

# Issues and Challenges on Social Networking Applications



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**ABSTRACT:** Social media is the collective of online communications channels dedicated to community-based input, interaction, content-sharing and collaboration. Reduce the challenges of social networking applications has lifted the research and industrial attention towards the growth of social media development. Web and Mobile based internet applications that allow the creation, access & exchange of user generated content that is available on all the places. Examples of social media are Facebook, Twitter, Google+, Wikipedia, LinkedIn, pinterst. In this paper discusses only in detail about the main issues and challenges in social media application, and also discuss about social networking applications.

**keywords -** SNA, Social media, Spamming, Privacy, Notifications, Unauthorized access, Trolling, Fake Information.

## I. INTRODUCTION

Social media is websites / applications; it can have billions of users. Social media helps to create new users and enable users to create and share content and their own thoughts and also allow participating in social networking. The variety of evolving stand-alone and built-in social media services makes it challenging to define them. A more recent paper from 2015[2] reviewed and identified four common features unique to then-current social media services:

1. Social media are Web 2.0 Internet-based applications.
2. User-generated content (UGC) is the lifeblood of the social media organism.
3. Users create service-specific profiles for the site or app that are designed and maintained by the social media organization.
4. Social media facilitate the development of online social networks by connecting a user's profile with those of other individuals or groups.

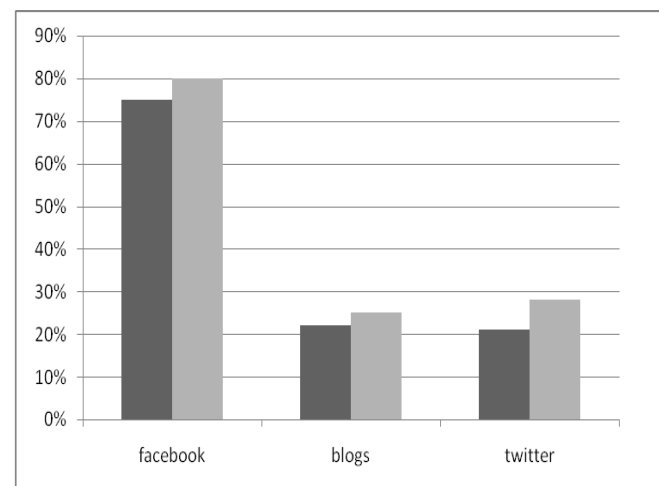
**Social media includes the following 14 types of social media:**

blogs, business sites, collaborative networks, Educational forums, enterprise networks, forums, micro blogs, photo sharing, products/ services review, social bookmarking, social gaming, social networks, video sharing, and virtual worlds.

According to the survey of 2017, To get information in an emergency, 20% have already used social media, and 5% would potentially use it.

To post information in an emergency, 75% users used facebook, 22% users used blogs, 21% user used twitter According to the survey of 2019, to get information in an emergency, 35% have already used social media, 10% would potentially use it.

To post information in an emergency, 80% would use facebook, 25% would use blogs, 28% would use twitter.



From the survey and above figure, it clearly shows that drastic improvement in the usage of social media of various users.

## II. SOCIAL NETWORKING APPLICATIONS

Social networking applications (SNA) are online technologies that allow users to communicate with each other. The purpose of SNA is looking for people with common interests to give them an opportunity to discuss various topics videos, and photos, add each other to the friend's category. Social network applications are web based and provide a variety of ways for users to interact, such as e-mail and instant messaging.

For example, two users may know each other personally, or to share a common interest. Moreover, these sites have grown to accommodate a multitude of users. FaceBook alone has over a half-billion users. Internet marketers see these two traits as an opportunity to tap their potential.

Types of social networking applications are

1. Messengers Application (whatsapp, FB),
2. Live streaming Application (periscope, Meerkat),
3. Application for inspiration (pinterest, wishbone etc),
4. Lifestyle application (fashion, movies, etc),
5. Social blogging application (blogger, Tumblr),
6. Business Social application-(LinkedIn),
7. Anonymous social Application- (ask.fm, Confessions).

Revised Manuscript Received on October 30, 2019.

