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A Review on Application of Social Media Analytics

-Vaishnavi K (II MBA) , Soundarya Balaji (I MBA)

Abstract

In general, social media analytics is defined as the ability to gather and find meaning in data gathered from social channels to support business decisions and measure the performance of actions based on those decisions through social media. But, social media analytics is more than just metrics such as likes, follows, retweets, previews, clicks and impressions gathered from individual channels. The paper mainly focuses on application of social media analytics in different fields like Marketing ,tourism , disaster management ,crisis management policy framework etc.

As mentioned above social media analytics is used in natural disaster management and in tourism crisis communications. The study developed a multi-phased social media analytic framework (data crawling, data processing and text mining, social network analysis, semantic network analysis, and network visualisation) to assess the structure of information exchanges between the members of a tourism organisation's social network community and identify influential actors and information content within the social network. For natural disaster management, social media has been applied to 'strengthen situational awareness and improve emergency response'. From a citizen's perspective, through following official natural disaster management agencies on social media, ordinary social media users can be alerted to authoritative situational announcements. From an organisational perspective, disaster response organisations can leverage social media as a platform to communicate with the public in disaster situations and potentially solicit on-the-ground information using the public as information sources.

Keywords : Social media analytics (SMA), data crawling, text mining, semantic network analysis.

Introduction

The ability to receive and interpret data from social channels to support business choices and evaluate the effectiveness of actions taken in response to those decisions through social media is generally understood to be the essence of social media analytics.

Similar to web search tools, social media analytics make use of specially created software platforms. Search requests or web "crawlers" that cross channels are used to retrieve information about keywords or themes. Text fragments are returned, loaded into a database, categorised, and examined to produce insightful conclusions.

Everyone would have been familiar with social media analytics playing a major role in the area of marketing. But the truth is that the hidden treasure is yet to be utilized. Social media analytics abbreviated as SMA in further study has its use in various lines not only confined to marketing but also to tourism, policy framework , crisis management, disaster management.This paper reviews the applications of SMA as mentioned.It also involves various methods of extracting data, tools used and technologies involved. Few terms that are widely used to understand social media analytics are

Natural language processing

A discipline of computer science, artificial intelligence, and linguistics called "natural language processing" (NLP) is concerned with how computers and human (natural) languages interact. In more detail, it is the procedure through which a computer generates natural language output or extracts relevant information from natural language input.

News Analytics

The measuring of the many qualitative and quantitative characteristics of textual (unstructured data) news items is known as news analytics. These qualities include sentiment, significance, and novelty.

Sentimental Analysis

Sentiment analysis is the technique of identifying and extracting subjective

information from source materials using text analytics, computational linguistics, and natural language processing.

Text Analytics

Information retrieval (IR), lexical analysis to examine word frequency distributions, pattern recognition, annotation and tagging, information extraction, link and association analysis, visualisation, and predictive analytics are all components of text analytics.

Data Mining

Large data sets are sorted through in data mining in order to find patterns and relationships that may be used in data analysis to assist solve business challenges. Enterprises can forecast future trends and make more educated business decisions

Data Crawling

Data mining from various web sources is a step in the data crawling process. Data crawling closely resembles the processes used by the top search engines. Data crawling, to put it simply, is a technique for locating web links and gathering information from them.

Objectives

The objective of this review paper is to understand the various applications on Social media analytics, trying to implement in various fields also to be aware of how SMA functions.

Research methodology

This work is a qualitative research work.Only secondary data has been used here. No use of primary data in this work. This paper tries to summarise the understanding of the above topic only.

SMA in the field of Marketing

SMA provides greater capabilities, advantages like better decision making ,higher sales, lower expenses, concentrating on clients who are adhered to the particular brand, helps in repetitive buying, improved market effectiveness, and increased brand awareness.

