

Lycée Ermesinde
Lycée public autonome à plein temps

The Attention Economy: How to adapt to the growing influence of digital media

Mémoire individuel

Auteur : Liam O'Donnell

Classe: 2^e section B

Directeur de mémoire : Maurice Broers

Mersch, Avril 2020

Déclaration d'authenticité

Je déclare sur honneur avoir développé et rédigé ce mémoire sans l'aide abusive d'autrui.

Date: 03.05.2020

O'DONNELL Liam

Table of Contents

1	Introduction	3
2	How and why do companies try to capture our attention?	4
2.1	The many benefits of user retention	4
2.2	Forming habits: How companies keep users hooked.....	6
2.3	Dark patterns: How design can be turned against us	9
2.3.1	Roach Motel	9
2.3.2	Cookies: how effective was GDPR?	10
2.3.3	Confirmshaming	11
2.3.4	Privacy Zuckering.....	12
3	How is this affecting society?.....	13
3.1	James Williams’ “light” model of attention.....	13
3.2	Attention spans	16
3.3	Mental health issues	18
3.4	Political consequences	19
4	How should we react?.....	23
4.1	The issue of responsibility: Who is responsible for solving these issues, and at what point?	23
4.2	The current state of digital regulation.....	25
4.3	From information to attention: the future of digital regulation.....	27
5	Conclusion.....	32
6	References	34

1 Introduction

The rise of digital technology and the internet have fundamentally changed the way we consume media. Where information was once a scarce resource, it has now become readily available in such high quantities that keeping up with all the information we are exposed to daily has effectively become impossible. One of the consequences is that companies dealing with digital technologies – social media, online advertising, entertainment, etc. – must now compete for our limited attention to find success. This system is known as the “attention economy”. In this paper, I will analyse how companies use design to adapt to the attention economy by forming user habits as well as how design can be used in malicious ways to trick and manipulate users. Then, I will discuss the societal and political consequences of the attention economy, its underlying mechanics and the design conventions it creates. Finally, I will explore potential measures with which to address these consequences, as well as how to implement these measures.

2 How and why do companies try to capture our attention?

2.1 The many benefits of user retention

To understand the mechanics behind the attention economy, we must first understand what motivates companies to try and keep people's attention. The internet has made vast amounts of information easily available with hardly any time and effort involved. Due to this, people are increasingly experiencing an information overload, where the amount of information they are faced with daily is simply too overwhelming to consume all at once. As a result, human attention has become somewhat of a scarce commodity, leading companies to compete over capturing as much of it as possible to be able to make money, a concept that economists have dubbed "attention economics". For this section, I will largely be referring to Nir Eyal's *Hooked: How to Build Habit-Forming Products*, which sells itself as an instruction manual for product designers on how to create subconscious habits in users.

For many businesses, Eyal argues, especially those offering online services, habits can be extremely useful and important. By creating continuous user engagement, they create various benefits: For one, they help increase profits: the longer someone uses a service, the more revenue they generate over time, increasing their customer lifetime value (CLV). As this CLV increases, the business can profit more and more from each user it acquires. Thus, by calculating the estimated CLV, a business can determine how much it is worth spending on acquiring new users and retaining existing ones.

Habits also allow for more growth through user recommendations and word of mouth, generating free publicity and attracting new users. This is extremely useful for businesses, as it allows for autonomous, exponential growth that does not rely on constant spending on advertising: as the userbase grows, each new user may themselves recommend the service to their peers, creating an ever-growing cycle of growth.

When users get into the habit of using a certain service, they are also much less likely to switch to a competitor, as this will require them to learn and get used to a new service with a different interface. This makes them much less likely to make the switch, as forming new habits takes more effort than sticking to familiar ones. (1) Thus, successfully creating user habits can give services a significant advantage over their competitors. This also lowers the risk of users abandoning the service due to price increases, allowing for greater pricing flexibility. For example, long-time Netflix users might be more reluctant

to switch to a competing streaming service because they are used to Netflix's interface and don't want to have to set up a new account for a different platform, even if that platform offers more competitive pricing or a better selection of content.

In forming user habits, a service or product subtly manipulates users to compulsively return to it by turning from something convenient and useful into something necessary. Eyal encourages designers to turn their products into something that scratches an itch, capitalising on negative emotions like stress or boredom by providing relief, eventually creating an association between said emotions and the relief offered by the product. This way, users will automatically feel the need to return to the product whenever they are bothered by these emotions. For instance, an Instagram user may impulsively open the app on their phone whenever they feel bored (1). Indeed, smartphones are a perfect platform for this kind of habit-formation as they can provide instant gratification at any time and any place.

Habits can evidently provide significant benefits to businesses when it comes to the success of a certain service or product – but how do these businesses go about establishing these habits among their userbase?

2.2 Forming habits: How companies keep users hooked

In *Hooked*, Eyal presents a four-step model he calls the Hook Cycle. The four phases are as follows: Trigger, Action, Variable Reward, Investment. This cycle is designed to exploit human psychology to keep users habitually using a service without requiring external influence.

The first step, the Trigger phase, is the initial “call to action” that encourages people to use the service. Initially, this comes in the form of an “external trigger” – this includes “explicit” triggers, which may consist of an ad, a recommendation from a friend, or similar prompts that explicitly suggest the use of the service, or “implicit” triggers, which consist of prompts that subconsciously cue the users to return to the service without specifically requesting them to. For instance, links, app icons or buttons are generally known to be designed to be clicked on, and thus encourage the user to visit a site or open an app without the need for direct instructions. While external triggers act as the initial drive to lead the user to the product, the goal of the hook cycle is to create “internal” triggers in the user. Eyal explains these as follows: “Internal triggers tell the user what to do next through associations stored in the user’s memory.”¹ These are the associations that cause users to browse Twitter when they’re bored or check their Facebook messages when they’re lonely, for example. Negative emotions, he explains, are particularly effective as internal triggers. It is with these internal triggers that designers get users to compulsively check social media, to subconsciously be drawn to the desired product or service. Thus, investing in further external triggers becomes unnecessary for the business.

The next step in Eyal’s model is action. This is probably the simplest step of the cycle, consisting of a simple behaviour in anticipation of a reward. This is the step where the user interacts with the service. Eyal points to Dr B. J. Fogg’s Behaviour Model, which poses three requirements for any action to occur: sufficient motivation and ability from the user, and a prompt for the user to take that action. In this case the latter is created by the Trigger phase. Eyal suggests that designers increase the user’s ability to take the desired action by making it easier and aligning it with a motivator, maximising the likelihood of the action being taken. For example, social media platforms like facebook or twitter often have buttons that web designers can integrate into their webpages to facilitate sharing it with friends without having to leave the site. Motivators are often used

¹ Eyal, Nir. *Hooked: How to Build Habit-Forming Products*. s.l. : Penguin, 2014. 1591847788. P.

in advertising, like when ads use drives such as sex to make their product seem more appealing.

