Social media Analysis on the banks working in Pakistan to find which is better.

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ABSTRACT-*As Social Media increase its importance in last decade it also known for the large amount of user generated data full for anyone who want to get it. For betterment and competitive advantage many organizations work on the social media sites provide by them to generate the data or we could say know more about their customer needs. In this paper we discuss with the help of tools like Netvizz and sentiment analysis for analyze and compare customer needs. In Pakistan many people are dissatisfy by their banks. So in this Paper we chose different Pakistan banks brands HBL, Allied Bank, UBL, Albaraka and Bank Alfalah and extract their last 2018 year data and compare them to study which bank is better among people from selected. This case study will help the companies to know about the customer's feeling and reviews about the service and products of companies. We study those comparisons and try to share them with selected banks so they can overcome these issues.*

Keywords: competitive analysis, Social media, sentiment analysis, competitive advantage, text mining,

I. INTRODUCTION

Social media is very common and famous now a days many people using this for different purposes all over the world. They express their views, opinions and feelings about something's. Some of them are customers and they talk about services of companies and brands and products of these companies and some of them are sellers and owner of these companies. They also express feelings about their products and services and other competitor's products and services. People can sell and purchase product using social media they can talk with each other about products. Social media help the competitors to know about the customer's choice and shopping behavior from their conversations on the social media. Customer's data is very important for the competitor to improve their marketing and services. According to He, Zha, and Li [1] they said that textual data on the social media show the secrete knowledge which give competitive advantage to the competitors. But it is very difficult to analyze social media data and also very time consuming job [5]. Social media content is increasing very fast it is very difficult to analyze this rapidly growing social media content. It required automatic social media analytics techniques. Decision making and risk management is very important factor in business and to fulfil these factors people use competitive intelligence Furthermore, since competitive intelligence is an important factor for businesses to use in managing risks and making decisions [2], For successful business there is a need to oversee the own content on social media as well as competitor's. It is very important for the businessman's to know the opinions and feelings of the customers about their own and competitor's products and services. Different studies show that some businesses that use social media data analytics they leave competitor behind in earnings, growth and performance. The social media content which is generated by the customers becoming the new source of competitive intelligence. With the wide adoption of social media by businesses, the large amount of customer generated content on social media sites has become a new source of mining competitive intelligence [3]. It is very important for the competitors after extracting the data from the social media quickly extract the meaningful information that is useful and relevant which clearly show what customers think about their Products and services, using social media data analytics companies can compete more efficiently. Furthermore, Wise competitors apply the learned social media analytics techniques for the development of their products and services [4]. Thus, in order to shine in the business environment companies must use user generated social media content in competitive advantage [6]. This paper include a designed framework which consist some techniques like data extracting, text mining, statistical analysis, sentiment analysis and competitive analysis. These techniques are used for analyzing and comparing the

data. This paper consist of data collected from the Facebook pages related to Pakistani banks such as HBL, Allied Bank, UBL, Albaraka and Bank Alfalah. After collecting the data from Facebook then conduct a case study on this data which is based on the designed framework. Apply all the approaches of framework to find out which is most popular studio's brand. This paper will help out the different competitors to increase their competency in the market and also they can design their own social media competitive analysis framework. This paper have shown little bit effort for the companies it express how social media help them with the use of social media analytics to enhance their business approach. They can easily know about the views of customer's towards their products and brands and services. After analyzing the social media data they can extract the information about their products and other competitor's products and customers thinking about the products. Companies can easily know what customers actually want from the companies and what they like and dislike when companies have this correct information about their products then they can improve their product quality which automatically improve their position in the market. Remaining section of this paper is: 2. includes competitive analytics of social media and social media review 3. Includes designed framework for social media analytics 4. Includes case study using five banks 5. Includes finding and discussions 6. Includes implications of social media analytics 7. Includes conclusion and future and 8. References

