Social Networking Sites in Daily Life: Benefits and Threats

Venugeetha Y, Ranjeet Rathod, Rishabh Kumar

Department of CSE, Don Bosco Institute of Technology, Bangalore, Karnataka, India

Corresponding author: Venugeetha Y, Email: venugeeta@gmail.com

Social networking's current growth rate indicates that the global population usage of the internet and social media can exceed 8 billion by mid-2023. According to the statistics sources of Global WebIndex the year 2021, 57.6% of the world population uses social media and the average daily usage is 6 to 8 hours especially after the covid-19 struck. The whole world had a transition from offline to online mode of operating. About 5.29 billion in October 2021 is an increase of global users by 100 million (i.e., +1.9 per cent). It equates to almost 62% users of internet i.e., 4.88 billion internet users all over the world; due to pandemic global users have increased by more than 220 million (+4.8%) the real number might be considerably higher. As so the impact was also on social media, here the users increased by 400 million (+9.9%) over a year to reach 4.55 billion during 2021 with an increase of 1 million users every day globally. People are actively using social networking sites. Social networking sites include a wide range such as Facebook, Twitter, Instagram and LinkedIn are major contributors to the number of account users. The number of social media users is increasing at a high-rate year after year, and privacy, security issues are also increasing at the same rate. Although the overall impact of social media is good, it also has risk factors and drawbacks, users are unaware of how they can secure themselves and the privacy of social media accounts. Marlon Brando says, "Privacy is not something I am only entitled to, it is an absolute prerequisite".

Keywords: Social networking sites, Facebook, Security and Privacy threats, Data Breach.

Venugeetha Y, Ranjeet Rathod, Rishabh Kumar

1. Introduction

As understanding social networking has swigged our time that anyone cannot rule out their thought of checking their social account for updates of their friend, family, official and even personal account update. Concerning the statistics of the different socialnetworks, updates are through Facebook, Twitter, Instagram and LinkedIn as they provide the flexibility to share digital photos, videos, posts, and ideas to inform others about activities and events within their social network. The world is heavily influenced by social networks especially Facebook, Instagram and LinkedIn. It has captured any age group irrespective of its age demographics. This shows how much people have connected and are interested in social sites. During and after the pandemic social media has connected people and kept them in continuous touch by sharing content with our family and friends, having enough knowledge about the society around us and is also beneficial in education.

Figure 1 shows the number of global users in millions a source from Kepios analysis says according to the survey published in January 2022. Survey says social media users are 4.62 billion within a quarter it has raised to +1.7% i.e., 77 million of users joined [1].

Year on year social media users have seen a rise with +10.1% i.e. 424 million people joining the social media. Joining a media occupies a certain time of every user i.e. approximately +1.4% around 2 million users spend an average time of 2 hours and 27 minutes. As represented in social media, users access 7.5 different applications on an average every month. The population has all demographic, the social media when registering takes information on age which means an age of 13+ can create their personal account with a 74.8% of strength. Similarly,53.9% are male and 46.1% female users against the total users with 93.4% of total users who have access to the internet.

Figure 1: Social media usage by global population[source 1: https://www.smartinsights.com/social-media-marketing/social-media-strategy/new-global-social-media-research/]

Considering 7.91 billion of urbanization with 5.31 billion users with unique mobile users. Those active on social are 4.62 billion against the actual population. Figure 3 is a source from Kepios specifying the percentage of social media users besides the actual population of users accessing social media.

Figure 2: Total population against internet and social media users [Source : Kepios]

Figure 3: Percentage of the population of social media users as on Jan 2022 [Source: Kepios]

Figure 2 is a source from the UN based on statistics of January 2022. There are 4.48 billion people actively using social media in the world and making 13.13 % increment each year. As of 2020 statistics, Facebook has a major contribution of 2.910 billion, Instagram has a total of 1.3 billion users and LinkedIn contributes over 756 million. The most active user of social networking sites is occupied by the United Arab Emirates, with 99% of its total population using the social network. Every action like posting updates, sharing photos and videos will have a huge impact on our online marketing strategies. Thus, the positive effects of social networking in education are conceivable.

Figure 4: Increase in online and digital activities during July 2020

Figure 4 is a source from the Global Web indexthat signify the increase of social media application during 2020 July. Social applications give us the freedom to connect to different servers that provide services to movies and podcastswith the flexibility to access on any device like desktop, laptop, handheld devices. There are 54% of users streaming showsand films. 43% of users use social media; 42% access messenger services, 37% stream music, 36% on mobile applications and updating their personal channels are 16%. The social network has been blamed for breaching the privacy of users in both the education and media sectors due to several adverse events. Social networking sites help in having more options of opportunities and reduce the communication gap between students and teachers. The bright future potential of social networking is also proved by the fact that the technology is integrated into mobile phones as well.