The third step in the hooked cycle is *variable reward*. According to Eyal, there are three types of variable rewards: Rewards of the tribe, which consist of social rewards fuelled by social connections, are an essential part of social media and may be achieved through the use of likes, for example. Rewards of the hunt, which satisfy the search for material resources and information, may come in the form of useful items in a video game, while rewards of the self, which satisfy the search for intrinsic rewards of mastery, competence and completion, would be earned by a player improving their skill at that game or completing difficult challenges.

By creating variability in the rewards given to users, designers can prevent their product from becoming too predictable, which ensures that it stays compelling to users and keeps them coming back for more. For example, successful social media feeds sustain variability by providing new content to users whenever they return to the platform or refresh the page. Much like slot machines, the result is initially unknown, which keeps each cycle exciting and interesting. Infinitely scrolling pages ensure a constant stream of new content, ideally tailored to the user's interests, which encourages them to reengage with the service repeatedly.

The fourth and final step in the hooked cycle is investment. This step requires the user to store value in the service, driving them to repeat the cycle by creating new triggers. By investing their time and effort into the product, the user's perception thereof is influenced to make it appear more valuable and worthwhile. A psychological phenomenon known as *escalation of commitment* ensures that they become increasingly committed as they invest in said product. There are three main factors that lead us to this phenomenon: First, we irrationally value our efforts. We tend to associate greater value with products that we put work into ourselves. Dan Ariely, who participated in a study on the subject, calls this the IKEA effect, arguing that the work customers put into assembling the Swedish brand's furniture gives them an increased level of affection towards it. Another factor is our tendency to act consistently with past behaviours. For example, a study showed that homeowners who agreed to put a small sign that read BE A SAFE DRIVER in their windows were later much more likely to agree to put a larger sign that read DRIVE CAREFULLY in their garden than those who hadn't previously been asked put up the smaller sign. The third factor is avoiding cognitive dissonance. Cognitive dissonance

occurs when a thought or action conflicts with a person's existing beliefs or ideas. In order to avoid the stress associated with cognitive dissonance, that person will typically try to eliminate the inconsistency causing it by changing their behaviour or their thoughts. Because of these tendencies, people will engage in a process known as *rationalisation*, wherein they justify their behaviour and decisions, even if these are dictated or influenced by external agents. Thus, the more time and effort users put into a service and the more valuable it appears to them, the more likely they are to return to said service. They rationalise their investment into the service by telling themselves that it is worthwhile, because if it were not, that would mean that their previous investments were wasted.

There are several ways for companies to create investment in their product. Social networks like Twitter or LinkedIn, for instance, encourage users to gradually build their profile, step for step. Not only does this avoid overwhelming the user with a large amount of work, it also creates a sense of progression and accomplishment in the completion of their profile. Finding other profiles to follow and gathering followers is another way to increase the service's value by accumulating new sources of content, social connections and reputation, all of which are bound to that specific service. Thus, the user is less likely to switch to another service, where they must abandon their existing value and start from scratch. Another way to create value in a service is by gathering data on the user's preferences. Streaming services like Spotify and Netflix in particular rely heavily on this, creating complex algorithms to curate content tailored to users' tastes. The more time a user spends with the service, the more data it can gather on their preferences in order to fine-tune which content to suggest.

The Hook Cycle seeks to turn the use of a product into a habit, so that the user returns to it without even thinking. To this end, these products are meticulously designed to capitalise on certain psychological biases and steer the user's actions towards the desired outcome. This can quickly stray into morally questionable territory, which brings up the question of how UX (user experience) design is used today, and if it is beneficial to the target audience.

2.3 Dark patterns: How design can be turned against us

UX design plays a huge part in making an interface easy to use. When done right, it makes using a product intuitive and simple, saving time and thus increasing productivity for users. However, it can easily be abused to trick users into acting in a corporation's interest rather than their own. UX specialist Harry Brignull calls this kind of deceptive design a "dark pattern". He runs an online initiative to point out dark patterns and raise awareness about them via his website darkpatterns.org, where he explains what dark patterns are and encourages people to post examples of dark patterns on Twitter. In this chapter, I will explore a few types of dark patterns as well as various other examples of manipulative design.

2.3.1 Roach Motel

One of the types of dark patterns, as listed on darkpatterns.org, is the Roach Motel. This describes a design that "makes it very easy for you to get into a certain situation, but then makes it hard for you to get out of it (e.g. a subscription)."² This is usually achieved by hiding the option in question behind multiple unintuitive, hidden or unnecessarily difficult steps. For example, in order to terminate an Amazon account, the user first has to navigate to the bottom of the page and click on the link titled "Help" under the "let us help you" category, taking them to a page with various help topics. Here, they must select the "Need more Help?" category and click on "Contact Us". On the next page, they must select the "Prime or something else" category and select "Login and security" from a drop-down menu. Then, a second drop-down menu appears from which the user may finally select "Close my account". However, rather than being able to delete the account themselves, the user must now ask an Amazon associate to close the account, either per phone call or live chat. (2) Not only is this process unnecessarily long and tedious, but it does not make it clear to the user that these steps are necessary to delete the account. In addition, personalising the interaction, i.e. forcing the user to interact on a live basis with another person seems likely to discourage the user as they may feel embarrassed or do not want to disappoint another person. The entire procedure is designed to actively discourage users from deleting their accounts by making it as difficult as possible.

² Brignull, Harry, *Roach Motel – a type of dark pattern*, from: darkpatterns.org, URL: <https://www.darkpatterns.org/types-of-dark-pattern/roach-motel>

2.3.2 Cookies: how effective was GDPR?

The General Data Protection Regulation is an EU regulation designed to give internet users more control over their personal data. Since its introduction on 25 May 2018, websites must request users to consent to the use of their personal data in a clear and comprehensible manner. They must also make withdrawing consent as easy as giving it. However, some sites do this better than others.

Some sites will give users the option to open a menu to manage their preferences for different types of cookies, without having to leave the site. However, other sites may use different techniques to discourage the withdrawal consent by requiring more steps. Often, websites will simply display a short message informing the user of their use of cookies, stating that by using the site, the user consents to these cookies, as well as a button that closes the message. Within the message, they will include a link to their privacy policy and/or their cookie policy, which will inform the user on the way different types of cookies are used. This discourages users from withdrawing their consent by making them visit a different site and reading through a relatively lengthy document. From there, they may link to external sites containing their advertising partners' privacy policy, which may then allow users to opt out of the use of cookies by different advertising companies. In some cases, this will require users to scroll down long lists of companies, disabling each individually. Other times, a button will be provided allowing the user to opt out of all companies automatically. The user may have to go through this process multiple times for different advertising groups. Whether by design or by accident, this tedious, multi-layered process can discourage users from actively trying to control how their data is used by increasing the time and effort required to change their settings. Since most professional sites use cookies and thus display these messages, most users will habitually dismiss them so they can get on with using the site. In some cases, sites will offer a stripped-down, more limited version of the site if the user disables certain cookie purposes.

