BACKGROUND STUDY

Government organizations are quickly adopting social media because of the ease with which they can communicate with a large section of the citizens. Government officials seek to leverage these resources to improve services and communication with citizens, especially segments of the population that previously were difficult to reach and underrepresented [1]. The easy availability of smart devices and the increase in the number of people using the Internet has resulted in this change.

Analyzing public opinions and grievances is a task relevant and crucial to every police department, and the advent of social media has only made it easier. Traditional methods which included on-ground survey, phone or mail survey was cost prohibitive and it could not capture the views of a large section of the society over a long period [2].

Social media has also made it easier to report and manage routine and critical conditions. According to Craig Fugate (the administrator of the US Federal Emergency Management Agency), during the 2010 Haiti earthquake, even when an area's physical infrastructure was destroyed, the cellular tower bounced back quickly, allowing survivors to request help from local first responders and emergency managers to relay important disaster related information via social media sites [3].

However, even though the organizations have these powerful tools at their disposal, they are still learning how to use them effectively. One problem that the organizations often face is the lack of engagement with the citizens. Government agencies are also overwhelmed by the amount of data that is generated on social media sites and they are unable to channel and use the data effectively. Algorithms that could summarize the data in terms of keywords or visual representation would come in very handy to the institutions.

Government agencies and police departments also post a significant amount of information each day which include new policies and schemes, traffic updates and cause of congestion, important events in the city, critical and emergency warnings, but these information are again not utilized properly by the citizens due to lack of engagement strategies.

Our project work aims to solve these problems by representing large amounts of information in terms of visualizations and finding important insights from social media sites of government bodies which could help both the authorities as well as the citizens.

LITERATURE SURVEY

Government bodies are adopting social media at a fast rate because of its ability to engage in crisis communication, to manage a crisis, to enhance the communication between the government and the citizens, to promote openness and transparency which in turn reduces corruption and increases credibility and to improve the efficiency of the organization [4-7].

Denef et. al. illustrated the benefits and challenges of the instrumental strategy as adopted by the London Metropolitan Police (MET) and expressive strategy as adopted by the Greater Manchester Police (GMP). The instrumental approach followed the primary policing functions and had lower maintenance as compared to the other approach but it suffered from loose relations with the public, lower following and hence lower potential to acquire information. The expressive approach on the other hand created closer relations with the public, higher following and hence greater outreach but it suffered from high maintenance [8].

Meijer and Thaens studied the 'push strategy' used by Boston Police Department, the 'push and pull strategy' used by Metropolitan Police Department in DC and the 'networking strategy' used by Toronto Police Service and concluded that social media strategies of police departments were different because pre-existing differences in communication strategies were reinforced [9]. Mossberger et. al. [10] have studied the use of various interactive social network tools used in US and the work also suggests that "push" strategies are more dominant than networking and pull strategies in Facebook and Twitter.

Sara Hofmann and co-authors analyze the Facebook sites of German local governments using a multi-method approach and depict the success of communication between the government and users in terms of frequency and polarity of citizen's reactions (sentiment analysis). Social Media offers the benefit of attaching multimedia features to a normal post to make it more attractive and gain popularity [11]. They conclude that posts that contain photos or videos are more liked or commented than those containing textual updates or a link. This shows the multimedia feature of Social media helps to capture the attention better.

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