

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol. 2, Issue 12, December 2014

Study on Ascendancy of Social Media Analytics

Nitha L

Assistant Professor, Department of Computer Science and IT, Amrita School of Arts and Sciences, Amrita Vishwa Vidyapeetham, Kochi, India

ABSTRACT: This paper explains the importance and budding popularity of social media analytics, which are the tools used for quantifying, exploring, analyzing and interpreting the results of interactions between consumers and products. Social media analytic tools can help different brands and corporate, apart from listening to and connecting with their community, study their behavior, geographical source and acceptability and tap the resources at the optimum. This is achievable because the social media is communicating through various social platforms and thereby allows companies to reach out to their audiences and interact directly. The paper further focuses on Key Performance Indicators (KPIs) such as customer sentiment, brand reputation and customer experiences. Also this paper throws light on the pros and cons of the growth of social media analytics that is likely to occur in the near future.

KEYWORDS: Social analytics, Social Media Analytics (SMA), Social Networking Sites (SNS), Key Performance Indicator (KPI), Social media metrics.

I. INTRODUCTION

The internet has caused globalization like never before and every day prospective consumers and customers propose feedback are engaged in online discussion concerning businesses through Social Networking sites (SNS) like Twitter, Facebook etc.[2] Globally, Internet users communicate their view on different products, services and brand names. Thus companies are discovering the importance to scrutinize and quantify this emerging space. The resources for social media analytics tools is so large and some of the major source of data for analysis are Blogs (Blogger, LiveJournal), Micro-blogs (Twitter, FMyLife), Social Networking sites (SNS) (Facebook, LinkedIn), Wikis (Wikepedia, Wetpaint), Social Bookmarking (Delicious, CiteULike), Social News sites (Digg, Mixx), Reviews (ePinions, Yelp) and Multimedia sharing sites (Flickr, Youtube). Social media analytics tools portray the practice of evaluating, examining and understanding the outcome of communications and relations among users and their thoughts. It also include different techniques like social filtering, social network analysis, customer sentiments analysis, etc. Using these techniques, the corporate can scrutinize and assess their variety of branded goods among multiple users.

II. LITERATURE REVIEW

"Social media analytics is concerned with developing and classifying informatics tools and frameworks to collect, monitor, analyze, summarize, and visualize social media data, usually driven by specific requirements from a target application" [12]. But, the authors [12] also mention, social media analytics also encounter several threats of metadata, (user profile, tags, user-expressed comments, etc.) human-centered computing with their own exclusive highlighting on social interactions among public, semantic contradiction or incorrectness, misinformation and lack of structure as well as dynamic nature of social media data and their sheer size. Yet, up-to-date progress in different scientific development in different streams, exceptionally computer science, statistical analysis, machine learning, computational principles, etc supply a diversity of analysis techniques and process to deal with those problems[10]. The authors [6] find that social media aggregation tools are required to make sagacity of the devastating quantity of data that is being produced, to mold the flow of information, and to categorize patterns over time. From the practical perception, a framework should provide a kind of instruction for the development of toolsets endeavoring at gathering, accumulating, scrutinizing, evaluating, and summarizing appropriate user-generated content from social media for various



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol. 2, Issue 12, December 2014

organizations. As the authors [12] previously point out, social media analytics has a research schema which is multidisciplinary in nature and has drawn attention from many research communities in major disciplines.

Social Media Analytics and Features

It is the process of applying data (both structures as well as unstructured) from social media sites such as twitter, facebook, Google+ and other such sites for better understanding of customer attitude and behavior. It also serve as an effective tool for business and market research and ultimately for business decision making. The large availability of user-generated data and the links between users leads to the dispersion of useful information, opinions and sentiment as well as emergent issues and trends is referred to as 'Social Media Analytics' [7][1][10].

Social media analytics can integrate social conversation into business processes. It provides easy social network management for day-to-day business operations. It adds a framework to analyze billions of social media comments, mine valuable ideas from social conversations and provides customized outcome in the form of charts and dashboards. Thereby inculcate the ideas right through the business to improve the customer journey across all customer aspects – promoting brands, merchandise trade, customer care and more. By understanding customer responses and estimating the impact of advertising promotion, an organization can grow their business. Overall, they can make better decisions and plans across an extensive range of functional areas.