GDPR was certainly a step in the right direction when it comes to giving internet users more control over their personal data, but most sites are designed in a way that discourages them from making use of this control.

2.3.3 Confirmshaming

According to darkpatterns.org:

Confirmshaming is the act of guilt-tripping the user into opting into something. The option to decline is worded in such a way as to shame the user into compliance. The most common use is to get a user to sign up for a mailing list, and it is often found in exit intent modals [popup windows that appear as the user tries to leave a site] and other popups.³

This design practice is extremely common online, especially on news websites. It typically works either by making the user worry that they will miss out on something valuable or by making them feel guilty if they do not agree to the prompt. (2)

In the example below, Amazon uses confirmshaming to persuade the user to buy a book on its Kindle service rather than the paper version by comparing the price. It makes use of fear of missing out, or FOMO, an effect that is very common in both advertising and social media itself, by making the customer feel that they would be missing out on a good deal if they were to choose the paperback version.

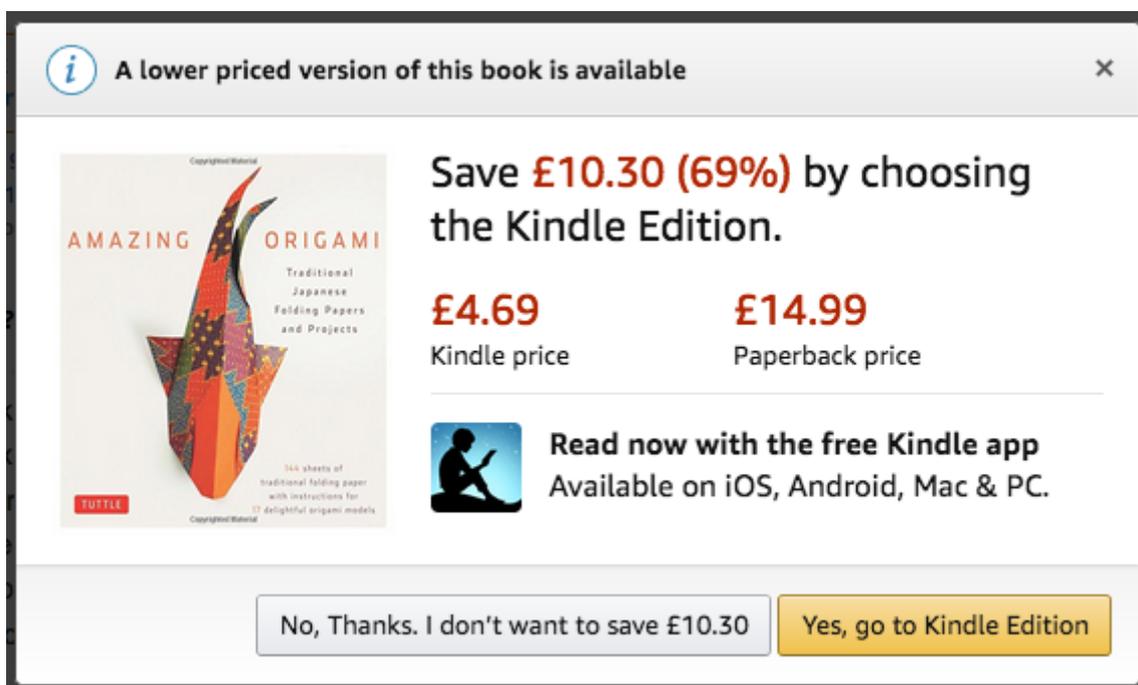


Figure 1: an example of confirmshaming on Amazon⁴

³ Brignull, Harry, *Confirmshaming – a type of dark pattern*, from: darkpatterns.org, URL: <https://www.darkpatterns.org/types-of-dark-pattern/confirmshaming>

⁴ URL: <https://confirmshaming.tumblr.com/image/173064940444>

2.3.4 Privacy Zuckering

“Privacy Zuckering”, named after Facebook CEO Mark Zuckerberg, is Brignull’s term for tricking users into sharing more personal information than they want to. This is part of a broader issue concerning personal data and privacy. Selling users’ data is a central part of many online services’ business models, and as a result they often collect more personal data than the users might expect. The Terms and Conditions of these services that allow them to collect said data are usually long and complicated, leading users to skip over and blindly agree to them. The information collected about these users is then sold to data brokers, who collect it into an online profile to sell to advertisers. (2)

Since the process of collecting and selling data stays in the background, the amount of information collected about the users tends to stay hidden to them. Without their knowledge, advertising companies can buy information about various topics including their hobbies, interests, health issues or sexuality, which can be used to target specific advertisements to them.

3 How is this affecting society?

In today's day and age, online media has a tremendous amount of influence on our lives. Especially in the developed world, smartphones and the internet have become an essential part of everyday life. A large part of our online activity runs through services run by a few large companies such as Facebook, Amazon and Alphabet, Google's parent company. The use of these services is incredibly widespread, making these companies some of the largest in the world. As of 2019, 7 of the top 10 most valuable companies (by market capitalisation) are built on digital technology, software and/or online services. (3) This gives these services a considerable amount of global influence – they act as a means of communication as well a source of news, information, and entertainment for billions of people worldwide. As a result, these platforms are the lens that many people see the world through, making them a significant part of modern-day society. This influence is centralised to a relatively small amount of relatively new services, all of which are constantly trying to keep our attention. This raises the question: What kind of effects do these services and the way they function have on society?

3.1 James Williams' "light" model of attention

In order to understand how the attention economy affects us, we must first build a framework to understand attention and distraction on a deeper level. This is precisely what former Google advertising strategist James Williams seeks to do in his book *Stand Out of Our Light: Freedom and Resistance in the Attention Economy*. Here, he argues that the goals set by digital technologies do not coincide with real, human goals, and indeed work against our best interests as members of human society. The goals and values pursued and encouraged by these technologies – social media engagement, targeted advertising, user retention, views, watch time, et cetera – are not what their users would typically strive towards. In trying to reach these goals, he argues, they push users away from their own goals and values in favour of ones that are pettier and ultimately worthless.

In order to encourage discussion on this subject, Williams presents a model to more precisely describe different facets of attention and the broader effects of distraction. He presents three types of attention: the "Spotlight", the "Starlight" and the "Daylight".

