Article

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Abstract: This article explores the significant parallels between big tobacco companies and major social networking sites regarding their influence on public health and society. While acknowledging the fundamental differences in their products and services, the paper scrutinises both industries through five primary lenses: addiction, misinformation, lack of regulation, harm to public health, and youth targeting. Both industries exhibit addictive characteristics, have faced criticism for the spread of misinformation, operate with limited regulation and transparency, and have raised concerns about targeting young demographics. Moreover, the potential harm to public health is a significant concern, with tobacco leading to well-established physical health issues. At the same time, excessive social media use has been linked to psychological harm, particularly among young users. The comparison underscores the necessity for greater regulation and oversight of social media companies, highlighting the urgent need for more comprehensive policies to mitigate potential harm and safeguard public health in the digital age.

Keywords: public health; social media; misinformation; addiction

Introduction

Cigarette smoking is known to cause various serious health conditions, including lung cancer, heart disease, and emphysema, among others (Twenge et al., 2018). However, for many years in the mid-20th century, the harmful effects of smoking were not widely understood or acknowledged. Famously, tobacco companies were aware of the harmful effects of their products for many years before public acknowledgement (Hurt and Robertson 1998). Similarly, there are growing concerns about another pervasive phenomenon with global reach: social media.

As of 2023, there are more than 4.4 billion active social media users worldwide. This constitutes over half of the world's population, demonstrating these platforms' incredible reach and influence (Statista, 2023). While these platforms vary by demographic preference, data shows that younger users, particularly those aged 18-29, are the most active on these sites (Pew Research, 2022).

Social media has significantly reshaped communication patterns. It has facilitated real-time, global interactions, enabling everything from social connections to business transactions. However, there are emerging concerns about the negative impact of excessive use, such as increased anxiety, depression, and other mental health issues, particularly among teenagers (Arifin, 2022).

Interestingly, Facebook similarly suppressed internal research going public for two years that suggested its Instagram app makes body image issues worse for teenage girls, according to a leak from the tech firm. In other words, Facebook, now Meta, was aware that teenage girls blame Instagram, particularly for increased anxiety and depression (Arifin, 2022). Coined the Facebook Files, the report revealed that, based on internally commissioned studies, the company was fully aware of the negative impacts on teenage users. Other takeaways from the leak include the impact of the company's platforms on spreading false information and Facebook's policy of promoting inflammatory posts. Furthermore, Facebook knew that harmful content was being pushed through Facebook algorithms reaching young users. The types of content included posts promoting anorexia nervosa and self-harm photos.

Comparisons have been made between the behaviour of big tobacco companies and major social networking sites. While the products and services they offer are vastly different, there are parallels

in how social media companies and big tobacco have been scrutinised regarding their impact on public health and society. I primarily make comparisons in five main areas: addiction, misinformation, lack of regulation, harm to public health, and youth targeting.

This paper argues that major social networking sites, such as Facebook and Instagram, pose a significant threat to public health, akin to the big tobacco companies in the past. Like tobacco companies, social media platforms perpetuate addiction, spread misinformation, lack appropriate regulation and transparency, harm public health, and exploit young demographics.

Addiction and dopamine

Just as nicotine makes cigarettes addictive, a growing body of research suggests that social media platforms are designed to be equally compelling (Kim et al., 2021). Elements like "likes," "shares," and "notifications" are believed to trigger releases of dopamine, a neurotransmitter that acts within the brain's reward system, much like nicotine does (Kim et al. 2021). This comparison becomes even more interesting when considering that social media platforms continually strive to keep users engaged for extended periods, often leading to excessive screen time and potential psychological harm.

Dopamine is a key player in our brain's reward system, released in response to rewarding experiences like eating or socialising (Berridge & Robinson, 1998). This release reinforces the behaviours that led to these outcomes. Thus, the dopamine system can be manipulated, driving an individual to compulsively seek the addictive substance or behaviour (Volkow, Koob, & McLellan, 2016). Strikingly, both social media and tobacco seem to exploit this neurochemical process (Macbride 2017).