There are pros and cons of any media, Positive impact of social networking is the turning point for few users for those searching for eminent persons with different industries, governance, political leaders, government officials for interaction and communicating from any part of the world. Digital marketing is the termfor the competition of businesses and marketing themselves to build upprofiles online for attracting job opportunities. They can be a motivation to the young minds, by meeting like-minded people youngsters form groups and offer help during natural calamity or emergency.Threats of social networking sites its users are addicted, and students are distracted from their regular work. Cyberbullying has evolved and increased as are threats. Few users are getting attracted to risky and dangerous things like risking themselves to take a selfie at places that can be too hazardous. With all the information revealed privacy of their lives is ruined as people write offensive and appreciative

comments. Challenging in social media is fake news would be shared with the public which can go viral and lead to stress and anxiety.

2. Literature Review

The interaction between humans and computers has become more important in all aspects of life. The world faced the conditions of the COVID-19 pandemic in early 2020, which replaced all the internet-based information technology that was inevitable. The rapidly growing advertising trend is supporting mobile devices as well as the latest rapid technology innovations that are significantly influencing customer behaviour [1]. It also led to a gradual increase in cybercrimes in a technology-driven society. There have been reports of scams masquerading as public authorities and organisations, which exposed an escalation to an indiscriminate series of attacks and also a set of targeted cyber-attacks and cybercrime campaigns [2].

Fahmi Ajismanto et.al [1] conducted in Palembang, to examine the effectiveness of MSME promotional ads on social networking sites like Facebook and Instagram, questionnaires were analyzed in two ways i.e., Qualitatively and Quantitatively. The results obtained based on this advertisement on social media effectiveness show that Instagram is most effective compared to other platforms with an EPIC rate of 3.3 and Facebook with an EPIC rate of 3.26.

Based on the findings by Ramkumar G et.al [3], Most smartphones users are technically naïve to many applications. They cannot differentiate between viruses or clean applications however they may try to remove them by escaping uninstalling malicious applications. To help users, Rating classification attempts to detect harmful applications by verifying the requested access permissions. Default permissions are classified as malicious based on the percentage of their malicious values. When the average value is calculated for the probability of mischievous and common purposes, it is recognised as one of the clean applications. It is possible to recognise malicious applications using applications information collected by Frapppetool. The Frappe tool is therefore applicable to all applications in our dataset that are not in the sample data set, which do not contain information about whether they are harmful.

James E. Richard et.al [4] investigated on Retailing and consumer-to-consumer interactions have increasingly been conducted on social networking sites, and Facebook and Instagram have become critical tools for consumers and companies alike. The likelihood that consumers will purchase a product via social networking sites is still unclear. For instance, little research has examined whether likes, shares, postings, and check-ins on Facebook and Instagram affect consumer intentions. Consumer purchase intention is positively influenced by the number of "likes" a page of interest or an item of interest receives. Check-In services (like places) facilitate consumer purchase intentions. Pages, products and services shared by friends and businesses are positively correlated with consumer purchase intentions. Even though the majority of respondents are familiar with Facebook since many of these Facebook applications are relatively new to them, they may be aware of their usage and behaviour toward them, including purchases and personal privacy. The consumer purchase intention is directly proportional to Likes, Friend likes, Location-based check-in, comment posting and sharing.

The motto of the Study conducted by Jacquelynn R.Jones et.al [5], A nationally representative sample of youth were examined to determine whether LinkedIn use was related to depression and anxiety. A growing body of literature and sentiment has developed around social networking websites. By filling in gaps in the literature caused by prior studies focused primarily on no professional social networking sites such as Facebook, users can improve health outcomes. The frequency of LinkedIn use is calculated by asking participants how often they use LinkedIn on weekly basis. In light of naturally distributed data and better interpretations of study results, researchers collapsed the independent variables according to their distribution.
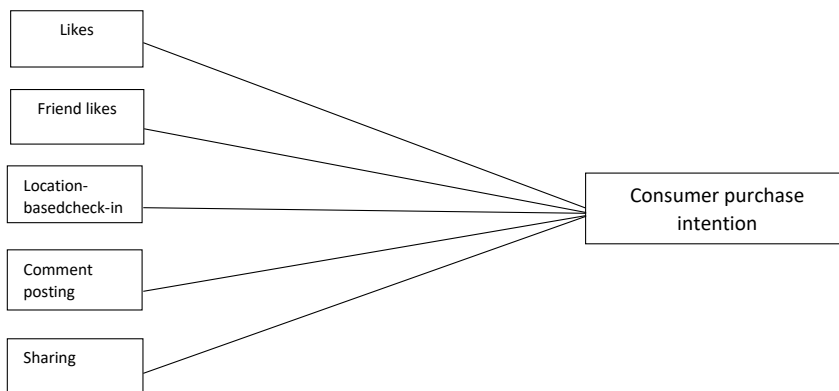
Figure 5: Conceptual model for Consumer purchase intention