The "Spotlight" is described as the attention of doing, which relates to immediate action and tasks. This is the simplest form of attention, and it is the first thing most people would associate with the term "attention". This type of attention is affected by functional

distraction, which includes things like smartphone notifications or clickbait, which prevents people from focusing on the tasks ahead of them. This can go beyond the simple effects of seeing a flashy ad or receiving a notification; a 2015 study found that simply receiving a notification on their phones affected participants' performance to the same degree as if they had actively been using the phones. (4) This means that even if we choose to ignore these types of distractions, the mere knowledge of their presence may be enough to distract us in a meaningful way.

The “Starlight” is described as our ability to adhere to our higher values and to live our life following our long-term goals. It allows us to focus on what we want to achieve, and what we view as truly important in the long term. It is affected by existential distraction, which drives us to seek short-term pleasure and meaningless attention, to become “petty”, as the author puts it. This might be perpetuated by the various reward systems that allow social media to flourish. For example, the drive for social interaction and status offered by likes and followers on social media platforms may overshadow our desire for real, meaningful connections with our peers. The author suggests that this can go as far as devaluing democratic ideals, citing a growing indifference towards the importance thereof among modern democracies:

Consider that across many liberal democracies the percentage of people who say it's “essential” to live in a democracy has in recent years been in freefall. The “starlight” of democratic values seems to be dimming across diverse cultures, languages, and economic situations. However, one of the few factors these countries do have in common is their dominant form of media, which just happens to be the largest, most standardized, and most centralized form of attentional control in human history, and which also happens to distract from our “starlight” by design.⁵

The “Daylight” pertains to knowledge and intelligence. It includes our capacity for reflection, reasoning, goal-setting, and metacognition, and in particular our ability to “integrate associations across many different experiences to detect common structures across them.”⁶ (5). According to Williams, this is closely connected to leisure, as it allows

⁵ Williams, James. *Stand out of our Light: Freedom and Resistance in the Attention Economy*. Cambridge : Cambridge University Press, 2018. 9781108453004. P. 61

⁶ Miller, Earl K. and Bushmann, Timothy J. Natural Mechanisms for the Executive Control of Attention. [ed.] Anna C. Nobre and Sabine Kastner. *The Oxford Handbook of Attention*. Oxford : Oxford University Press, 2014.

us to reflect and concentrate on ourselves without being distracted by external factors. As each passing moment of free time that would usually be spent thinking is replaced by checking your phone, he argues, reflection is gradually made impossible, eventually resulting in impulsive behaviour as we stop using our rational minds and revert to following out primal drives instead. This is further exacerbated by the types of content encouraged by social media: content that appeals to strong emotions like anger or fear tends to do better at grabbing people's attention, which in turn encourages the spread of sensationalist articles or blatant misinformation. The term "clickbait" has become ubiquitous when discussing online content – attention-grabbing titles designed solely to garner as many views as possible. Since these types of sensationalist, often negative content spread a lot faster than their more grounded, neutral counterparts, social media feeds tend to be bombarded with shocking, outrageous news stories and the like, which may increase users' worries and lead to the formation of a darker world view. This also has political implications, as it encourages the spread of polarising information and the exclusion of political opponents.

Williams concludes that in its current state, technology conflicts with our interests and goals by reducing our willpower. He calls for us to find ways to rethink our relationship with technology, underlining that no matter its benefits, we should never accept that technology is working against us. (6)

3.2 Attention spans

One of the most pervasive arguments in the discussion around how technology affects us is the question of attention spans. A commonly cited statistic states that, from 2000 to 2015, the average human attention span was reduced from 12 seconds to 8 seconds, one second short of a goldfish's supposed 9 second attention span. The claim is that, through their constant supply of distraction, smartphones are crippling our ability to focus on any task for prolonged periods of time. However, as Simon Maybin points out in a BBC article, the validity of this argument is questionable at best. The articles discussing this statistic – which include pieces from Time magazine, the Guardian, and the New York Times – cite a 2015 report from Microsoft Canada's Consumer Insights team. However, the statistic in question does not originate from this report – it cites another site, Statistic Brain. When trying to verify this claim, Maybin was unable to find any information that confirmed the figure – neither from Statistic Brain themselves, whom he was unable to contact, nor from their cited sources or from other experts on human attention. Indeed, the goldfish's poor memory is itself a myth, as goldfish are often used to study memory formation due to their strong learning abilities. Furthermore, the idea of an average attention span is too simplistic, as the amount of attention given to any task very much depends on both the task itself and the individual person. (7)

To understand attention spans, we must look at them in a more nuanced light. Prezi's 2018 State of Attention Report presents an analysis of attention spans using a survey of over 2000 business professionals. It finds that, due to the ever-increasing amount of information, people are becoming more selective with what they choose to pay attention too – which ties directly into the fundamental concept of the attention economy. Because there is too much information to possibly take everything in, people are better at instantly deciding whether something is worth their time and attention and consequently very quick to move on from a given piece of content. A strong narrative or story and interesting visuals were cited as vital elements for holding people's attention. Multitasking was cited as a common obstacle for retaining information due to the difficulty of properly focusing while dividing your attention over two or more tasks. (8)

As a central actor in this evolution of attention, social media companies are trying, and succeeding, to get people to spend as much time as possible on their sites. In 2019, internet users spent an average of 144 minutes on social media daily, up from 90 minutes in 2012.

(9) This begs the question: as social media becomes a bigger part of our lives and takes up more of our attention, how does it influence our lives?

3.3 Mental health issues

One of the central points of the discussion around social media is how its use affects mental health. One 2013 study showed links between Facebook use among and declines in both moment-to-moment well-being and general satisfaction with life. (10) Another, broader study showed links between social media use and depression among U.S. young adults. (11) Although these studies were not able to demonstrate causation, other evidence suggests that social media use makes us compare our own experiences to the predominantly positive depiction of other users' lives, leading to a more negative evaluation of our own lives. A study in Denmark found that taking a one-week break from using Facebook had a positive effect on well-being and life satisfaction, especially among heavy Facebook users and people who felt envious of other users. (12) Other studies have also found that making comparisons to other users affects depressive symptoms caused by Facebook usage. (13)

These studies suggest that social media, especially frequent and prolonged use, tends to be detrimental towards mental health, which has worrying implications when one considers the amount of people using social media worldwide and the persuasive design trying to keep them using it. The sources of this effect are difficult to pin down exactly and are probably quite complex and multifaceted. A lot of social media, especially sites like Instagram, arguably encourage the creation of a superficial image that only shows the most interesting and glamorous facets of life. Social media influencers are taking over the same space previously occupied by more traditional TV celebrities. A key difference, however, is that, due to the nature of social media, anyone could theoretically rise to fame on these platforms. By accruing likes and followers, ordinary users are effectively given a taste of internet fame, which can lead them to crave more of that attention and focus on trying to grow their online popularity. This in turn can lead towards more stress as they worry about the success of each of their posts, their online image, and the growth of their online presence. Even though most online celebrities nowadays have agents to help them network, make industry contacts, or help them manage their online presence, their position seems a lot more approachable to the everyday user, which causes more people to pursue online fame.

