5.	Twitter	3	4.7
6.	Xing	1	1.6
Total		**64**	

(Source: Primary Data)

Table 6 shows the most attracted social media platform by the respondents for their personal and integrated use. A maximum of 48 respondents (78 per cent) have used Instagram, 6 respondents (9.3 per cent) have used LinkedIn, 3 respondents (4.7 per cent) have used Twitter, 4 respondents (6.3 per cent) have used Google+, 2 respondents (3.1 per cent) have used Facebook and 1 respondent (1.6 per cent) have used Xing as their attractive social networking platform.

Table 7

Reasons on Usage

Sl. No	Reason	Number of Respondent	Percentage
1.	Friends	35	54.7
2.	Messaging	13	20.3
3.	Blogging	5	7.8
4.	Business Networking	9	14.1
5.	Jobs	2	3.1
Total		**64**	

(Source: Primary Data)

Table 7 conveys the reason behind the use of social media platforms. It is clear that majority uses for getting connection with friends that is 35 respondents (54.7 per cent), and next is for messaging 13 respondents (20.3 per cent), Blogging 5 respondents (7.8 per cent), business networking 9 respondents (14.1 per cent) and 2 respondents (3.1 per cent) for job related reasons.

Table 8

Opinion on Social Networking

Sl. No	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total Responses
1.	Does social networking provide enough opportunities to students	5	3	32	20	3	63
2.	Social networking has negative impact on youth	5	1	37	16	5	64
3.	Social networking had impact on mental health	3	3	27	22	10	65
4.	Social networking generates new ideas and thoughts	1	2	25	27	9	64
Total (According to responses)%		**3.5**	**2.25**	**30.25**	**21.25**	**6.75**	**64**

(Source: Primary Data)

Table 8 discloses the opinion on social networking by respondents on various statements given. Based on statements, respondents chose Neutral as their majority opinion on social networking platforms.

Findings

- The researchers found that a maximum of 65 respondents (78.1%) visit social networking sites on an everyday basis followed by 14.1 percent of the respondents visiting twice a week.

- It is found that the majority of 64 respondents (54.7%) find friends, as the reason behind attraction of social networking sites followed by 20.3 percent who find messaging. Moreover, 14.1 percent and 7.8 percent of the respondents, find business networking and blogging, respectively, as the reason behind the attraction of the sites.

- It is implicit that 46.2% of the respondents spend between 2 to 4 hours in social media regularly followed by 35.4 percent who spent less than two hours and 12.3 percent who spent between 4 to 8 hours in a day.

- It is understood that the major portion of the respondents(57.8%) are neutral about the fact that social networking has a negative impact on youth. 25% agree while 7.8% strongly agree. 7.8% strongly disagree and a very few disagree.

- Clearly, the majority of respondents (76.9) are aged between 18-25 followed by 18.5% are aged between 25 & 45.

- The maximum of respondents (63.1) are students followed by 59.4 are employees, 15.4 are entrepreneurs and a few investors and housewives.

- The products recommended online are somewhat likely to be bought by our respondents (66.2%). 21.5% of the respondents are quite unlikely to buy and 7.7% of respondents are very likely to buy.

- It is discovered that the majority of the respondents(69.2%) use social networking platforms while 7.7% don’t.

- Most respondents (73.4%) think brands' social media presence might influence their purchasing decisions followed by 18.8% believe it does and 7.8% don’t believe.

- Among our respondents 33.8% of the respondents agree that social networking has an impact on mental health and 15.4%of the respondents strongly agree. 41.5% of the respondents are neutral, that is they neither agree nor disagree with the fact.

- Among the respondents, 62.5 percent believe that social media is very effective in solving social problems. While 7.8 percent disagree with this fact. On the other hand, 29.7 percent of respondents think that only sometimes social problems can be addressed through social media.

- Out of the 64 responses 75 percent I am mostly attracted by Instagram followed by 7.8 percent being attracted by LinkedIn. Rest includes Facebook, Google, Twitter, etc.

- It is found that 68.8 percent of the respondents seldomly believe that social media influences their behaviour and actions while 21.9% strongly agree with the fact. While 9.4% of the respondents do not believe social media influences their behaviours and actions.

- The majority of the respondents (47.6) think that social media, sometimes, spreads fake news while 12.7 percent of the respondents believe it doesn't and 39.7 percent believe that it does.

- The majority of the respondents (42.2%) agree that social networking sites generate new ideas and thoughts followed by 39.1 percent of respondents that are neutral about this fact and 14.1 percent of the respondents strongly believe this fact. Very few respondents do not agree with it.

Suggestions

- Social networking sites allow users to share thoughts, digital photos and videos, post and inform others about online or real-life activities and events with those in their social networks.

- Social networking services can be used to organize activities, events or groups to present issues and opinions and make them known to a wider audience.

- Through sites such as Facebook, Twitter, Instagram and Pinterest, social networks can have a social purpose and/or a commercial purpose. Social networking is the use of social media platforms on the Internet to keep in touch with friends, family or peers.

- Marketers use social media to increase brand awareness and encourage brand loyalty. Social media can help connect people with businesses for various needs. Social media marketing helps elevate your brand voice and content.

Conclusion

Opinion mining can play an important role in understanding different issues and various other topics. Opinion mining is a simple and fast method. Many opinion extraction techniques are researched and studied. After analyzing them all, an effective tool was developed. This tool works with data from Twitter. It extracts data from the tweeter and analyzes its text content. He divides it into three different categories of positive, negative and neutral. The three main features of this tool are; it works on live tweets and is a universal tool for any kind of topic. This proposed opinion mining solution is suitable for live streaming. It extracts live tweets from Twitter and processes them to calculate opinions. This allows it to provide real-time analysis, giving us an idea of current public opinion on a chosen topic. It was observed during the literature search that there are tools available for opinion mining. Now it is very useful in human life as it is a hands free app. This is a very simple app. In addition to being used in commercial areas such as laboratories, for safety reasons people wear gloves and tights so it is difficult to type, with voice assistants they can get all the information and facilitate their work. Voice assistants are useful in many fields such as education, life applications and home appliances. Voice assistants are also useful for illiterate people who can get any information just by telling the assistant, a luxury people can get thanks to artificial intelligence based voice assistants.

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