In 2009, a virus named Koobface spread to Facebook and stole important personal information such as passwords. Data Breach is the process of revealing sensitive, confidential and protected data to an unprotected environment without the user's permission. The Data Breach is also known as a data leak. The Data Breach can result in the leak of several types of information like financial data, medical or Personal Health Information (PHI), Personal Identifiable Information (PII), Intellectual property and vulnerable and sensitive information. The cost of a Data Breach can be catastrophic for any organization.

A report published by Aaron Holmes[6], more than half a billion Facebook users in 106 countries personal information was leaked online. It majorly included 32 million records of the United States,11.5 million of the United Kingdom and 6 million from India.

 Have you ever noticed that whenever we go to a new place for a visit, we get to see local advertisements on social networking sites? The reason behind this is that they can access our location using GPS (Global Positioning System). In some cases, the location positioning is helpful for strangers, and he may track our activities without our permission or notice. A woman in Indiana a state of United States was robbed by her stranger friend after she posted on her Facebook profile that she was out for the night.

Cambridge Analytica is a company that offers services to business and political parties who want to "change audience behaviour". In March 2018, multiple media outlets broke the news of Cambridge Analytica's business practices. The media reported that this company had acquired and used personal data of Facebook users from external researchers, in response to this Facebook was informed that it was for academic purposes. Shortly afterwards the spy media revealed that this information had been used for a famous politician's digital campaign. The incident took as the third-party Facebook app "This Is Your Digital Life" is said to have access to the data of a total of 87 million Facebook users' data from just 270,000 Facebook user accounts. However, in response to this Facebook company banned Cambridge Analytica from advertising on its platform, saying it had been deceived[7].

Areport brought out by Zack Whittaker in 2019[8], the private information of millions of Instagram accounts was leaked mainly by celebrities, influencers, and famous personalities. The database hosted by Amazon Web Service was left open and unnoticed, allowing hackers to take advantage of Instagram users' account information without the need for a password. When it was revealed, there were about 49 million accounts accessible, and it was growing every hour. A report by security researcher Anurag Sen says that this record contained data that calculated the value of each account, based on the number of followers, engagements reach, likes and shares the user account had. It was used to determine how much a company would pay to an Instagram celebrity or influencer for posting an ad.

On June 27, 2021, reported by Sven Taylor[9] stated that data of 700 million LinkedIn users has been leaked and put up for sale. It is the biggest data leak in LinkedIn. Hacker exposed nearly 700 million LinkedIn user account information on the sale and 1 million account information displayed as the sample. It contained important information such as name, email-id, phone number, profile picture and gender. Since LinkedIn has an only total of 756 million users accounts this would mean that about 92% of all LinkedIn users have been breached. The information was extracted using an exploit of the LinkedIn API.

3. Need of Social Media

Social media is the best tool used to connect with friends and shared until 2019 as shown in figure 5 lends us details of number of people using social media. During 2004 the users were less in number, with in a span of ten years online platform application gave a change in technology with personal sharing of information through social media accounts, messengers to exchange messages and
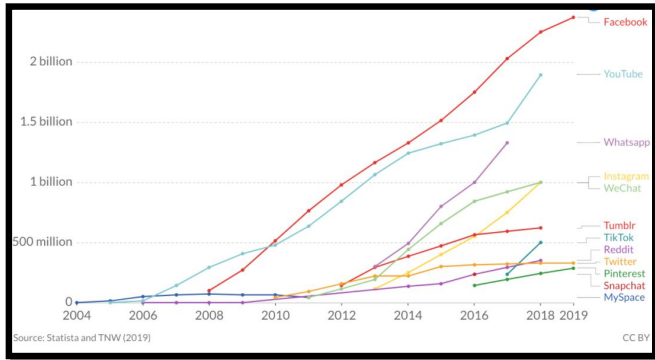