3.4 Political consequences

As mentioned earlier, social media has had a significant impact on our political discourse. This has become especially clear since the election of Donald Trump as the President of the United States, considering his large online presence. In the wake of the 2016 election and the events surrounding it, there has been a lot of discussion around the spread of nationalism and populism throughout the “western world”. This often brought into relation with the internet, which, in addition to facilitating and even encouraging the spread of sensationalist news and misinformation, allows for the creation of so called “echo chambers”, insular online groups that reinforce and amplify people’s views and opinions while locking out any outside input. The interest-based algorithms used by Google, advertisers or social media platforms tend to show users content that coincides with their world views and opinions – Google, for instance, will push search results that will appeal to users based on their previous searches, which includes prioritising news sources that tend towards whatever political views they may hold. As users choose who to follow on social media, their feeds will fill up with content that appeals to their existing opinions.

However, this is not a simple issue of not being exposed to viewpoints; Professor of Philosophy C. Thi Nguyen emphasises the difference between so-called “epistemic bubbles”, situations where insiders are completely isolated from conflicting viewpoints, and echo chambers, which create distrust towards anyone holding such viewpoints. The former, he argues, is much less of an issue considering the amount of information available through the internet. (14) As Dr Grant Blank argues in a BBC interview, people gather information from a variety of sources, which exposes them to a greater variety of information and different worldviews than when looking purely at social media platforms or even traditional media: “one of the characteristics of the internet is that it has created a very large, complex media environment that includes not just social media but also print media, television, radio, and online media of various types, including online copies of print media - as well as specialised online media.”⁷ (15) The issue, therefore, is more nuanced than it may seem at first. Nonetheless, the internet can certainly allow for the proliferation of niche ideologies and ideas, as exemplified by the spread of neo-nazi groups, climate change denial, or anti-vaccination and flat earth conspiracy theories, for

⁷ Rajan, Amol. Do digital echo chambers exist? *BBC News*. [Online] 4 March 2019. [Cited: 1 April 2020.] <https://www.bbc.com/news/entertainment-arts-47447633>.

example. These small groups can lead members to become increasingly involved with often dangerous ideas and distrust any outside sources. Depending on where individual people choose to look for information, they may develop increasingly skewed worldviews, an issue which could become more worrying as more and more people look towards social media as their sole source of information. The attention economy also plays a part in this – recommendation algorithms have been found to lead people towards extremist content, allowing it to make a considerable impact on public opinion. Following Jair Bolsonaro’s election as the president of Brazil, New York Times authors Max Fisher and Amanda Taub found that Youtube’s recommendation algorithm contributed heavily to the proliferation of far-right ideologies, conspiracy theories and hoaxes in Brazil. Among these were conspiracy theories about Zika being caused by pesticides or vaccines, leading many people to ignore medical advice and hinder the fight against the virus. The algorithm, they explained, which is designed to maximise engagement and in particular watchtime, tends to favour videos that provoke strong, negative emotions emotions like fear, doubt and anger, since these emotions are more likely to catch people’s attention and draw them in. Since these kinds of emotions often feature in conspiracy theories and right-wing extremism, these kinds of content are promoted on the site. A team of researchers at Harvard’s Berkman Klein Center had found that people watching Youtube videos would often be directed by the recommendation system towards right-wing channels promoting conspiracy theories, which in turn would direct them to numerous similar channels, thus creating a kind of network of right-wing conspiracy channels. (16)

Social media can also act as a tool for extremists committing acts of terrorism, as was the case in the Christchurch mass shootings in New Zealand on 15 March 2019, which were live streamed on Facebook, or the El Paso shooting later that year, the perpetrator of which is believed to have posted a manifesto on the online message board 8chan shortly before the attack. The latter claimed to have been inspired by the Christchurch shooter with similar racist motivations. (17) (18)

If people let themselves become locked into these echo chambers, they are often faced with a very polarising political discourse, where political opponents are framed as morally “wrong”. This fits perfectly with Jan-Werner Müller’s definition of populism as “a particular moralistic imagination of politics, a way of perceiving the political world that sets a morally pure and fully unified [...] people against elites who are deemed corrupt or

in some other way morally inferior.”⁸ This attitude allows for the complete exclusion of the out-group, a total invalidation of their opinions and arguments, potentially even the total dehumanisation of its proponents.

Political advertising is a central part of the issue of social media and politics. During the 2016 election, the Russian government created a campaign of misinformation with the goal of increasing social and political division and undermining Hillary Clinton’s presidential campaign. This was achieved by creating thousands of social media accounts impersonating American citizens, which were used to spread false information, promote radical political groups, and organise political rallies, primarily through Facebook. (19) As a result, in May 2018, the site introduced a policy requiring political or issue-based ads on Facebook and Instagram to include information on who paid for them to be shown and requiring these ads to be authorised by the site. (20) However, while they do verify the source of these ads, they do not verify whether they are factually correct: while Facebook employs a fact-checking process for news articles and posts, this process is not applied to posts or ads from politicians. (21) The reasoning behind this is as follows:

Our approach is grounded in Facebook's fundamental belief in free expression, respect for the democratic process and the belief that, especially in mature democracies with a free press, political speech is the most scrutinised speech there is. Just as critically, by limiting political speech, we would leave people less informed about what their elected officials are saying and leave politicians less accountable for their words.⁹

However, as Sue Halpern points out, Facebook’s interest-based algorithms are designed to promote content that will appeal to the individual user, which means that ads will specifically target the people who are most receptive to them, thereby “intentionally bypass[ing] the marketplace of ideas”¹⁰ – making it much less likely that the information in the ad will be questioned or verified. (22)

Twitter, on the other hand, has implemented a policy banning political advertising outright, and restricting to which extent “cause-based advertising” can target specific

⁸ Müller, Jan-Werner (2016). *What is Populism?* Philadelphia, PA: University of Pennsylvania Press.

⁹ Facebook, Inc. Fact-checking on Facebook: What publishers should know. *Facebook Media and Publisher Help Centre*. [Online] [Cited: 2 April 2020.] <https://www.facebook.com/help/publisher/182222309230722>.

¹⁰ Halpern, Sue. The Problem of Political Advertising on Social Media. *The New Yorker*. [Online] 24 October 2019. [Cited: 2 April 2020.] <https://www.newyorker.com/tech/annals-of-technology/the-problem-of-political-advertising-on-social-media>.

users – banning the use of political terms in interest targeting and restricting geo-targeting to the state, province or region level. (23) (24)

4 How should we react?

4.1 The issue of responsibility: Who is responsible for solving these issues, and at what point?

One of the big difficulties when discussing the issues surrounding digital media is who should take responsibility for them. Should the companies running media platforms be held responsible for the problems created by them? How much responsibility, if any, should they take for how their users use their platforms? To what extent should they be expected to address issues created by their platforms, and at what point should governments intervene? Given the somewhat philosophical nature of this question, it is difficult to pin down a definitive answer to these questions.