Scope of Social Media Analytics

The goal of any social media analytics platform is to tackle data and then generate meaningful outputs like reports, charts, and scorecards for different reasons. In a conventional marketing department scenario, analyzing market trends tends to be easy, as most of the data resides within marketing databases. But in contrary within a social media based unstructured data, it causes trivial noteworthy challenges for the conventional analytics tools to judge and evaluate the business trends.

Google analytics, HootSuite, Simplify, uberVU, Sprout Social and other such tools can help process information and can endow with tremendous analytics competence that can assist in finding out how social media can help concern and gain revenue by becoming more conscious about consumers or patrons reaction to promotions and products. The Nielsen survey shows that 90% of consumers worldwide trust recommendations from people they know, while 70% trust consumer opinions posted online.1

Strategies for Social Media Analytics

Social media analytics means definition and adoption of new metrics for measuring success, given the complexity of calculating the business results of social media monitoring and analysis activities using traditional marketing services. ²There are two important key terms which are linked to each other and are often misused or used interchangeably called "metrics" and "measurement". 3"Metrics "refers to the terms or parameters that an organization wants to understand. ⁴"Measurement" on the other hand is the next step – the process of taking these metrics or attributes and determining how they are influencing the dealings of an organization, like the marketing campaign. The social media dimension is



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol. 2, Issue 12, December 2014

becoming widely accepted as an indispensable business practice. Though, many companies are finding it complex to choose the exact metrics they need to measure on their social media proposals. But in reality, there is no one way to measure.

While data tracking and monitoring is perturbed with diverse approaches for how and what kind of suitable usergenerated data from various social media platforms can be followed and surveyed, the data analysis part deal with distinct analysis methods for different analysis purposes and approaches. Furthermore, the social media analytic framework considers three major types of social media: microblogging, SNS, and weblogs. Though, there remain many latforms which can be classified as microblogging or SNS, they are, however, often indicated by somewhat different functionalities, target groups, or scope.

Social Media Analytics Metrics

The business objectives and goals needed to be sketched is the foremost step to social media analytics development approach. These objectives are increase in customer satisfaction, increase in sales, increase brand name publicity, etc. ⁵Social Media Analytics success metrics or Key Performance Indicators (KPI) measures or checks whether these goals are achieved or not. These measures or metrics can be comments, likes, shares, retweets, mentions and favorites. ⁶Comments left by users are a shortest way for people to connect with your posts and start a conversation. They are great to follow customer feedback and insight to your customer's viewpoint. Likes are a way for people to show that they find what your post appealing or not. Shares take your content to the next level by distributing it across networks that you are not directly associated to. Retweets are your Tweets forwarded by people who follow you to their own network of followers and whereby offer the chance to contact more people who may think your content is significant. If someone has noticed your comments or post as one of their preferred tweets is called the Favorites and that post will be included in the favorite tweets list which is open for everyone to share.

Advantages of Social Media Analytics

As social media analytics software advanced, business organizations achieve beneficial judgment and observations from online customer or user feedback. Social networking sites like Facebook and Twitter have revolutionized the way some businesses think about the importance of advertising and its impact. ⁷Most of the companies have their own pages in facebook and they direct consumers on to their social network pages more than they direct them to their own websites. However, examining then successfully for utmost promotion of business is not as easy as it is. There are a lot of advantages via social media analytics, though there are some drawbacks as well.



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol. 2, Issue 12, December 2014

Targeted Marketing – Out of immense valuable data from social media, social media analytics offers user comments, tweets and suggestions on companies, their products and services, news on fashion and market movements. Social networking websites offer companies with the facility to target audiences based on users' personal interests. Companies can effectively reach users, who are more involved in what they have to offer through some "smart" marketing techniques and by monitoring all users and potential buyers who are intended in online discussion about the product or business. Moreover, the data can help retailer and providers of services to understand their markets much better and develop products that best meet their customers' requirements and desires [8]. Those companies who are looking for competing threshold can make use of social media monitoring and analytics tools to assess, figure out, sort and evaluate valuable data. Moreover, ⁸social media analytic provide companies with the ability to find patters in user response, attitude and sentiments and thereby marketing success.

Refine and extract business judgment from the affluence of data – the activities on social media sites like Facebook and Twitter is not a worthless chitchat. Obscured within the millions of tweets and comments and bunches of evidently insipid likes and dislikes are relevant observations and insights that when mined successfully helps corporate decision making on product development and deployment, customer service and satisfaction and other key business affairs. Social media snooping or monitoring is designed to help organizations figure out what is being discussed about them on social media at any given time. Social media analytics software influences text analytics capabilities in an effort to disclose patterns, identify fashion, trends and identify prospective business dilemmas from what people are commenting in these online forums [7]. The results of this can be used for objectives like dealing with customer service issues, customer engagement marketing and fine-tuning of marketing efforts.