Wheeler (2002) identifies three categories of benefit measurements for net-enabled business innovations, including web-based sales channels and online auctions: financial (e.g., revenue, costs), perceptual (e.g., customer satisfaction), and behavioural measures (e.g. use of BA insights). The ability to show proficiency in valuing SMA-driven initiatives using all three types of measurements is a significant competence for an organisation. All three might not come at once, though, and each of them might be valuable at various points.

Social media analytics metrics

For marketing strategies to be modified to match customer needs and organisational objectives, it is crucial to identify the key social media KPIs and metrics. Depending on the corporate objectives, the KPIs can be chosen.

The KPI's include

- **Conversions** : The moment when a consumer responds to marketing messaging by doing the intended action. In other words, convincing someone to take action on your call to action constitutes a conversion. It includes sales revenue, lead conversion and non revenue conversions.
- **Reach : ** It refers to the amount of the audience that has seen your advertisements or campaign materials. Marketing reach assesses the prospective clients a campaign could reach, while reach measures your actual audience. They may refer to certain audience subgroups or to a larger portion of the general population.The following can be used as metrics in social media metrics to determine reach, follower count ,audience growth rate, impressions, share of voice.
- **Engagement : ** Customised, interesting consumer interactions are used in engagement marketing. For instance, brands can produce meaningful content and experiences that connect with their audience when they have access to reliable data about customer behaviour.
- **Acquisition:**The process of persuading a consumer to become a customer is referred to as customer acquisition. The audience's compatibility with the value or product being delivered is the main emphasis of the acquisition metrics. It provides counts for the subsequent metric. Social visit percentage Keyword ranking,Click-

through,Click rate,Cost-per-click,Email subscriptions, links.

- **Influencer scores:** The Influencer Score will show you which author or source has the biggest impact on social media or the web; the higher the score, the more well-liked the provided source is.

SMA in Crisis Management

Social media analytics has a great potential towards Crisis management.A Case study on Covid-19 pandemic in Australia has been analysed by Tan Yigitalar et al. The general methods involved in analysing data from social media analytics include obtaining ethical clearance from the government for accessing the data, followed by that the comments were extracted using keywords with the help of several softwares. Geotagged comments only were extracted so as to understand which geographical location is under what condition and what kind of sentiment that people hold during times of crisis.Third step involved cleaning the obtained data.Bot filtering was primarily used in above case study to remove all the automated messages and all irrelevant content.The last step is to determine the community sentiment.Words like death were categorised as negative feeling whereas joy happy were positive sentiments .This otherwise called collection of word-bag. Similar methods of analysis can be used to deal with the Turkey earthquake for rescue measures. The tragic incident of the morbi bridge collapse at Gujarat witnessed enormous deaths . Similar method of obtaining data in the form of comments via twitter , Instagram, Facebook can also be a source to identify key problems for such incidents.Extracting tweets and comments prior to this incidents can also help the authorities to understand the problem that had been in existence but that has been overlooked by both company and government. Based on this ,respective actions can be taken.

SMA in policy framework.

Public opinion matters in all new policy formation.Social media acts as one of the best platforms to understand people's opinion on policies.Sometimes it also acts as the hub for critics on various policies framed by the government. Just as how editorial page of newspaper houses the different opinions social media helps to voice out public opinion.Example the recent budget session has several opinion from different strata of people pooling it and filtering the necessary data using

several methods like semantic network analysis and other modelling methods can bring great deal of useful information.

Limitations of using SMA

- Limitations can be predominantly seen in case of crisis management as validating the comments in SMA could be a tougher task than expected.
- Not all sources of information can be reliable; it requires background checking. Verification of accounts a major role
- As a result of the above disadvantage this cannot be used as a primary source of information, this can be used only as an additional aid.
- Problem of wrong identification of emotion by just scanning the default keyword.

Conclusion

Thus this paper dealt with the different applications of SMA in the field of marketing, crisis management and policy framework.It has also highlighted the pros and cons of the same in the above fields. SMA could be useful to handle disasters and other types of crisis like the Turkey earthquake and also morbi bridge collapse.Social media platform can also be a place to voice-out public opinion and this can pave the way for enhanced policy based decision making as well.

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