Online regulation has become an increasingly important topic in recent years, with GDPR being put in place to increase users' control over their privacy, and US Congress holding several hearings with social media representatives. These hearings focused mainly on the use of Facebook, Google and Twitter to influence elections and to proliferate violence and extremism as well as their treatment of personal information. These hearings saw Congress lawmakers discussing legislation on social media content, including proposals of a "national commission" at the Department of Homeland Security to investigate harmful applications of social media and how well tech companies protect users from harmful content. More and more countries are creating legislation to put pressure on social media platforms to remove illegal content from their sites by holding them accountable for the hosting of this content. Thus, there is less reliance on self-regulation to police content and responsibility is placed on the platforms themselves as well as the users posting content. However, these types of legislation are limited to strictly illegal or copyright-infringing content. The question remains how we should address the more systemic issues created by the design of social media. Such issues are harder to pin down exactly and thus harder to address through legislation, which is further compounded by the vastly different design and structure of different platforms as well as their constantly changing nature. This may require fundamental shifts in the way the designers, the users, or both, view social media platforms, which is difficult to achieve through specific action. Currently, social media is designed primarily with monetary gain in mind, since this is any company's main objective. Platforms are designed to amass and retain as many users as possible and maximise advertising income, which can bring with it unintended consequences on the way they operate and affect their users. To definitively change this

focus to the wellbeing of its users would require a shift away from profit as a main priority, which is unlikely considering the economy they exist in. Once again, if these consequences are deemed to be a serious problem, government intervention rather than self-regulation may be necessary.

Some issues might originate from the way people naturally tend to interact with social media: for example, social comparisons are common even outside of social media and are arguably a part of human nature. These types of societal issues might be compounded by social media, but solving them, if such a thing is even possible, is much more complicated than changing the way these platforms are designed. The best solution in this case might be to try and discourage harmful behaviour where possible.

When talking about these issues, another question that arises is how to balance freedom with regulation for the sake of social well-being. At what point does fighting harmful content restrict freedom of expression? When does state regulation hit the limit of a free, open platform?

4.2 The current state of digital regulation

The last five years have seen a significant increase in how much attention is placed on social media's role in society, and as a result, governments have started exploring how to regulate it. The controversy surrounding the 2016 US elections played an important part in launching these developments, as they demonstrated just how influential social media has become. As a result, governments are putting more pressure on tech giants such as Google, Twitter and Facebook to monitor content on their sites as well as creating their own regulations on social media.

Youtube and Facebook both release transparency reports which provide statistics on removed content. Between October and December 2019, Youtube removed a total of 5,887,021 videos, of which 5,334,863 were detected automatically. 64.7 % of these videos were removed before receiving any views. They also run a "Trusted Flagger" program, which helps trusted individuals, NGOs and government organisations to flag content that violates their Community Guidelines. Youtube also removed a total of 2,088,253 channels and 540,195,730 comments in this time span. (25) Facebook acted on 30.3 million pieces of content between July and September 2019. 98.4% of this content was found before being reported by users. Facebook employ more than 35,000 people to work on safety and security, as well as using a combination of third-party fact-checkers and machine learning to identify false information.

In some countries, regulations against illegal content have already been put into place. Companies with over 2 million registered users in Germany must review content that has been reported and remove any illegal content hosted on their site within 24 hours or face fines of up to €50m. They are also required to publish reports on these procedures every 6 months. (26) In the European union, companies must comply with GDPR guidelines when handling user data. In 2018, the EU also agreed on a copyright directive that puts responsibility on online platforms to proactively ensure the content they host complies with copyright law. This directive drew in large amounts of criticism for requiring filters on user-generated content, which could purportedly restrict freedom of speech and prohibit transformative works such as parodies. (27) The Australian government passed a law in reaction to the Christchurch shootings that punishes individuals and companies for failing to remove "abhorrent violent material" from their online platforms. The penalties include up to 3 years imprisonment and \$2.1m for individuals and up to \$10.5m or 10% of their annual turnover for companies. (28)

In other cases, regulations are being proposed but have yet to be imposed. The European commission is planning on creating a regulation similar to the laws mentioned before, where large platforms would be required to remove extremist content within an hour. (29) In the UK, the government plans to extend the powers of the Office of Communications, or Ofcom, to policing harmful content including violence, terrorism, cyber-bullying and child abuse on social media. Once again, this will directly force companies to remove these types of content.

Evidently, most of these measures are designed to prevent the proliferation of content that is directly illegal or that violates platforms' terms of service. Any other existing regulations or discussions around online media are mainly aimed at large societal issues: privacy, national security, political stability, etc. There appears to be a lot less discussion around how to address the more subtle issues related to the attention economy: the amount of time spent on social media, its psychological effect on people, and how users' attention is exploited for advertising purposes. Since this is an emerging issue that is not as immediately obvious as those mentioned earlier, it makes sense that there would be a lack of awareness and discussion around it.

4.3 From information to attention: the future of digital regulation

One of the greatest challenges with regulating online technology is that, while policy is generally restricted to individual countries, the internet is by definition international. Regulating global platforms on a national level is tricky and risks fragmenting what should be an open, universally accessible web. Additionally, the online landscape changes at a rapid pace that lawmakers simply cannot keep up with, making proactive measures extremely difficult to create. Another risk is that, given the immense amount of power and influence social media now holds, campaigns to regulate it could be abused by certain political parties to give themselves an advantage or to censor information. This is especially worrying if one considers the degree of censorship enforced in authoritarian states like China. However, it would be unreasonable to put responsibility solely on the consumer to manage their attention; this would pit them against a million-dollar industry using some of the world's most advanced AI technology designed specifically to capture their attention.

