Role of AI in the Addictiveness of Social Media

By Varun Pereira (s3842244)

ABSTRACT

This report discusses negative effects of social media addiction to our society which is largely caused by AI. Addiction, social media and AI are explored in detail and their advantages and disadvantages examined. Stakeholders, their values, responsibilities and impacts are also discussed in regards with this addiction. Then the legal recourse is examined which outlines stakeholder's rights and laws. Then solutions are proposed to curb social media addiction including prioritization of healthy actives and productive use of technology. Finally, a case study is discussed as evidence of solutions in combatting the victim's addiction. Finally, the reader is called to reflect on other alternatives to resolve this encroaching dilemma.

KEYWORDS: social media, addiction, AI, stakeholders, values, responsibilities, impact, laws, solutions, evidence

INTRODUCTION

With the advent of the Digital Revolution, the way billions of people spend their lives has changed dramatically and will continue to do so in the future. One of the most important inventions of the 20th century was the internet, which provided an easy way for billions around the world to be connected quickly and cheaply through online communication as well as having access to a sea of information at their fingertips. (Bhargava, Velasquez 2020, Page 3)

One of the most essential services that stemmed from the internet was social media. Now, not only was it easy to stay connected with your friends (Seymour 2019, Page 1), but the world and while having an exceedingly fun experience but displaying obsessive behaviour. (Bhargava, Velasquez 2020, Page 4)

Dopamine released by the brain is a normal function of the human body. However, large amounts of dopamine especially due to the interaction with certain stimuli is harmful (Hou et al. 2019, Page 2). Tech companies know the importance of dopamine in creating an addictive social media experience. (Hern 2018, Page 3) But how do they release the abnormal levels of dopamine whilst seemingly unknown to the user? (Hou et al. 2019, Page 2)

Another rapidly accelerating field of technology is AI of which many social media platforms owe their success to such as Facebook, YouTube and Google search engine (Marr 2019, Page 2). Although the AI algorithms that power social media have proven to have many benefits to society there have been many often overlooked downsides. (Hou et al. 2019, Page 1)

In recent times, media such as Netflix's 'The Social Dilemma' have bought into the mainstream consciousness, the ethical issues concerning the manipulation of human reward systems (Petrescu, Krishen 2020, Page 1) by certain individuals and organisations to use AI and its algorithms for their own benefit to addict their users to their product and ultimately make more profit. (Martin 2020, Pages 4-5).

Hence, to save our society and combat the problem of social media addiction triggered by AI, this paper will also discuss users' legal recourse and where future laws are heading in Australia. Furthermore, possible solutions need to be implemented and their use in case studies discussed. Finally, a summary of all these issues, responsibilities, solutions and evidence of their implementation needs to be discussed and a final verdict reached based on these measures.

BACKGROUND

The first step in understanding the issue, is to learn the basics and interconnectedness between the three main subtopics this dilemma breaks down to: human addiction, social media, and AI algorithms. Then we need to compare this to social media users' ethical values and resulting responsibilities and the broader consequences if they are not upheld.

What Causes Addictive Behaviour in Humans?
Dopamine is a natural function of the brain and is important in systems like memory and reward based behaviour. It gives a pleasure sensation but lasts only temporarily, if its repeated it can become addictive. Usually, dopamine is not rereleased at a substantial level into the brain since instant gratification is not repeated with most stimuli however the same can not be said with social media which can produce the same brain activity as drugs and gambling.
(Burhan, Moradzadeh 2020, Page 1) (Addiction Center 2020, Page 2).

What's Social Media?
Social media is any app whether on mobile. desktop or web that allows users to interact with other users easily (quickly, cheaply) and enjoyably in a social network by sharing information such as texts and videos.
(Addiction Center 2020, Page 1).

What are the Advantages of Social Media?
- Connect with billions of people including family and friends from anywhere anytime (mobile users now make up the majority of internet users)
- Cheap often free information communication
- Information that's easily accessible is also very enjoyable and mentally rewarding

- High quality of learning resources
- Marketing resource for businesses
- Remote employment opportunities
- Admin and payments made easier
- Access is not based on socio economic, religious, ethnic or cultural factors
- Promotes global awareness of global issues such as natural disasters instantly

(Web FX 2020, Pages 2-12) (Dalomba 2020, Pages 1-2).