II. LITERATURE REVIEW

II. I What is social media?

Social media is an online communication platforms which consists of websites, web applications and blogs. People using the social media for communications, sharing photo and videos. [7]. Social media is very useful as compare to the traditional media because social media is a two way model and there is two way communication is possible but traditional media only support one way communication to communicate with customers [8]. Some common types of social media websites like Wikipedia, social networking website like Facebook, blogs, content communities like YouTube and micro blogs like twitter [9]. Facebook is most famous and popular among the all social media in the term of traffic and usage it has been used worldwide by the businesses to combine the customer to know the customers feelings beliefs and attitude towards their products and services[10][11]. Social media tools give equal opportunities to every business man they can easily take advantage from these tools. According to Radick [12] social media is very important instrumental to promote the consumer awareness and it provide access to large amount of data that generated from the social media and which is used by the consumer for decision making. Social media is used to reach a large viewers with very low cost [13][14], Social media is working as outstanding buses to access the business market and to communicate with peoples, to making good relationship with peoples [15], it facilitate companies that have good brands and products [14], Social media is a platform which designed new techniques to quickly broadcast the information [16], Competitors easily can learn about the feeling, perceptions and actions of customer about the product and brand then they can do
work to attract the loyal [17].

II. II Competitive Analytics of Social media:

It is important for competitors to collect and analyze the content continuously about own and their competitor's content their services, product and plans [1]. Conventionally, competitors extract, information from marketing reports newspapers, websites and. The information extracted from these platforms was limited. Now competitors are using social media for extracting the information and interacting it is very important for the competitors to monitor and analyze the competitor's activities on social media. Big brands are becoming aggressive in the market and they identify the critical situations of their competitors at the starting stage then they set a stable position in market[9]. It is very dangerous for the companies when its competitors use their information from social media and they give products and services according to the customer's opinion and their needs. Simple example of this given by Coombs [18] he said that flow of negative views damage the image of company in the. But according to Dey, Khurdiya, Haque and Shroff [19], they said that social media provide competitor's information but not only has the information also given direct comparison of competitor's product their similarities and dissimilarities in services and customer opinion and feelings about competitor's products and their services. There is need only competitors collect and analyze the social media content continuously then they can achieve advantage from this information. In this way they can overcome their weakness and the enhance their sale value in the market and also this reduce the risk and damage threat and they can easily design latest strategies according to the business requirements [20]. In short, it is essential for business organizations to master the skills of social media analytics so then they can achieve feedback on daily, weekly and monthly bases and then they can generate reports from this and also make news strategies to attract the customers effectively [21][22]. Recent literature

on social media analytics express that only few studies just use social media analytics a lot of people have been doing research on these tools to analyze the social media content [19][23]. He, Zha, and Li [1] used social media analytics approach to analyze the unstructured content on the social media like Facebook and twitter they applied this approach on three largest US pizza brands: Domino's Pizza, Pizza Hut and Papa John's Pizza. Results of this approach show the importance of social media analytics and effect of the on the business and marketing value. There are many approaches that are used by peoples to conduct social media analytics for example traditional statistical analysis, sentiment analysis, and text mining and content analysis to extract data from social media and analyze this data and generate useful information from this data after applying these approaches businessman extract the feeling and sentiments of the customers.

Text mining is used to extract useful information from structured and unstructured data generated from social media [1][24]. The main reason of using text mining is to extract the information from the data that given in the form of text and generate useful and relevant patterns and trends from the data [25]. Chen, Vorvoreanu, and Madhavan [26] used text mining techniques to analyze large amounts of social media data. About students mind they extract conversation of students on social media to understand what students talking about study and what opinion and feelings they have about learning. Corley et al. [27] apply the text mining on the patient of flu to know the trends in real world influenza. Text mining technique consists of information extraction, cluster analysis, categorization and link analysis 25]. Actually, cluster analysis is a core application of text mining and it consists of four parts: selection of feature, algorithms of clustering, results validation and results interpretation [7]. Cluster analysis used help in understanding the datasets and it can support effective decision making [9]. Currently, there are some tools that are used for text mining and analytics for example IBM SPSS Modeler (formerly Clementine), Leximancer, Clarabridge, and the SAS Enterprise Miner.