Tracking Web Traffic - With the help of social media analytics, it is easy to track which type of advertisements are attracting most web traffic and analytical information such as age of users who are concerned in a particular product or brand. Therefore, social media analytics offer systematic services to their advertisers [9].

Improve customer services and relationships—Social media analytics not only helps to develop consumer attitudes, but also allows companies to react and connect to individual customers. By creating a dynamic and approachable social media analytics, the various utilities can augment customer dealing and influence key assessments and decision, turning dissatisfied consumers into satisfied consumers.

Disadvantages

There are various complications when carrying out social media analytics strategy to guarantee that they endow with the business value and significance. Some of the shortcomings inherent in social media analytics are mentioned below. Unethical Web tracking: Unauthorized Transmission and use of personal data- There arises a question whether or not to use personal data without the consumer's consent, because use of personal data without consent is an unethical practice. However, this can lead to serious misuse as it opens a way to user sensitive and personal data for a purpose rather different from what it is intended to use. Sometimes the rules regarding who can use this data, what is the purpose of this data may not be clearly stated enough in order to protect the objectives and wellbeing of the subject nor they do not have control over who accesses such sensitive data [11]. Merchandisers have an immense vehemence for personal information and use consumer's collective data, together with skeptically refined statistical analysis techniques and psychological models, to figure out purchasing alternatives and behavior [3]. Afterwards, they merge these data with some detailed information on some intended groups of people and sometimes subgroups and then attempt to influence their buying habits, assessments and decisions. In order to acclimatize advertising, not only access the individuals contact information such as names, addresses, contact numbers, email IDs, etc but also personal information such as age, gender, salary, assets owned, type of vehicles owned, shopping habits and so on. Such



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol. 2, Issue 12, December 2014

information can be obtained both externally as well as internally. Some external sources are from post office, motor vehicle departments, credit agencies, public records and many other sources. Internal sources are department stores, supermarkets, retail stores, and they keep track of all the products purchased by each individual including on-line and in-store. If the customer uses his/her credit or debit card, they can link the purchase with customer's personal details. But the most direct and productive source of information is through portals like Google and Social networking sites like Facebook and LinkedIn. Such information can be used to personalize advertisements depending on the personality. position or status and preferences of each individual, particularly when the advertisements are delivered online. Now, with the development of GPRS mobile applications user's location can also be tracked [4].

User consent is not well-informed nor it is freely given – User consent must be informed nor freely given. Most of the users are possibly not sentient that their dealings with the portals mark a personally identifiable permanent track record. Feedback of the public is not only significant on an issue or a communication but also the emotions related with the feedback are also important. Usually, the choice in this group is "up", "neutral" or "down" and even this easy choice can become complicated, as the content that is paradoxical or disparaging. It can be distorted by the analysis that assesses language too precisely or by the public whose perception can be likely to be local or intellectually biased.

Analysis without reasoning- The social media analytics software can collect and classify huge amount of data, though it cannot understand human mindset, thought and sentiments. Therefore, analyzing the human aspect of social media analytics is a significant factor. Software that executes text analytics may not be ultimate because of the weakness of sentiment analysis tools to make out sarcastic or colloquial language. Meticulously, evaluating the essence and emotions of social media posts is complex for the text analytics tools to decipher the subtlety of the written content with cynicism, slang, argot and paradox. Still generally used abbreviations like IDK, LOL, OMG, etc even can mislead the text analytics tool.

Incomplete and limited availability of data from social media - The data from social media such as Facebook and Twitter represents only a small part of the global comments. It constitutes only a small part of what is being assumed about the company and business organization as a whole. So the results out of the social analytics tool may not be fully accurate. More over the fact that social media analytics offers a limited perception of comments, tweets or retweets in social forums as all data is being produced there is not easily available for analysis and reasoning. 10 Most of the organizations do not have access to the real-time stream of Tweets that flow from Twitter each day but only have access to public data available over the social networking sites.

Lack of corporal return on investment - There exist complications and lack of corporal return on investment as mentioned by experts and analysts among the various social media analytic tools [5].