What are the Disadvantages of Social Media?
- Real face to face interaction is replaced with a faker virtual communication of which many maybe strangers and decreases social/interpersonal skills, so empathy decreases
- Cyberbullying is not uncommon which can cause depression and anxiety
- Cybercrime is not uncommon (stealing banking details for example)
- Promotes unhealthy competition/ comparison which can decrease self esteem
- Addiction is common because of unhealthy continuous instant gratification which can cause depression, anxiety and over stimulation

(Web FX 2020, Pages 2-12) (Dalomba 2020, Pages 1-2).

What is AI?
Artificial Intelligence or AI is machine intelligence that is often comparable with human intelligence. A machine can learn through inputting a large volume of data and algorithms from either a human or itself. AI is used in a variety of sources from Tesla's self-driving cars to Google's search engine. AI is also used in social media to make it more 'successful' (increased usage time) for its creators.
(Kumar 2019, Page 1)

What are the Advantages of AI in Social Media?
- Boosts productivity for example in manufacturing
- Reduces cost of simple repetitive and pattern incorporated work such as administrative tasks and other process driven tasks like production
- Reduces human error for example increases safety in cases such as reduced driving accidents
- Increase company profit through data analytics also known as forecasting
- Used instead of humans for dangerous activities like war
- Due to being a machine, its available 24/7 and requires no minimum wage unlike humans
- Completing tasks is quicker with tools such as voice assistants instead of manual searching
- Lead the innovation and solve big problems such as detecting cancer

(Kumar 2019, Pages 1-4)

What are the Disadvantages of AI in Social Media?
- Initial setup and creation is costly
- Unemployment can rise when human jobs will be replaced by machines so new skills will have to be learnt including fields such as accounting, and tech support
- Lack emotions and human connection which can make it less trustworthy this includes human ethical values that are key to a high functioning society
- Can be programmed and manipulated by other humans to have negative consequences on humans including making social media addictive

(Kumar 2019, Pages 4-6)

Stats of Social Media Addiction partly due to AI?
- It is estimated that there are at least 210 million users that suffer from social media addiction
- Teenagers who spend at least 5 hours a day on social media are twice as likely to suffer from depression and anxiety
- For young adults, the lack of social media causes the 'fear of missing out' in 34% of this strata
- For drivers, 50% check their social media while driving correlating to increase car accidents
- For teenagers, if their post is not liked by other users, then a large 43% experience negative emotions
- Many teenagers spend up to 9 hours a day, daily on social media
- For teenagers who are on social media for at least 5 hours, 7 out of 10 are at a higher risk of committing suicide

(Maya 2021, Pages 1-4)

Who's a Stakeholder in Social Media Addiction?
The people involved with any changes in social media and or resulting addiction are three groups. Firstly, social media users who are individuals and customers who use social media for their personal and non-business use, form most of the stakeholders (many of whom are young adults). Secondly, the social media companies and businesses who might be affected financially. Lastly, the Australian government which can provide laws and regulations to curb the social media addiction in our communities.

What are the Ethical Values of Social Media Users to Reduce Addiction?
- Prioritising a healthy and balanced lifestyle which includes exercise, socializing, meditation etc. and taking breaks instead of staring at your screen for long periods of time
- Keep distractions to a minimum by turning notifications off, if it is not super important
- Goal setting to avoid distractions

- Limit your time on social media, use apps to keep track of how long and which apps you spend when using smartphones, laptops etc
- Do not get into conflicts and avoid/don't provoke negative attention
- Prioritise spending pastime other than on social media like real conversations
- Be aware of social media addiction and its negative effects on mental health
- Spend time outdoors and with nature
- Get adequate sleep without technology near bedtime
- Build self-esteem outside of social media

(Chuck 2018, Pages 1-2) (Smart Social 2020, Pages 2-27)

Responsibilities of Social Media Users to Maintain these Ethical Values?