Sentiment analysis is the study of opinions, emotions, subjectivities and sentiments, in text [28][29][30]. It is a particular application of text mining which is used for special purpose to extract the positive and negative sentiments from the text. [30]. Texts usually contains balanced amount of positive and negative sentiment and to check the polarity sentiment analysis is used in text. Sentiment analysis depend on two machine learning techniques for classification positive sentiment or negative [28][31]. Bollen et al. [32] has applied sentiment analysis on data extracting from the twitter. He has predicted the mood of twitter peoples with 87.6 % accuracy. Duan, Cao, Yu, and Levy [6] applied sentiment analysis to see the review of 70,103 online users about 86 hotels of Washington DC posted on different online platform from 1999 to 2001. DangXuan and Stieglitz [33] have applied tool of sentiment analysis to analyze the two datasets of more than 165000 tweets and they find out how many emotional tweets retweeted more often as compare to other tweets the tool is called SentiStrength [34].

III. A FRAMEWORK FOR COMPETITIVE ANALYTICS

The complete framework which consists of some approaches such as data extracting and analyzing, text mining, statistical analysis, sentiment analysis and competitive analysis these approaches are used to conducting the research on social media competitive. Our designed framework consists of some important methodologies which have been take from various fields such as computer science, mathematics, statistics, linguistics and social sciences. For implementing these approaches there is a need of some algorithms for example text classifications, topic modeling, sentiment analysis and n-grams [25][35]. There are many methods to extract data from social media such as Facebook, Twitter and YouTube. Simplest method of extracting data from social media is the use of web crawling software. Currently, most of the social media sites providing the application programing interface (API's) for data extraction. With the use of these API's organizations can easily develop custom application to extract the data as compare to others social media like blogs do not provide API's to extract the data but they provide RSS feeds to extract the data. Some of them are not providing RSS but they provide facility of HTML parsing which is used to collect the data but it is very time consuming way of data extraction.

The data collected from social media will be saved in repository at the back end and then this data used for analysis. Companies can remove data form front end of the website but at the back end this repository still exist for future use. Our framework can help the competitors to construct the repository of social media content and also managing the heterogeneous social media content. On the bases of our designed framework monitoring of social media and social media analytics can be further developed competitors can save their data from other competitors they can easily extract, store and analyze this content [36]. Reports of each competitors can be generated on daily / weekly / monthly basis on social media which service they are providing to the customers and what is their marketing value and what is the thoughts of customers about their brands and products for example, a company can make its marketing planning and strategies more effective,

responsive, useful and according to the customer's need by analyzing the sentiments and comments about particular brand and product of customers. With the understanding of pattern and trends social media and issues and problems as well the companies can make good decision for their business and they can achieve better quality and good customer experience and better outcome in future from their improved service [3].

IV. A CASE STUDY Research Questions

Case study conducting in this paper consist of data collected from Facebook in the form of total posts, comments, likes and shares related to the Hollywood movies studio brands (Lionsgate Films, Paramount Pictures, Universal Studios Entertainment, Walt Disney Studios and Warner Bros Studios), this study answer the given to questions:

- ·What are customer needs?
- ·What are the differences in their FB posts?
- ·How they interact with customer or people?
- ·Which bank have more social media interaction of their Customers?
- ·What they provide as a gesture to their customer?

V. Methodology used in case study:

Banks are competing each other in the market. These banks connect their customers on social media. Many banks are used in Pakistan but this case study just include Five most popular such HBL, Allied Bank, UBL, Albaraka and Bank Alfalah. All banks getting fame with the use of social media they can add their post on the social media related to their services and facilities that they can provide to their customers on daily basis. Presently, there are approximately 50 banks are working in Pakistan but almost 10 are very famous. All the banks doing marketing on social media like Facebook, twitter and YouTube they can engaged vast amount of users of social media for marketing all social media are now used in some context but Facebook is most popular and it is mostly preferred by the users that's why this paper include the data which is collected from Facebook pages . The data which is used in this paper's case study have been taken from the five most popular pages of Facebook related to the Banks. The data for the HBL Bank have been taken from the page (https://www.facebook.com/HBLBank/), for UBL (https://www.facebook.com/UBLUnitedBankLtd/), for Allied Bank (https://www.facebook.com/alliedbankpk/) for Albaraka (https://www.facebook.com/albarakapakistan), for Bank Alfalah (https://www.facebook.com/BankAlfalahOfficial/). This case study include the method how can apply social media analytics on the data which is collected from social media but main focus of this case study is to know, which is most famous and popular Bank in Pakistan? And which bank have more popularity on social media? There are large amount of user on social media but very small research have been done on this. That's why this paper have main focus on the banks that are famous in Pakistan. After collecting the data related to these banks from above mention pages then apply statistical analysis on this data.