So, after amassing valuable customer information using analytics software, some companies are not sure about what to do with such information. Furthermore, social media monitoring does not enclose offline communications among users, thereby not presenting a complete picture of opinion or sentiments about the company or its goods. Social media analytics is not an ultimate solution for organizations to judge customer sentiments. Even though the social analytics tool is handled productively, by no means it is a nostrum for organizations to judge customer sentiments.

III. CONCLUSION AND FUTURE WORK

The final step in social media analytics is always the most significant one – the actual analysis. Sometimes it takes years of commitment to the art of social media analytics to be aware with reference to how each variable influence the traffic over the websites and user engagements. A successful social media analytics plan must cover not only capturing and analysis of social media data, but also a broader representation of business approach and strategy for using the collected information in useful manner. The social media analytics tools need to actually boom and thereby the



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol. 2, Issue 12, December 2014

companies have to discover how to target on both the quantitative and qualitative significance of the data they gather. The future of SMA tool sought a shift from assumptive statistical to realistic analysis by assimilating Artificial Business Intelligence. Thinking allowed: Can we see a future where a realistic 'real time' analysis is achieved?

IV. ACKNOWLEDGEMENT

I offer my sincere gratitude to Mr. Deepak Dharmadev, Project Manager, Amrita Technologies, Kochi, for the continuous encouragement and support provided throughout my period of research. I also offer my sincere thankfulness to Dr. U Krishnakumar, Director, Amrita School of Arts and Sciences, for the constant inspiration and motivation throughout my research.

REFERENCES

- 1. Agrawal D, Budak C, El Abbadi A, "Information diffusion in social networks: observing and influencing societal interests", In: Proceedings of VLDB'11, (2011)
- Booz & Company 2011, "Web and Social Media Analytics A Data and Technology Perspective". Retrieved from http://www.booz.com/media/file/BoozCo-Web-Social-Media-Analytics.pdf, (October 18, 2013).
- 3. Charles Duhigg, "How Companies Learn Your Secrets," The New York Times Magazine, (February 22, 2012).
- 4. Daniel Soper, "Is Human Mobility Tracking a Good Idea? Considering the tradeoffs associated with human mobility tracking,", Communications of the ACM, 55(4), pp. 35-37, (April 2012),.
- 5. Hoffman, D. L., Fodor, M., "Can you measure the ROI of your Social Media Marketing?", MIT Sloan Management Review, 52(1), 41-49, (2010).
- 6. Kavanaugh A, Fox EA, Sheetz S, Yang S, Li LT, Whalen T, Shoemaker D, Natsev P, Xie L, "Social media use by government: from the routine to the critical", In: Proceedings of the 12th Annual International Digital Government Research Conference: Digital Government Innovation in Challenging Times, College Park, Maryland, 12–15 June, 2011
- 7. Leskovec, J, "Social Media Analytics Tracking, Modeling and Predicting the Flow of Infortmation through Networks", Stanford University, Retrieved from http://snap.stanford.edu/proj/socmedia-kdd/ on October 16, 2013.
- 8. Lucas Mearian, "Big data to drive a surveillance society: Analysis of huge quantities of data will enable companies to learn our habits, activities," Computerworld, http://www.computerworld.com/s/article/9215033/Big data to drive a surveillance society, (March 24, 2011).
- 9. MicroTech, "Social Media Analytics How It Can Help Shape Government Performance", Retrieved on October 18, 2013, http://www.microtech.net/sites/default/files/socialmediaanalytics.pdf (December 2011).
- 10. Nagarajan M, Sheth A, Velmurugan S, "Citizen sensor data mining, social media analytics and development centric web applications", In: Proceedings of the 20th international conference companion on World Wide Web (WWW
- 11. Robert S. Boyd, "In Cyberspace, Private Files are Becoming an Open Book," The Houston Chronicle, p. 3, (December 8, 1995).
- 12. Zeng, D., Chen, H., Lusch, R., & Li, S," Social Media Analytics and Intelligence", IEEE Computer Society, 25(6), 13-16, (November/December 2010).

BIOGRAPHY



Nitha L works at Amrita School of Arts and Science (Amrita Amrita Vishwa Vidyapeetham), Kochi as Assistant Professor in the Department of Computer Science and IT. She has fourteen year of teaching experience and she received MCA degree from Indira Gandhi Open University (IGNOU) and M.Phil (Computer Science) from Bharathiyar University. Her research interests are Web Mining, Social Media Ethics and Analytics, Privacy Preserving Data mining, Social Network Analysis Mining, etc.