- Make sure you read and understand all the terms and conditions provided by the social media provider and on any changes to the rules
- Be careful of what personal/private information you give to other users or platforms including images and bank details, make sure you trust the receiver, so you don't spend a long time fixing your mistakes should any arise
- Receive permission to use other images or videos of other users in your posts
- Understand that once you post something its hard to undo your actions and its spreads quickly so remove any disrespectful or embarrassing content to yourself or other people
- Keep track of your personal information like passwords
- Communicate positive messages not negative including any hate, as religion, ethnicity, gender and other factors are controversial topics that divide people as well as other inappropriate messages include sexual, swearing and other explicit content
- Understand that your posts and profiles give others a reflection of yourself so be careful what message you want to convey to other people

(Chuck 2018, Pages 1-2) (Smart Social 2020, Pages 2-27)

Broader Social Impact on Society because of Social Media Addiction?

The broader impact on society in terms of the social perspective is adverse. Having millions of users already addicted to social media is that they are far more likely to be depressed, anxious and stressed as many studies have shown. The lack of real interpersonal connections and social skills will make society as whole very disconnected and conflicted. One example of this was the storming of the Capitol building in the US which was largely fueled by social media where extremist messages were extensively presented and addicting its viewers to its ideology. To prevent future conflicts and take care of our mental health

and save society, we need to know what the possible laws are to keep us safe, and current solutions that can solves these dilemmas.

LEGAL RECOURSE IN AUSTRALIA

Currently in Australia, there are no laws for the negative consequence of social media addiction nor any rights or responsibilities for the first stakeholder group, social media users. Currently, the laws, rights and regulation for social media users directly are mostly for cyberbullying and other unrelated issues. However, there is a lot of discussion on these issues for users. For likely laws in the future, please see the 'Responsibilities of Social Media Users to Maintain these Ethical Values?' section from earlier.

With regards to the second and third stakeholder groups, there are some related laws for businesses using social media and which was created by the Australian government, as mentioned in pervious sections, see 'Who's a Stakeholder in Social Media Addiction?'. These laws apply to the business' customers who are also social media users which was the final stakeholder mentioned previously.

Social Media Laws for Businesses for non-business individual Social Media Users

1. 'Don't make misleading claims on social media':
For example, a get rich quick scheme, that advertises to its customers via social media that they can make a lot of money quickly if they join their program and pay money for it. This scam is unfortunately quite common and gets many individuals addicted to finding a shortcut to making money online, when in reality there hardly ever is. (ACCC 2021, Page 1)

2. 'Don't allow others to make misleading claims in comments':
For example, in social media apps like YouTube, there are a lot of videos or cryptocurrency where thousands of comments might mislead viewers that they can make a lot of money by investing in a dodgy altcoin etc when really they do not know what their talking about getting innocent viewers hooked into a new trend that might all be seconds from collapsing. (ACCC 2021, Page 2)

3. 'Minimise your risk':
For example, business that do false advertising can give the wrong impression about how successful a company and their product or service is. Customers looking at this through social media might be deceived and addicted to a revolutionary product when really its all hype and nothing else. (ACCC 2021, Page 2)

4. 'Monitoring social media pages':
Many organisations due to financial reasons might understaff their contact facilities from customers via social media and with regular large volumes might give incorrect or misleading information that gives a lot of trouble to its customers. For example, if a relatively poor family loses a lot of money due to bad advice on social media, they can be obsessed about

getting revenge or desperate to make money and take unnecessary risk using social media. (ACCC 2021, Page 3)

5. 'Responding to false, misleading or deceptive comments instead of removing them':
For example, due to hackers or trolls on social media, they might spam a business with false negative reviews. The business might want to defend itself and respond to these comments however this often ends in a never ending back and forth which causes unnecessary obsession and distress. (ACCC 2021, Page 3)

6. 'ACCC role in enforcement of social media':
For example, a corrupt business tries to scam their customers on social media, they would still be required to give a refund. If it's a less official transaction or trade such as Facebook Marketplace or Gumtree then it's difficult to receive a refund for faulty products, and the customer might be obsessed in getting their money back, if they ever can. (ACCC 2021, Page 3)

As mentioned several times before, social media is largely addictive by the AI algorithms, so it is important to keep that in mind along with largely human made errors mentioned earlier in this section.

Next, we need to look at how to actually solve this problem at its core.

PROPOSED SOLUTIONS

Solution 1: Distraction with a Busy and Healthy Lifestyle to Reduce the Time spent on Social Media
The first solution in curbing social media addiction in our society is by distracting ourselves with a busy schedule away from technology and replacing it with healthier and more natural activities to detox our minds and bodies.