VI. Procedures:

This paper used the designed framework to answer the research questions, this framework is used for competitive analysis. This paper consists of data collected from Facebook related to banks from Jan 1 to Dec 31, 2018 and saved in excel in the form of how many posts banks made in a day and how many people do likes, comments (positive and negative) and shares. This case study only conducting on the data collected form Facebook on April 2018 to May 2018. After extracting the data from Facebook pages with the help of Netvizz tool which is very simple and easy to use then apply all the techniques of designed framework. Firstly apply the statistical techniques for generating graphs of all banks with the help of Excel. Graphs include details of all posts, likes, comments, reactions and shares of peoples related to the posts.

In this Paper Text mining techniques is applied on data extracted from Facebook pages to find out some patterns and categories and problems, and issues. Most of the researcher use Leximancer for text mining and this case study include sentiment analysis tool for text mining it is a famous tool for text mining tool because it have very simple and easy interface any one can easily use this tool for text mining. There are some researchers such as Campbell, Pitt, Parent, & Berthon, used in 2011 and Dann used in his research in 2010 they have been use this tool in their research to analyze the data [37]. Martin and Rice have used this tool to analyze the data of government website and they find out major issues and mainly they find out how many peoples doing cybercrime [38].

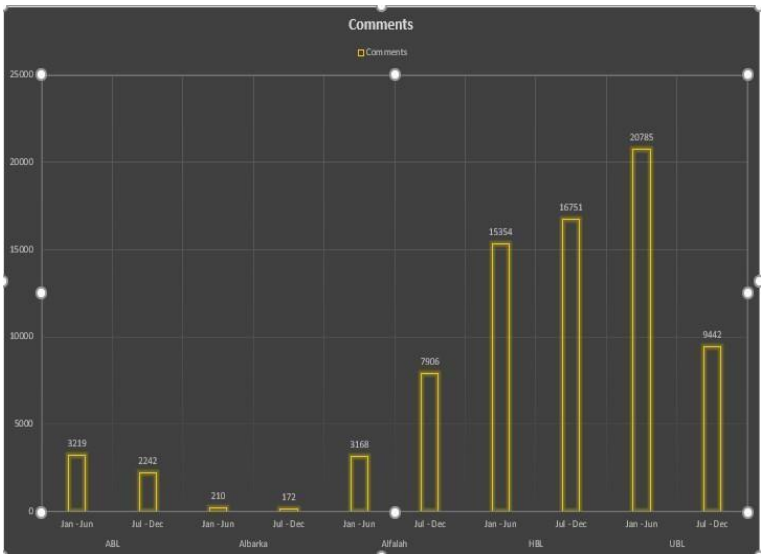
Sentiment analysis is mostly used to monitor the reputation of the brands in the market and it help the brands to know about customer's views towards their products and services. This case study include SentiStrength for sentiment analysis. It is used to find out the positive and negative and neutral sentiments of the customers comments on social media [33].

VII. Findings:

Data collect from the Facebook from Jan 1 to Dec 31, 2018 in the form of posts, likes, comments, reactions and shares. Table 1 in this paper clearly show the total posts, likes, Shares, reactions and comments. This table show that HBL Bank is most famous and popular bank in the Pakistan large number of peoples interacting with this brand in Pakistan. Findings on the basis of statistical analysis have shown in Figures 1,2, 3, 4 and 5 in form of Jan to Jun and Jul to Dec both graph data side by side, which shows the level of customer engagement with to the banks such HBL, Allied Bank, UBL, Albaraka and Bank Alfalah on Facebook how many people posts, likes, Shares, reactions and comments. As Dey, Haque, Khurdiya, and Shroff [39] show that social media data is a key for brands success in the market now a days.