Figure 6: Number of people using social media platform till 2019
[Source : Statista and TNW]

platform to do online transactions. Until the pandemic struck, there was many folds increase in the number of users as discussed earlier. With Pew Research Center study statistics results are 68% of users with 18 to 24 years youngsters access Facebook, 78% on Instagram and 45% log on to Twitter. These platforms give an opportunity for the users to provide experts who could be easily reached, business can enhance their publicity and connect with different consumers and industry leaders. Social platform helps in marketing and understand your audience by their choice of products they buy, hobbies, website the user visit and the message they post and share. Social media is key to customer service, it forms a strong social media presence of organization builds brand loyalty. Because it is an inevitable part of life strategy in the 21st century, social media accepts a bond building between users from distinct backgrounds resulting in an adhesive social structure. According to a statistics report in 2021, there are 4.48 billion people actively using social media in the world, an increment of 13.13 % from 2020. In the years 2015 and 2020, the active users were 2.07 billion and 3.69 billion, making an increment of 115.59 % users within six years [10].
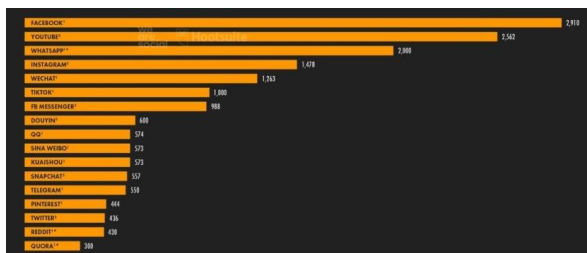

Figure 7 : The world's most-used social platforms

There are now six social media platforms accounting for more than one billion monthly active users each, half of which are owned by Meta. Despite Facebook remains most widely used, there are now six social media platforms accounting for more than one billion monthly active users. Moreover, 17 social media platforms have at least 300 million active users, by January 2022. Facebook has the highest number of monthly active users with 2.910 billion. YouTube, WhatsApp, Instagram and WeChat have 2.562 billion, 2 billion, 1.478 billion and 1.263 billion monthly active users respectively.[11]

RANKING OF MOBILE APPS BY TOTAL NUMBER OF DOWNLOADS			RANKING OF MOBILE GAMES BY TOTAL NUMBER OF DOWNLOADS		
#	APP NAME	COMPANY	#	GAME NAME	COMPANY
01	TIKTOK	BYTEDANCE	01	MY TALKING ANGELA 2	OUTFIT7
02	INSTAGRAM	FACEBOOK	02	COUNT MASTERS	ASCELLA MOBILE
03	FACEBOOK	FACEBOOK	03	FREE FIRE	SEA
04	WHATSAPP	FACEBOOK	04	BRIDGE RACE	IRONSOURCE
05	FACEBOOK MESSENGER	FACEBOOK	05	PUBG MOBILE	TENCENT
06	SNAPCHAT	SNAP	06	SUBWAY SURFERS	SYBO
07	TELEGRAM	TELEGRAM	07	FIDGET TOYS TRADING 3D	ASCELLA MOBILE
08	ZOOM CLOUD MEETINGS	ZOOM	08	HAIR CHALLENGE	ROLLIC
09	CAPCUT	BYTEDANCE	09	ROBLOX	ROBLOX
10	GOOGLE MEET	GOOGLE	10	CANDY CRUSH SAGA	ACTIVISION BLIZZARD

Figure 8: Ranking of top mobile apps and games by download through IOS and Google play store [Source : APP ANNIE]

Figure 9: Hourly usage of different social media applications [Source : GWI 2021]

The benefit is justified as social media sites have become vital tools in various sectors like education, marketing, and communication. It plays an important role in one's life as it is easier and more suitable to gain information. The other importantfeatures are it is instant online discussions, knowledge sharing, cost-effectiveness and connecting at any time with another user. The famous social networking sites like Facebook and Instagram made user life simple as it helps to keep in touch with distant family and friends. The user can also share photos and information, get the latest news about favourite blogs, companies, and other platforms. LikeFacebook, Instagram and a dozen others, LinkedIn is a social network. It is more effective in career development as itsfocuses on professional networking and career development. It is mainly used to display your resume, search for jobs, and strengthen professional reputations by posting updates and interacting with other users.

4. Role of Privacy and Security in Social Network

In today's era where all things are digitally connected, users not only worry about cyber security but also need to pay attention to the security and privacy of their personal information. It is necessary to

understand the difference between security and privacy, security refers to protection against the unauthorized access of data and privacy is about safeguarding users' identity.