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## Merits of Social Networking Applications

- Worldwide Connectivity
- Direct Connection with Audience
- Create free content
- Paid advertising services
- Build own brand
- Ability to assess their own performance
- Free joining
- Create viral content
- Uncover valuable insights
- Real time information sharing
- Increased news cycle speed
- Trusted referrals
- Improved search engine rankings
- Higher conventional rate
- Better customer satisfaction
- Increase in human interaction

## Demerits of Social Networking Applications

- Receive negative feedback
- Fake news
- Time waster
- Open up the potential embarrassments
- Backlash
- Cyberbullying & Crimes against
- Risk of fraud
- Depression & loneliness
- Decrease in civil behavior
- Corporate Invasion of Privacy

## III. SOCIAL MEDIA ANALYTICS & ANALYSIS

In social media Analytics, Development and evaluation of tools and frameworks are used to collect data, (data may be text or images or videos) and it monitors data process, then analyze the data, then summarize and finally visualize on social media. It facilitated conversation and interaction between online users and also extracts useful patterns and information

Social network analysis consists of the combination of network analysis, machine learning /deep learning algorithms, natural language processing (NLP) and statistics. SNA provides a set of concepts and metrics for systematic study of social network graphs. It mainly used to understand underlying structure, connections and theoretical properties. A social network graph consists of nodes (users) and associated relationships (edges). Direct: friendship, Indirect: voting, tagging and commenting

## IV. ISSUES ON SOCIAL NETWORKING APPLICATIONS

The following issues are the biggest challenges in still social Networking applications

- Spamming
- Privacy
- Notifications
- Unauthorized access
- Trolling (emotionally abuse, harass)
- Fake Information

### 1. Spamming

Spam - The same content (it may be text or information or images or advertisement) may be sent to the group of people i.e., the number of internet users and also sending messages repeatedly on the same site. Generally spam, is email

advertising for some products or services or job offers sent to number of internet users. They may not be aware of the user details but they send bulk email to all the users.

Spam is illegal but spammers are not illegal but they are criminal. Negative reaction senders are called spammers. In 2011, US cybercrime department announce spam is not illegal, but when cross the basic limitations or mislead the society is considered illegal and may result in civil or criminal penalties. After that there are a number of countries are following the same act for the spammers to send mail without permission.

### Issues on Spam

- It totally wasting people's time with unwanted emails.
- It highly wasting network bandwidth.
- The type of Phishing (spam E-mail scan), that is used to fraudulently obtain online accounts.

### 2. Privacy

A user wants to maintain their personal information they do not want to share their information to others or third parties. Privacy is an important thing for an individual person. People mainly wants there is no disturbance and interruption from others.

There are a total of seven types of privacy such as the privacy of the person, privacy of behavior and action, privacy of personal communication, privacy of data and image, privacy of thoughts and feelings, privacy of location and space and privacy of association (including group privacy)

### 3. Notifications

A notification is one type of message, email, icon or another symbol that appears when an application wants you to pay attention. An application can use notifications to tell you what is happening when you're not using it, so you don't miss important information or activity.

Notification that is automatically sent to you, it indicates there has been activity on one of your social media applications. Some person is posting or commenting or sharing something to the social media site (example - Facebook or whatsapp or twitter or instagram, etc.), it automatically sends notifications to you.

### 4. Unauthorized access

Unauthorized access is an access to a website, program, server, service, or other system using someone else's account or other methods. Accessing / viewing another person's personal details like messages, chats, files or resources when they are not given permission. Example- Repeatedly entering a password for others email until get the email open. Some types of unauthorized access are Tailgating, Door Propping, Levering Doors, Keys, Fraudulent access cards, etc.,

### 5. Trolling

A troll is a person who starts quarrels, or off-topic messages in an online community (such as a newsgroup, forum, chat room, or blog) with the intent of provoking readers into displaying. Trolling is mainly creating some unwanted controversy in social media sites; it affects a person's emotions.

### 6. Fake Information

Fake information on the internet include, but not limited to: fake news, fake reviews, fake listings, fake ads, fake websites and fake audience,

fake billing and invoices, fake URLs and more. If more people can be aware of how fake information are being used. Most people will be able to identify them. They will know when they see one, and can help themselves for not being affected.