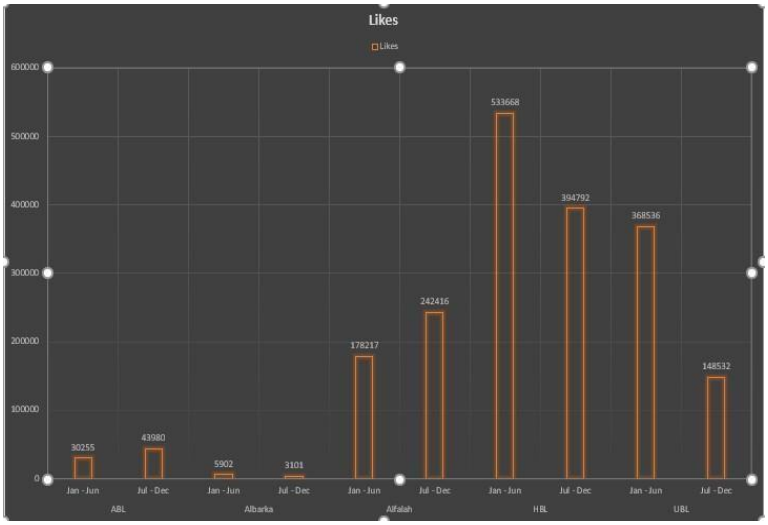
Table 1: Show the data related all Five banks

Brands	Post	Likes	Comments	Reactions	Shares
HBL	369	928460	32105	986943	81662
UBL	287	517068	30227	531544	27770
Allied Bank	323	74235	5461	76147	8829
Albaraka	200	9003	382	9518	3815
Bank Alfalah	307	420633	11074	436496	16291

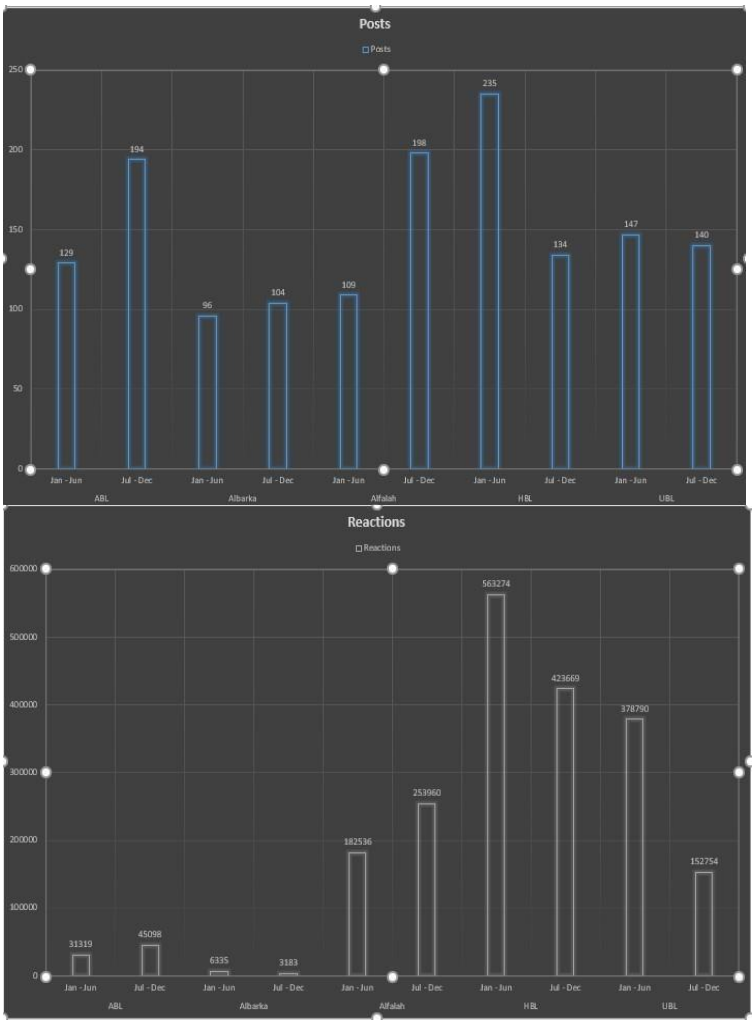


Figure#1: Comparison of number of comments

This paper consists of original posts made by banks on Facebook in this Paper Table 1 showing the Categories of all Five Brands. Service and their discount and offers and tips for the customers all this information.