Nicotine, the active component in tobacco products, triggers dopamine release in the brain (Dani & Heinemann, 1996). This dopamine surge creates pleasure and satisfaction, reinforcing smoking behaviour. Over time, the brain adjusts to these heightened dopamine levels by reducing its natural production. This adaption leads to withdrawal symptoms when nicotine intake is reduced, fuelling the cycle of addiction (American Psychiatric Association, 2013).

In contrast, while not introducing foreign substances to the body, social media is believed to operate on similar principles by exploiting the brain's reward pathways. Social media platforms provide intermittent rewards (likes, comments, shares), similar to the variable reward schedules seen in gambling. This potent reinforcement mechanism fosters addictive behaviour (Robinson & Berridge, 2008). The unpredictable nature of these rewards triggers dopamine release, encouraging continued engagement on these platforms (Lin et al., 2016).

Social media and tobacco manipulate the brain's dopamine system to promote habitual use. However, it is crucial to differentiate their mechanisms. While tobacco addiction is mainly pharmacological, relying on nicotine's direct effects on the brain, social media addiction is considered more psychological, exploiting mechanisms of reward and reinforcement to maintain user engagement (Kardefelt-Winther, 2014).

Misinformation and manipulation

Both industries have faced criticism for spreading misinformation (Macbride 2017). Tobacco companies famously denied and obscured the health risks associated with their products, for example. Similarly, social media platforms have been criticised for spreading misinformation, including on political issues and health topics (Allcott 2017).

The spread of misinformation and manipulative tactics have been pivotal in social media and tobacco industries (Southwell et al., 2019; Allen, 2020). These industries have harnessed strategies that primarily focus on boosting engagement and consumption. Due to their inherent design, social media platforms have been effective conduits for misinformation; algorithms that dictate content propagation often prioritise engagement, inadvertently promoting sensationalised and untrue content (Vosoughi et al., 2018). This issue has been particularly acute in political propaganda and health-related misinformation (Pennycook & Rand, 2018). Tobacco companies have a long history of spreading misinformation about the health risks associated with smoking. This has been achieved

through disinformation campaigns, leveraging industry-funded research, and marketing tactics that underplay the harmful effects of tobacco use (Brandt, 2007). These tactics have slowed the adoption of smoking prevention and cessation efforts, contributing to ongoing tobacco-related health issues (Proctor, 2011).

Both social media and tobacco companies exploit information asymmetry to advance their interests. While social media primarily exploits its platform design to propagate misinformation and manipulate user behaviour, Big Tobacco disseminates misinformation directly while manipulating consumption through marketing strategies.

Lack of regulation and transparency

For many years, the tobacco industry operated with limited regulation and transparency about the health risks of its products. Some critics argue that social media platforms also operate with insufficient regulation, especially regarding data privacy, targeted advertising, and algorithms that promote engagement at the cost of accurate information.

Regulation in the social media sector has lagged, and this is due to the rapid pace of technological change whereby policy has to play catchup. Existing regulations primarily focus on data protection and privacy yet fail to comprehensively address issues like misinformation, content moderation, and addictive design (Helberger et al., 2018; Newman, 2021).

Transparency in social media is a contentious issue. While platforms like Facebook and Twitter provide some insights into their operations, many crucial aspects, such as the specifics of their algorithms, remain opaque. This lack of transparency impedes accountability and undermines public trust (Gillespie, 2018).

In contrast to social media, the tobacco industry has been subject to extensive regulation. Measures include marketing restrictions, health warnings, taxation policies, and smoking bans in public places. These regulations aim to reduce tobacco-related harm but have been fought persistently by the industry (World Health Organisation, 2008; Proctor, 2011). The tobacco industry has long been criticised for its lack of transparency. Despite mounting evidence about the harmful effects of smoking, companies frequently downplayed these risks and funded questionable research to cast doubt on facts (Proctor, 2011; Malone & Bero, 2000).

Both sectors have faced issues regarding regulation and transparency, yet the contexts differ significantly. The rapidly evolving nature of social media makes effective regulation challenging, while the tobacco industry has long resisted regulatory measures. Regarding transparency, both industries have faced criticisms, albeit for different reasons.