A healthy and balanced lifestyle can include:
1. Exercising the body, especially when outdoors in nature.
2. Healthy eating, which means more nutritious food such as vegetables and less junk food.
3. Aadequate sleep, without technology near bedtime.
4. Socializing with friends which means spending our free time having real conversations and building our social/interpersonal skills.
er than on social media like real conversations
5. Training our mind by developing intrapersonal skills including daily meditation, developing a positive mindset, having an awareness of the negative consequences of social media and goal setting to avoid distractions.

As a result of these actions, not only will the individual spend and enjoy their free time productively outside of social media and avoid addiction, but also builds self-esteem which social media tries and fails to replicate. Not to mention that these are all skills that have been effective strategies in countless studies.

However, technology has become an essential part of our lives in this digital age, so we can not avoid social media and technology forever. Hence, when we are using social media, we need to use it wisely.

Solution 2: Train Ourselves to use Social Media Productively to avoid Addiction
It is fine to use social media, but we need to be productive with how we use it. This means:
1. Limit your time on social media. Allocate a certain amount of time during different sessions for social media use.
2. Use apps to keep track of how long and which apps you spend when using technology. Then reflect if you have been productive with your time.
3. Do not get into conflicts other social media users and avoid/don't provoke negative attention. If you do, then it will be an endless back and forth which will waste time.
4. Consistently, take breaks instead of staring at a screen for long periods of time.
5. Keep distractions to a minimum by turning off notifications, especially if it is not important.
6. Consume content that will benefit your goals and aspirations.

A lot of these techniques will work because not only are they recommended by professionals, but also is common sense advice. Implementing these strategies has a high chance of reducing addiction while you are using social media.

Now that we have looked at some effective solutions to reduce social media addiction, let us see them implemented in real world examples.

CASE STUDY:
Sally Finds Peace

Sally Lopez is a 13-year-old girl who lives in the middle class suburbs of Melbourne Australia. Sally just became a teenager, and as a result her parents thought that she could finally get her own smartphone.

Sally would normally spend her free time reading, talking with friends or playing sport. However, she now gets the same feelings of happiness and busyness from social media which is what she primarily uses her new phone for.

Initially, Sally would spend a few hours on social media, however with time she would spend 10 hours a day. Now that all her time had been taken up, she had no time for her actual friends and family, she lost interest in going out and playing sport, and her school grades started dropping significantly. Her parents were really worried about her addiction to social media.

Sally's parents kept on reminding her to stay of her phone, but Sally could not keep away from the feeling of instant gratification and if she was off it for more than a few hours she would experience anxiety.

After a few months of bad parenting and addiction, Sally became depressed and easily stressed although she would deny it. Eventually her parents took her to see a psychologist, Dr. Garcia.

Dr. Garcia was very nice to Sally and took time in earning her trust. After many expensive therapy sessions, Dr. Garcia took his time to work out a strategy to relieve her depression and social media addiction.

Dr Garcia explained to Sally that she was not alone, and that many teenagers are in a similar position. He then told her she had to start prioritizing other activities that were both fun and healthy such as sleeping, socializing, exercising and studying. He also said to do it gradually since it takes time forming a habit, and that every day she should reduce her social media consumption by 20 mins. He said that its okay to use social media a little but the majority of it should be for productive use like studying and she should monitor which apps she uses and for how long, then reflect each day on how she was feeling and progressing.

After a few months, the consequences of Dr.Garcia's advice was clear, Sally was back to normal. She would spend time with friends and family, exercise outdoors and only used technology for studying. As a result, Sally was much happier and less anxious and stressed. Her parents were especially pleased.

More importantly, Dr. Garcia was hailed a hero in his community, especially after applying his solutions of social media addiction to many young adults.

CONCLUSION

There are a lot of advantages to social media but there are also a lot of disadvantages including addiction which is largely fueled by manipulation to out brain by AI algorithms. It is clear that social media addiction is heavily prevalent in almost all members of our society. There are some laws for social media but they don't directly relate to curb social media addiction. Hence, effective solutions have been proposed which limit the time spent on social media, but when it is used it is done so productively. The positive consequences are evident through the case study discussed. Ultimately in the future, more solutions would provide greater benefit to our communities and reduce social media addiction.

ACKNOWLEDGEMENT

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APPENDIX
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