According to Affandi et.al [12], user awareness is the knowledge that leads to appropriate security behaviours. Understanding the security of personal data is fundamental. With the extensive use of social networking sites, users exchange a huge number of personal details making them vulnerable to different types of attacks including identity theft, spamming and cyberbullying so privacy is the main worry of individuals. When users log in to several social networking sites, they share their information to the sites due to which they can become victims of vulnerable to cyber threats.

While there are a lot of new settings that control how people should protect their privacy. Share personal content with known users such as locking profile pictures. Users can make their accounts public or private depending on how much information they want to share. Nowadays it has become illogical as users tend to allow strangers to follow them and like and share their posts even, they do not know the stranger's history. People are so busy today that they don't think it is necessary to read the terms and conditions. These are certain criteria that affect the way a person accesses privacy control.

In a study conducted by Govani and Pashley in 2005, 85% of Facebook users are aware of the privacy settings but only half of them use them. In 2018 Nyoni and Velempini conducted another study which resulted in only 12 % of users being aware of privacy settings and 88 % were not aware and haven't read Facebook privacy policies.

Table 1: Users Awareness

Relevant Studies	Aware of the Privacy settings	Not Aware/ Have not read FB Privacy
Govani and Pashley(2005)	84%	16%
Jones and Soltren(2005)	74%	26%
Acquisti and Gross(2006)	22%	78%
Yong(2011)	48%	52%
Centre for the Advancement of Social Sciences Research(2013)	85%	15%
Yong(2016)	6%	94%
Nyoni and Velempini(2018)	12%	88%

Some of the most obvious potentially harmless possibilities in sense of social networking may be the unauthorized use of personal details for promotional purposes, the collection of potential friends or the discovery of contents of interest. Such technologies are considered a normal process within social networks and everyone is aware of the collection for a variety of purposes including commercial use. Facebook access every app user that interacts with the Facebook platform. The company data policy claims that they do not share user information without their permission. Many companies/organizations even individual users especially advertisers use Facebook service for their benefit. Each user has a different way of approach to controlling their privacy. Gender factor plays a vital role here as women are more concerned about online privacy and security issues.

Moreover, with the increase in the social platform by terrorist organizations and hackers, the gravity of the situation has increased manifold in the last few years.

5. Motive of Attackers

In the previous section, though we have not been able to know the mindset of the attackers, though some examples we have been able to know what attacker intentions are. Now we will look at it to determine the cause of the attack, assess the severity of the attack, and determine how the attacker can harm. The Objective of attackers are as follows:

a) **Identity Theft:** Identity theft occurs when attackers steal victims' personal information to perform a fraudulent act. Using this stolen information, a criminal has captured the identity of the victims and all kinds of frauds are done in the user account. Cybercriminals perform identity theft using

sophisticated cyber-attacks tactics including social engineering, phishing and malware. Identity theft can also result from the criminals primarily strategy of stealing mail, digging through a dumpster and listening to the conversations of phone calls.

b) **Access Control:** Attackers will gain access to other computers and can do whatever they want to their advantage. The victim's computer will act as a botnet and many types of attacks can be carried out through the computer like DDoS.

c) **Personal Information Theft:** Personal information theft is much like identity theft but here personal information of users such as profile pictures, addresses, phone numbers, bank details and other information is stolen. This can cause great harm to the user.

d) **Organization theft:** Most LinkedIn users are of business type. Since their data is so valuable, attackers can greatly benefit from its theft. The security level of any organization has been very protective making it difficult for attackers to extract the company's information directly. In such a situation, the only option left with them is to get information from the account of the staff members of the company. They try to glean information from employee user accounts and try to know the organization, financial assets, and patches of schemes/projects.

e) **Political Agenda:** Political Agenda is not a matter of conflicts between any two parties, but it can also be of two different ideological groups. It can also be done with the help of cyber attackers to bring down the other party to leak the hidden secrets of the other party members and expose them to defame them.

f) **Cyber Warfare:** Cyber Warfare involves the action of a nation-state, or any international organization attempting to attack and damage other countries compute or information network. This includes military information of any country like access to nuclear weapons, strengths and weaknesses, civil records, upcoming mega projects and important deals with other countries. With this, the strong countries will gain control over the weak countries.

g) **Money:** The goal of an attacker is for money. This can be achieved by bank account details, credit/debit card usage, blackmailing with secret messages and other privacy issues.