Figure#2: Comparison of no. of Likes



Figure#3,4 Comparison between posts and reactions

After applying the text mining techniques, we apply sentiment analysis. Analysis On this data which as shown in Table 2. The tables showing the positive and negative sentiments of the peoples related to the all Five brands. Sentiment analysis of all Five brands clearly show that in Pakistan most of the peoples using HBL. Sentiments analysis of this case study depend on the content collected from Facebook from Jan 1 to Dec 31, 2018. Most of the people showing interest for the HBL brand but other brands also used widely but

HBL competing the whole market. HBL's brand giving more offers and new features to the customers

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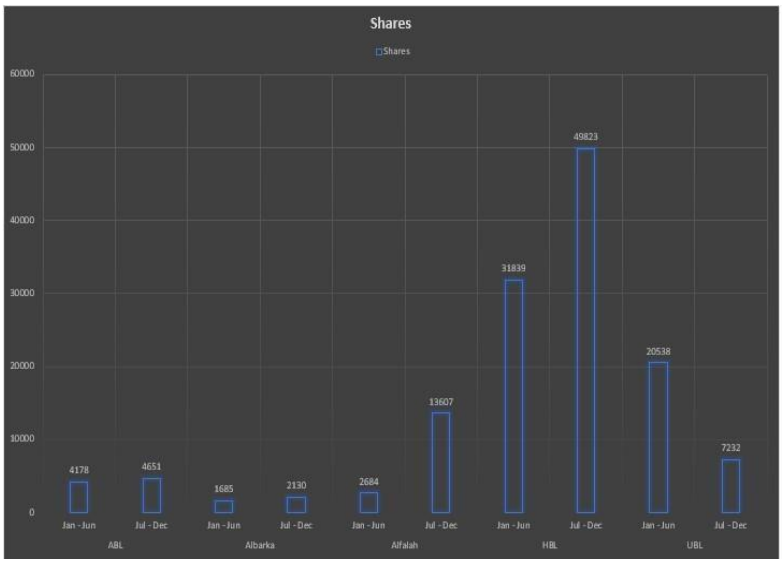
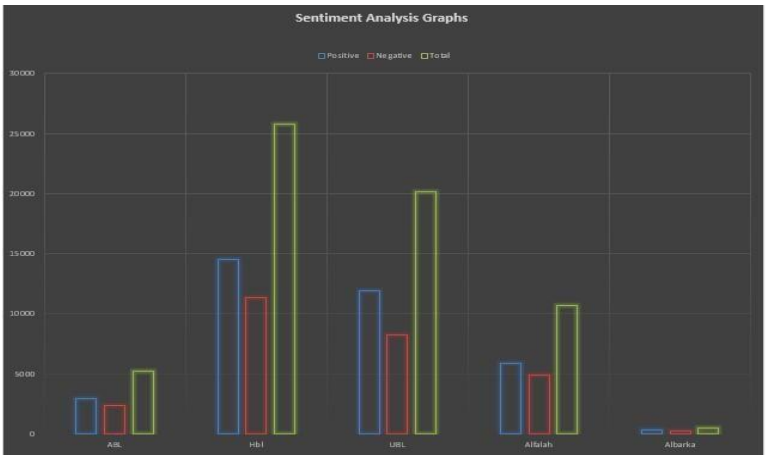


And this brand advertising on Facebook more than other brands this is a key point of success of Allied Bank mobile brand.