## V. CHALLENGES ON SOCIAL MEDIA ANALYTICS

The Social media analytics challenges are list out here. Such as Analysis and detection of fake profile, Security risk assessment, Profit maximization for viral marketing, Evaluation dilemma, Sampling bias, Noise removal fallacy, Distrust information, Deception Detection, Short sentences in tweets, Information visualization.

**A. Analysis and detection of fake profiles - Due to the** fast development of social media with the latest resources like LinkedIn, Facebook, Instagram, it has led to many fake user profiles used for ulterior purposes. Many such profiles hunt for personal information about the user by befriending the users and thus gaining access. Over the years, to control and spot the malicious profiles, an OSN bot based on scrutiny of content, Network graph and combinational approach has been created. Privacy awareness and regulation is given as a special emphasis to prevent number of attackers. This is being implemented by Instagram by showing a blue tick for genuine profiles.

**B. Security risk assessment - A security risk assessment** is used to assess and implement key security controls in applications. It helps in checking and detecting how safe and secure the system is. Organizations carry out general assessments while experiencing time constraints. But if a generalized assessment is not of exact relevance then a more in- depth assessment is required. There are 4 steps of a successful security risk assessment model:

1. Identification
2. Assessment
3. Mitigation
4. Prevention

**C. Profit maximization for fake viral marketing-** Viral marketing is an application in which new products developed or advertisement is broadcasted on Online Social Networking sites to increase the awareness about the product. Two recent studies were also focused on finding the pricing strategies to increase the profit of viral marketing. And alas they adopted a strategy like that of Kempe et al. Thus, it is a proven fact that information can be disseminated widely and rapidly through Online Social Networks with "word-of-mouth" effects.

**D. Sampling bias - Sampling bias refers to a means of** statistics that is collected to determine its distribution is determined incorrectly since it is selected by a biased group instead of being determined by an entire uniform group. In an unbiased sample, differences are computed between the samples from a random variable and its true distribution. If the difference is not only due to chance, then there is a sampling bias. A common reason behind sampling bias is either due to faulty design in study or in the data collection procedure.

**E. Noise removal- Noise removal is the process of** reducing or removing noise from signals. All the signals are it analog or digital have distortions in the form of noise with at least a minimum volume interrupting them. [7]

There are many ways of removing noise:

1. Linear smoothing filters
2. Anisotropic diffusion
3. Non-local means
4. Non-linear filters
5. Wavelet transform
6. Statistical methods
7. Block -matching algorithm
8. Deep Learning

**F. Distrust information -** In OSN different kinds of attacks occur mainly because of large numbers of fake account users and using them to develop as many friendships will honest users to have a large influence in the network. To detect such activities in OSN is a big challenge. There lies a solution created for this problem which includes identity-based cryptography. When a user wants to pass a trapdoor based on cryptography, it consists of a challenge and response mechanism. Only authenticated users can pass such trapdoor which helps finalize the genuine users. [8]

**G. Information visualization -** It is the process of representing data in a meaningful and organized for the better understanding of the user. Scatter plots, dashboards, graphs are very renowned examples of information visualization. The process of image visualization starts with understanding the needs of the target group and thus identifying the type of visualization to be chosen and using creative tools to use them. Information visualizations is made interactive in a website or application. With interactive information of user, the visual is manipulated until they reach the desired insights.

## VI. CONCLUSION

Researchers have done a lot of research on social media networking applications, but has not clearly mentioned what are the important overcome all the above mentioned challenges and issues in social networking applications. Most of the user mainly belief the information from the web or social media. But it's our part to clear the information what are beliefs and what are the disbeliefs. In this paper focused in detail about the issues and challenges of social media. It is really helped to those who are doing research in social data mining. The issues and challenges are further redefined and clearly give more details on it. Based on these issues and challenges have to be identified major problem in social data mining for research in future.

## ACKNOWLEDGEMENT

We express our sincere thanks to our beloved parents for their invaluable love, moral support and continuous encouragement in our life. We owe immense gratitude to our Directors and principals of Saveetha Engineering College and Rajalakshmi Engineering College for their moral support during the course of my research work. I sincerely thanks to my guide Dr.S.Baghavathi priya, for her continuous support and guidance to my research work. Finally I thank to my DC members Dr.A.Joshi, Panimalar Institute of Technology& Dr.S.Chokkalingam, Saveetha University for their valuable guidance and suggestions.

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