6. Variants of Threats

Whenever we read the history of war, we see that no battle is the same, but the tactics and strategies used in both wars are similar and they are effective over time. Similarly, cyber attackers also hack any organization. They use some well-known and very effective techniques like malware, phishing or cross-site scripting (XSS). It helps to understand the various attack targets that are malicious actors might try to cause harm. Here is an overview of some of the most common types of attacks seen today.

a) **MALWARE:** Malware can be different types of harmful software such as viruses and ransomware. Once malware gets into a computer, it can wreak havoc from controlling your machine to monitoring your actions and keystrokes, to silently sending all kinds of confidential data from your computer or network to the attacker's home. If you accidentally clicked on a malicious link on social networking site, you have a close call with malware.

b) **THROUGH THIRD PARTY APPLICATIONS:** Whenever we play games or visit websites, we have a variety of login options. If you have ever logged in through your Facebook or another social networking site, a third party gets user accounts information. Attackers have easier vulnerabilities to third parties than social networking sites because they have tighter security than third party sites, so loopholes can be beneficial to attackers and gain access to information through them.

c) **SQL INJECTION ATTACK:** SQL stands for the structured query language. It is mainly used for communication with the database. Any organization or company stores and retrieves all its data mostly through SQL. Here an attacker has a special technique to extract this data which is known as SQL injection. A SQL injection directly attacks the database using malicious code to control the

server to disclose information. The big problem occurs when the server has important data such as username, password, credit card/ bank details etc.

d) **CROSS-SITE SCRIPTING:** In an SQL injection attack, an attacker goes behind a vulnerable website where data is stored. If the attacker wants to get information directly from the user's website, they will choose cross-site scripting.

e) **DENIAL OF SERVICE (DoS):** If you fill a website with more traffic than it is designed to handle, you will overload the website's servers and it will be nearly impossible for the website to deliver your content to visitors who try to access it. DoS attacks are performed by many computers at the same time. As attackers appear from different IP addresses around the world simultaneously, it makes it more difficult to trace identity.

f) **SPAM:** Spam generally refers to large junk files which are mostly used for spreading malicious codes in it. Spams using ads and malicious codes can spread quickly through friend lists in social networks.

7. Preventive Measures to Secure Privacy Data

In the previous section, we have seen that there is a connection between users and social networking sites, which cannot be ignored. But taking advantage of this cyber attackers steal information. So now in this section, we are going to see how users and social networking sites can keep these data secure.

a) Any user wishing to join social networking sites need to know its advantages and disadvantages. Some social networking sites provide public accounts and some provide private accounts. The public account can also be viewed by an anonymous user, but the private account can only be viewed by the access granted to the specified user.

b) The user should not be required to publish personal information that reveals his or her identity such as full name, social security number, permanent address, bank account details. The user also needs to understand that private chats sent by him or her are closely monitored by attackers so as not to share any highly protective information like PIN, password, or any kind of card details.

c) User should not post their daily activities regularly, this will make it easier for attackers and thieves to predict routine.

d) Apart from users' cautions, it is the responsibility of social networking sites to provide maximum support to the user.

e) Cyber-attacks often occur because our system or software is not completely up to date leading to vulnerabilities. Social networking sites need to keep their servers and systems updated due to which attackers cannot easily guess the flaws. To counter this, it is prudent to invest in a patch management system that will manage all software and system updates while keeping your system flexible and up to date.

f) Sites should have the ability to isolate and block spam and malicious link.

g) Sites should always be careful before calling any third-party APIs. Sites need to regularly check the functions of third-party apps and monitor them.

h) Keeping your social networking sites behind a firewall is very important. A firewall protects social networking sites from suspicious activities.

i) It can be very dangerous to have the same password everywhere because if the hacker gets the password of one account, then he can guess the password of any account and have control over it. So, the user needs to change the password regularly with different pattern and sites needs to have a strong encryption type.

j) Educate users about proper internet usage, as they should be taught to recognize spam links unsecured third-party applications which may cause higher damages.

8. Case Study of Social Networking Sites

a) Facebook

Whenever we think of social networking sites, we first think of Facebook. It is a popular online social networking service that was founded in 2004 by Mark Zuckerberg, Eduardo Saverin, Dustin Moskovitz, and Chris Huges the students at Harvard University. Mark Zuckerberg used his experience from "Face Mash" which led to the creation of a new social networking site called "Facebook".

Initially, Facebook was made for students at Harvard University to connect. It gained popularity as 1200 students signed up within 24 hours of launch and within one month around half of all Harvard undergraduates had a profile. Soon after the new site was launched under the URL "Facebook.com".