Harm to public health

Tobacco companies have been criticised for the massive public health issues caused by their products, and similar concerns have been raised about social media.

The health consequences of tobacco use are extensive and well-documented, leading to various cancers, cardiovascular diseases, and respiratory illnesses (U.S.U.S. Department of Health and Human Services, 2014). Tobacco use remains one of the leading preventable causes of death worldwide. There are concerns about the impact on mental health, particularly for young users, with links suggested between heavy social media use and issues like depression, anxiety, and low self-esteem.

Emerging research links excessive social media use with various mental health issues, including depression, anxiety, and lowered self-esteem, particularly among adolescents (Twenge et al., 2018). There are also concerns about the potential for addictive behaviour linked to social media use, mirroring behavioural addictions seen in other domains (Kardefelt-Winther, 2014).

Both social media and tobacco use pose substantial health risks, albeit in different domains. While the physical health consequences of tobacco use are direct and established, the psychological impacts of social media use are indirect, complex, and still under exploration. The immediacy of tobacco-related harm contrasts with social media's longer-term, subtler effects on mental well-being.

While comparing social media to big tobacco provides a potent metaphor, the distinct nature of their respective health impacts necessitates tailored public health responses. Enhanced regulation, user education, and responsible business practices will mitigate these challenges.

Youth targeting

Both industries have been accused of targeting young people. For years, tobacco companies were accused of marketing their products to children and teenagers. Social media platforms also focus heavily on younger demographics, and there are concerns about how these platforms impact young users' mental health and development.

These comparisons are often used to advocate for greater regulation and oversight of social media companies, with proponents arguing that self-regulation has not been sufficient to address the potential harm caused by these platforms. Critics of this comparison point out the clear difference in physical harm caused by tobacco products compared to the less direct and more complex potential harms from social media usage.

Concluding

In conclusion, the comparison between big tobacco companies and social networking sites reveals significant parallels in their impact on public health and society. Whilst this article acknowledges the significant differences in their products and services, both industries have been scrutinised for their addictive nature, the spread of misinformation, lack of regulation and transparency, harm to public health, and targeting of young people.

Addiction is a collective characteristic, as cigarettes and social media platforms have been designed to exploit reward pathways in the brain, triggering dopamine releases and fostering a compulsive desire to consume. This addiction can lead to excessive screen time and potential psychological harm.

Furthermore, both industries have faced criticism for their role in spreading misinformation and manipulation. Tobacco companies infamously concealed the health risks associated with smoking. At the same time, social media platforms have been accused of enabling the dissemination of false information on various topics, from politics to public health.

The lack of regulation and transparency is another striking similarity. For years, tobacco companies operated with limited oversight, downplaying the health risks of their products. Similarly, social media platforms have faced criticism for their inadequate regulation regarding data privacy, targeted advertising, and algorithmic practices that prioritise engagement over accuracy.

Both the tobacco and social media industries have significant implications for public health. The adverse health effects of smoking caused by big tobacco are widely recognised, and concerns have been raised about the mental health impact of excessive social media use, especially among young users. Depression, anxiety, and low self-esteem have been linked to heavy social media consumption, raising concerns about the long-term effects on individuals and society.

Lastly, youth targeting is a shared concern between the two industries. Tobacco companies have been accused of marketing their products to young people, and social media platforms also heavily target younger demographics. There are ongoing debates about how these platforms influence young users' mental health and development, as they are particularly vulnerable to the potential harms of social media.

While critics argue that the comparison between big tobacco and social media is limited due to the different nature of the harm caused, proponents emphasise the need for greater regulation and oversight of social media companies. They argue that self-regulation has proven inadequate in addressing the potential harms associated with these platforms.

In summary, the parallels between big tobacco companies and major social networking sites highlight significant concerns about addiction, misinformation, lack of regulation, harm to public health, and youth targeting. As society grapples with the impact of social media, it becomes crucial to strike a balance between the benefits and potential harms, ensuring that appropriate measures are in place to safeguard public health and well-being in the digital age.

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