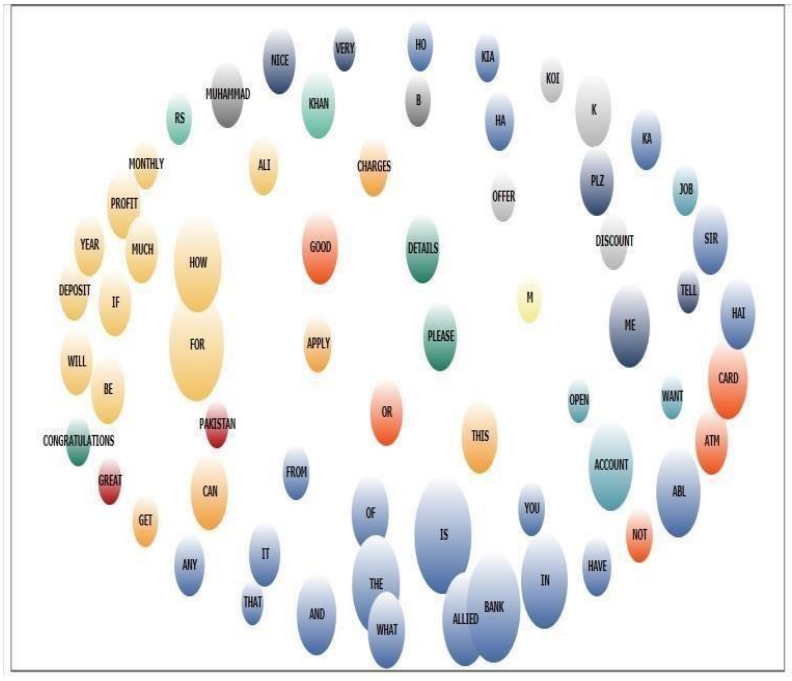
Figure#6: Sentimental Analysis

Table 1: Sentimental Analysis

	ABL	HBL	UBL	Alfalah	Albaraka
Positive	2900	14493	11944	5835	241
negative	2315	11315	8245	4865	223
Total	5215	25808	20189	10700	464

VIII. IMPLICATIONS AND DISCUSSIONS

Social media is a very famous source of generating vast amount of data. Many peoples come on social media for time passing for chatting with friend and family but on the other hand most of the business man come on the social media they talk with their clients about their products and their service this confidential data also is saved on the social media. This data is very useful for other business men they can easily get information about the products that are mostly used by the customers. When this confidential information reach to the other business men they can make new strategies for their business according to the customers need. Data extraction from the social media is very difficult task for the business men and also extracting relevant and useful information from this raw data which is collected from the Facebook is most difficult task and also time consuming. But once this data is collected from social media and also useful information is extracted from this data the business men can use this information for the betterment of their businesses, they can easily improve their products and services quality for customers according to their need. Business men now knows this secrete but they have no idea how to do that. This is the reason of conducting this case study which clearly show that with the use of social media analytics every business man can take advantage from social media content. Social media is a key for all business mans they can extract the data from the social media and then they can apply the social media analytics techniques to analyze and the find out the useful information then they can make proper strategies according to the customer's requirement like my case study I have taken data from Facebook of Five banks and I have shown how to analyze this data and then how to apply social media analytics successful business man can take advantage from these approaches they can make advance planning for their business from reviewing the comments and feelings of users towards their service and products and it will help them in future. Figure#7: Text Analysis Graph



IX. Information Extraction:

The starting point for computers for the analysis of text which is unstructured is the extraction of information. QDAminer key phrases and their relationship within the text. Its pattern matches the identified text words. The software will infer defined relationships within text. After the analysis of all selected Banks HBL, UBL and Allied comments it was found out that its customers are more interested towards the security and reliability of their accounts. This technology can be very useful when dealing with large volumes of text. Traditional data mining assumes that the information to be "mined" is already in the form of a relational database. Unfortunately, for many applications, electronic information is only available in the form of free natural language documents rather than structured databases. In our work we used text mining in order to map the most frequent words we did one by one analysis of each brand of Banks Figure:7 show detailed graphs.

X. CONCLUSION AND FUTURE WORK

This case study find out the way how brand and competitors can take advantages from social media. Social media is a good source of information it hid very useful information in it. This paper's case study clearly show that with the use of social media analytics every brand can take advantage from social media content. Social media is a key for all businessman's they can extract the data from the social media and then they can apply the social media analytics techniques to analyze and the find out the useful information then they can make proper strategies according to the customer's requirement like this case study which is conducted in this paper have taken data from Facebook of Five banks and shows how to analyze this data and then how to apply social media analytics on it. The successful businessman can take advantage from these approaches they can make advance planning for their business from reviewing the comments and feelings of users towards their service and products and it will help them in future. In Future work this paper will include new data

extraction tools and API's and also Weka tool for text mining and statistical and sentiments analysis.

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