Ever since Facebook was created new features are being added day by day to attract new users. As Facebook grew up so did the users. Facebook had 100 million monthly active users in 2008. In 2013 it reached 1.15 billion monthly active users.

In October 2021 number of Facebook users in the world were 2.910 billion. There was a 2810 % change in Facebook's monthly active users from 2008 to 2021 [13].
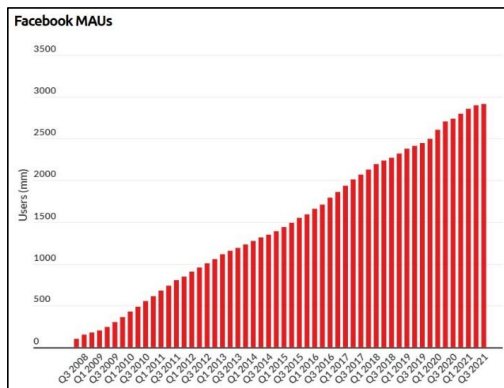

Figure 10. Facebook Monthly Active Users in million

Below Table 2 shows the increase in Facebook monthly active users from different countries, India has the highest member of active users with around 320 million, which ranks the U.S to the second position by a total of 190 million active users.

Table 2: Facebook monthly active users by country

Facebook MAUs by country

Year	Users
India	320 million
United States	190 million
Indonesia	140 million
Brazil	130 million
Mexico	93 million
Philippines	83 million
Vietnam	68 million

Table 3: Facebook users by age

Facebook age demographics

Age group	Percentage of users
13-17	5.9
18-24	23.8
25-34	31.6
35-44	16.9
45-54	10.5
55-64	6.4
65+	4.9

In Table 3 all users who use Facebook belong to different age groups. Maximum users are in the age group of 25-34 with 31.6 % share and people and users in the age groups and users in the age group above 65 have minimum priority.

According to Business of Apps [13], Facebook generated $85.9 billion of revenue in 2020. In which, $60 million revenue is generated by Facebook App itself. Despite having 10% users in the U.S and Canada, it has produced $40.5 billion of total revenue. Facebook has been downloaded over 5 billion times.

b) Instagram

Instagram is another social networking site primarily used to share photos and videos. It was launched in 2010 by Kevin Systrom. The web app called Burbn was the prototype of Instagram inspired by Systrome's love of fine whiskey and bourbons. Earlier Instagram was known for uploading photos and videos but when Facebook bought it, Facebook messenger and Instagram's direct messages services were integrated into one system. This merge will allow shared messaging on both platforms as well as video calls and the use of crafted tools from both platforms. When both the applications have merged the features of both will remain different, but the data will remain in underpinning will live in one giant, shared database.1 billion monthly active users made Instagram the 6th largest social network worldwide, with 33.92 % of the world's 4.18 billion mobile internet users accessing the application monthly. In February 2013 Instagram hit 100 million MAUs and in June 2016 it reached half a billion (500 million) users and it reached 1 billion MAUs in June 2018.According to the latest DAUs (Daily Active Users) data, 500 million people around the world actively use Instagram. In a recent study , there were 200 million users in India making the highest number of users in December 2021. The largest age group aged between 18-24. The Instagram application is responsible for 25 % of total Facebook's revenue [14].
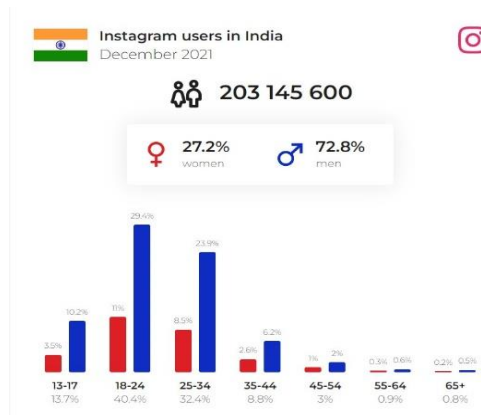

Figure 11: Statistics of Instagram users in India as on Dec 2021

c) LinkedIn

LinkedIn is the world's leading social network for professionals. Users make a CV, list their current and previous job roles, skills and education. A business network is also a recruitment website, in which businesses can create profiles and list current vacancies. LinkedIn was started in 2002 in the living room of co-founder Reid Hoffman. He worked at PayPal with college roommate Peter Thiel before launching LinkedIn on May 5, 2003.

LinkedIn has 756 million members, but there is no exact information about daily active users. The United States leads the way in its number of users followed by India and China respectively. In 2020, LinkedIn had total revenue of $8 billion and was expected to increase by 19 % each year[15].
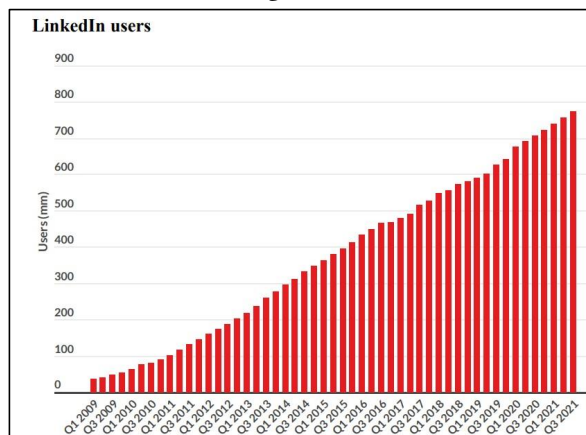
Figure 12: Quarter statistics of LinkedIn users in millions

9. Conclusion and Future Scope

As of pandemic there is a change in perspective of digital and online activities. The statistics clarifies the users enabling themselves with prospects of internet and social network its pros and cons. Everyday as of stats +1% are increasing in usage of social media globally. With the social media applications communication and digital activities have grown exponentially connecting worldwide. There is positive impactby providing inspiring young minds and negative impacts is protecting social accounts privacy breachbecause of threat on cyber.

The case studies of Facebook, Instagram and LinkedIn because they are important, data breaches, how and why they are committed. With the influence of social networking sites, users from different parts of the world are connected in a single virtual environment. The user may need to be more careful about the virtual world of the network by taking necessary preventive measures, it is the responsibility of social networking sites to ensure more strict security and user privacy.

A feature of Facebook has been both an opportunity for employment and a source of disappointment, as users have discovered the double-edged sword of unemployment. The content that users post on the world's most popular social networking site is more scrutinized.It is impossible to predict what future needs will be for users, or to anticipate new innovations that have not even been invented yet. This is true for many business opportunities, in particular advertising , freelancing, online influencers, journalism and many more .In social networking, the possibilities are endless and the future still remains open.

References

[1] Fahmi Ajismanto, AndikaWidyanto (2020). The Effect of Social Media Effectiveness on MSMEs Marketing, DOI: 10.1109/ICORIS50180.20209320836

[2] Harjinder Singh Lallie, Lynsay A. Shepherd, Jason R.C. Nurse, ArnauErola, Gregory Epiphaniou, Carsten Maple, Xavier Bellekens (2021). Cyber security in the age of COVID-19: A timeline and analysis of cyber-crime and cyber-attacks during the pandemic, Computer and Security 105 (2021) 102248

[3] Ramkumar G, Vigneshwari S, Roodyn S (2016). An Enhanced System to Identify Mischievous Social Malwares on Facebook Applications, 2016 International Conference on Circuit, Power and Computing technologies [ICCPCT]

[4]James E. Richard, Sarita Guppy . Facebook: Investigating the influence on Consumer Purchase Intention

[5] Jacquelynn R. Jones, Jason B. Colditz, Ariel Shensa, Jaime E. Sidani, Liu Yi Lin, Martha Ann Terry, Brian a. Primack (2016). Associations between Internet- Based Professional Social Networking and Emotional Distress, DOI: 10.1089/cyber.2016.0134

[6] Aaron Holmes, Cambridge Analytica https://en.wikipedia.org/wiki/Cambridge_Analytica#Data_scandal

[7] https://en.wikipedia.org/wiki/Cambridge_Analytica#Data_scandal

[8] Zack Whittaker https://techcrunch.com/2019/05/20/instagram-influencer-celebrity-accounts-scraped/

[9] Sven Taylor, New LinkedIn Data leak leaves 700 million users exposed https://restoreprivacy.com/linkedin-data-leak-700-million-users/

[10] http://contentfac.com/

[11] https://datareportal.com/social-media-users

[12] I. A. Afandi, A. Kusyanti and N. H. Wardani, "*AnalisisHubunganKesadaranKeamanan, Privasiinformasi, dan PerilakuKeamanan Pada Para Pengguna Media Sosial Linc*", September 2017

[13] Mansoor Iqbal, "*Facebook Revenue and Usage Statistics (2022)*," January 19, 2022

[14] Instagram Statistics *https://napoleoncat.com/stats/instagram-users-in-india/2021/12/*

[15] Mansoor Iqbal, "*LinkedIn Revenue and Usage Statistics (2022)*", January 11, 2022