Without a doubt, the first step towards creating a healthier digital environment would be to create more widespread awareness around the attention economy and its underlying issues. While many people seem to have at least a vague idea of some of the problems with social media, they tend not to take them seriously enough to change their habits and are typically unaware of the role persuasive design plays in creating them. By acknowledging these problems and creating a discussion around them, we could put more pressure on designers to treat our attention more responsibly and on governments to look into regulating digital platforms. One part of this would be examining the place of advertising in our society, since it is one of the driving forces behind the attention economy. Williams suggests that, along with a renewed focus on advertising ethics, we should reconsider how much influence advertising should be allowed to have on our minds:

What forms of attitudinal and behavioral manipulation shall we consider to be acceptable business models? On what basis do we regard the wholesale capture and exploitation of human attention as a natural or desirable thing? To what standards ought we hold the mechanisms of commercial persuasion, knowing full well that they will inevitably be used for political persuasion as well?¹¹

¹¹ Williams, James. *Stand out of our Light: Freedom and Resistance in the Attention Economy*. Cambridge : Cambridge University Press, 2018. 9781108453004. P. 108

He lauds ad blocking as a way for people to take control over their own attention and resist the mechanics of the attention economy. He suggests that, ultimately, advertising should change to support our intent, goals and values instead of capturing our attention. Personally, I find this to be somewhat idealistic. Advertising is inherently meant to persuade people into paying for or using a certain product or service. In this context, the consumer's intent is viewed as a useful factor to push them towards the intended product, not a necessity. Moreover, the concept of aligning advertising with the consumer's intent is exactly what the advertising industry uses to justify its current practices of data collection and targeted ads. The future of advertising is often pitched as a collection of complex AI systems that can use vast amounts of data to suggest products to the consumer before they even know they need or want them. At least on a surface level, this appears to entail such an alignment with the consumer's intentions; ads would only suggest products that are genuinely relevant to them. However, under closer examination, this is the epitome of all the ethical issues associated with advertising: it would entail companies collecting even more personal data on consumers and using it to obtain complete persuasive control over their minds. It would also likely include replacing traditional user interfaces with AI-driven systems similar to existing virtual assistants like Amazon's "Alexa", which, as Williams points out himself, would even further obfuscate the design behind them due to their incomprehensible, downright mysterious inner workings. (6) Rather, Williams hopes for advertising to support our higher goals as opposed to our immediate desires. In our current economic system, I find this to be unlikely, as the advertising industry is heavily incentivised to encourage consumption, just like social media companies are incentivised to encourage spending more time on their platforms. Ultimately, as long as monetary gain remains the main goal for companies, they are disincentivised from focusing on the consumers' attentional freedom and wellbeing, since this usually hurts profits.

Williams does offer a potential solution to this however, suggesting that we create incentives for companies to balance financial goals with social good goals by creating alternate corporate structures. While investors could play a part in this, governments would once again have to get involved to ensure widespread change. (6) Similarly to the climate crisis, this creates the challenge of disincentivising harmful behaviours that would otherwise be economically beneficial to the companies engaging in said behaviours.

Throughout his book, Williams reiterates the importance of language in our discussion and understanding of complex subjects. In addition to expanding our vocabulary around

attention and distraction as discussed earlier, he suggests that reengineering the language used by designers would change the way they think about their work to focus more on the user as a person. The use of buzzwords like “engagement” in the tech industry, he argues, can drain words of their deeper meaning, while terms like “eyeballs”, “funnels” or “targeting” are not humanised enough and can prevent designers from thinking of their userbase as a collection of individuals. Williams also suggests expanding our language when it comes to describing persuasion itself to allow for a deeper understanding of the nuances of persuasion in different contexts. As an example, he suggests the following model, where the design or technology is mapped by how much constraint it puts on the user and how closely it is aligned to the user’s goals (6):

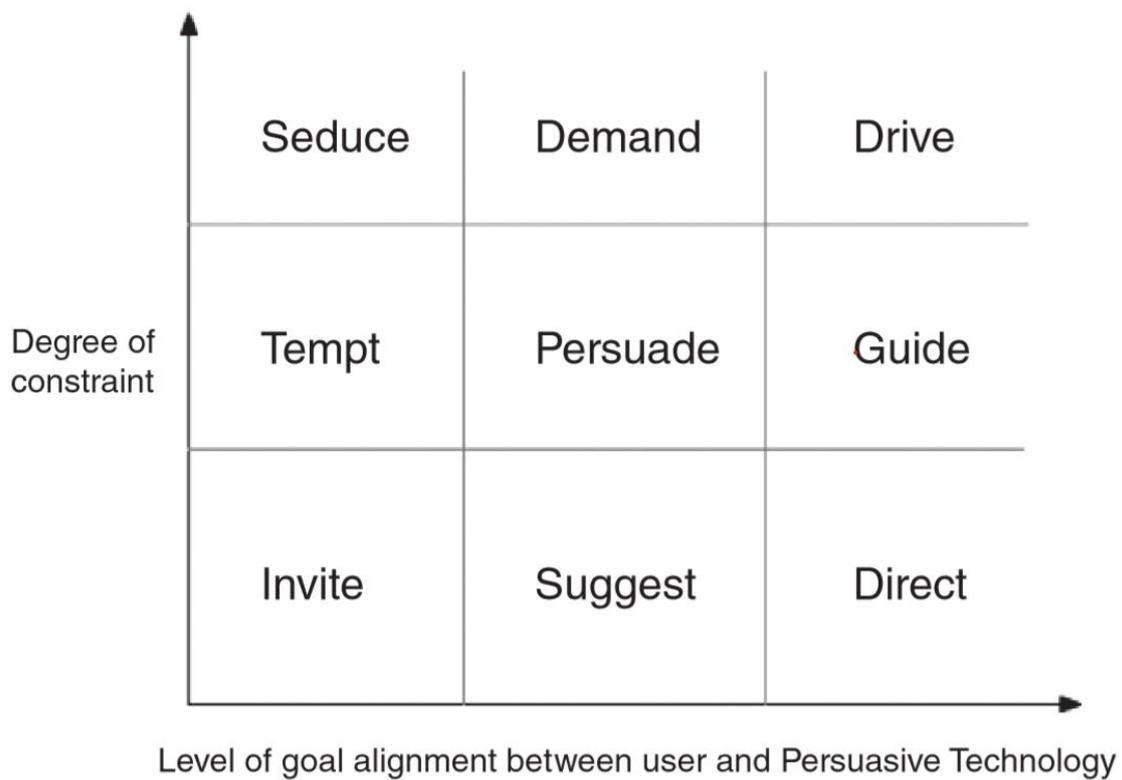


Figure 2: a model to more accurately describe different types of persuasion¹²

Another step Williams mentions is “advancing mechanisms for accountability, transparency and measurement”¹³. For one, we should require companies to be more transparent about the goals that inform their design decisions. Just like we should not blindly trust them when it comes to how they handle our information, he argues, we should also verify how and why they use our attention. He also discusses creating

¹² Williams, James. *Stand out of our Light: Freedom and Resistance in the Attention Economy*. Cambridge : Cambridge University Press, 2018. 9781108453004. P. 113

¹³ Williams, James. *Stand out of our Light: Freedom and Resistance in the Attention Economy*. Cambridge : Cambridge University Press, 2018. 9781108453004. P. 108

“commitment devices” for designers, giving the example of a professional oath similar to the Hippocratic Oath for doctors. Such an oath, he hypothesises, should ensure that designers consider the ethics of attention management as well as the goals and well-being of the user. Again, he suggests the following as a provisional example:

As someone who shapes the lives of others, I promise to:

Care genuinely about their success;

Understand their intentions, goals, and values as completely as possible;

Align my projects and actions with their intentions, goals, and values;

Respect their dignity, attention, and freedom, and never use their own weaknesses against them;

Measure the full effect of my projects on their lives, and not just those effects that are important to me;

Communicate clearly, honestly, and frequently my intentions and methods; and

Promote their ability to direct their own lives by encouraging reflection on their own values, goals, and intentions.¹⁴

In terms of measurement, Williams suggests that companies use the considerable amount of user data that they collect already to measure metrics relevant to the users’ wellbeing. One such metric would be the user’s vulnerabilities to persuasion, whether it be them belonging to a vulnerable group, like children or the mentally disabled, or them having certain vulnerable mechanisms, like an addictive personality. (6) In a way, such vulnerabilities are already being measured, though so far, they have only been exploited for targeted advertising instead of being used to protect users, as Williams suggests. The Cambridge Analytica scandal and the Russian interference during the 2016 US elections are prime examples of this.

Similarly, instead of measuring basic user intent as a means to sell more products to them, companies should measure their higher goals and ensure their products are aligned with them. Finally, companies should measure the overall effects they have on their users, both

¹⁴ Williams, James. *Stand out of our Light: Freedom and Resistance in the Attention Economy*. Cambridge : Cambridge University Press, 2018. 9781108453004. P. 120

in terms of attentional harm and in terms of how they are advance the supposed goals they set in their corporate “mission statements”. (6)

In order to properly implement such measures and ensure lasting and meaningful change, Williams explains, it is necessary to let users make themselves heard and give them representation in the design process. He suggests thinking of the situation as users providing attentional *labour*, in which case the solution would be an attentional labour union, so to speak, or as users paying an “attention tax”, leaving them with “attentional taxation without representation”.¹⁵ (6) One can only speculate about what exactly such representation might look like given the lack of a truly widespread discussion on the subject. Perhaps an online movement or activist organisation could gain enough traction to reach social media companies; such a movement would certainly be fitting given the online nature of the issue. However, a single organisation or movement would likely have difficulties accurately representing the interests of such an enormous, varied and international userbase, if such a thing is even possible. Local groups with government backing might do a better job at this, with the additional benefit of having the authority and negotiating power that a fully user-based movement might lack. However, this once again runs into the the issue of having several fragmented groups separately regulating the same international platforms. Ultimately, some form of outside influence on behalf of users is absolutely necessary to ensure positive change.

15 Williams, James. *Stand out of our Light: Freedom and Resistance in the Attention Economy*. Cambridge : Cambridge University Press, 2018. 9781108453004. P. 123

5 Conclusion

As the internet developed, we passed from an age of information scarcity to an age of information overload. As technology has become better at delivering a constant stream of information directly to us, online businesses and advertisers have had to adapt their business models to capture and hold our attention, now a scarce resource as we try to sort through the oceans of content competing for our time. Thanks to the rapid advancement of digital technology, they have been able to make great use of psychology, behavioural science, market research and statistics to develop intricately designed systems to encourage their desired behaviours, in particular when it comes to our attention. By using design to target certain cognitive biases, they subtly guide users towards their desired behaviours, sometimes through deceptive means. By building user habits, they ensure that their users routinely return to their service unprompted, while also boosting growth and giving them a competitive advantage.

This creates a system where technology uses our attention in a way that does not truly advance our higher goals, instead keeping us occupied with entertainment and creating a deep sense of distraction that affects not only our immediate attention, but our values, our worldviews, and our political discourse. Aside from changing the way we consume media, this can have some considerable effects on our society as social media becomes more pervasive. For one, social media can have negative effects on mental health that we have yet to fully understand, which is of course exacerbated as companies try to maximise the amount of time people spend on it, ideally having them habitually return to the platforms without even thinking about it. Furthermore, the types of content that are encouraged by the attention economy as well as the way we communicate over social media create a political climate where disinformation, adversity and extremism are able to thrive and where confrontation and discussion with opposing viewpoints can be facilitated, but are all too often shut down completely.

Addressing these issues is a complicated matter; the current discussion is focused primarily around informational issues, while awareness surrounding attention remains limited. If no measures are taken, change will remain unlikely; while users can adapt to a certain degree, they hardly stand a chance against the advanced systems designed to capture their attention as efficiently as possible, while the responsible companies are unlikely to change on their own accord as long as it opposes their financial goals. Therefore, some degree of government regulation would likely be required. Aligning

technology with our own goals would require a variety of measures, chief among them changing the way we view and discuss advertising and persuasive design. To enforce the desired changes, we must create mechanisms that drive companies to take a more user-focused approach by creating incentives for responsible design and demanding more transparency and accountability from companies. To achieve this, we must provide representation for consumers and allow them to influence design decisions in a way that works in their best interest.

6 References

1. **Eyal, Nir.** *Hooked: How to Build Habit-Forming Products.* s.l. : Penguin, 2014. 1591847788.
2. **Brignull, Harry and Darlo, Alexander.** *Dark Patterns.* [Online] 2019. [Cited: 20 February 2020.] darkpatterns.org.
3. **List of public corporations by market capitalization.** *Wikipedia.* [Online] Wikimedia Foundation, Inc., 5 March 2020. [Cited: 9 March 2020.] https://en.wikipedia.org/wiki/List_of_public_corporations_by_market_capitalization.
4. *The attentional cost of receiving a cell phone notification.* Stothart, Cary, Mitchum, Ainsley and Yehnert, Courtney. 4, Florida : American Psychological Association, 2015, Vol. 41.
5. **Miller, Earl K. and Bushmann, Timothy J.** Natural Mechanisms for the Executive Control of Attention. [ed.] Anna C. Nobre and Sabine Kastner. *The Oxford Handbook of Attention.* Oxford : Oxford University Press, 2014.
6. **Williams, James.** *Stand out of our Light: Freedom and Resistance in the Attention Economy.* Cambridge : Cambridge University Press, 2018. 9781108453004.
7. **Maybin, Simon.** Busting the attention span myth. *BBC News.* [Online] 10 March 2017. [Cited: 14 April 2020.] <https://www.bbc.com/news/health-38896790>.
8. **Prezi.** *The 2018 State of Attention Report.* s.l. : Prezi, 2018.
9. **Clement, J.** Daily time spent on social networking by internet users worldwide from 2012 to 2019. *Statista.* [Online] 26 February 2020. [Cited: 1 May 2020.] <https://www.statista.com/statistics/433871/daily-social-media-usage-worldwide/>.
10. *Facebook Use Predicts Declines in Subjective Well-Being in Young Adults.* Kross, E, et al. [ed.] Cédric Sueur. 8, s.l. : Public Library of Science, 14 August 2013, PloS ONE, Vol. 8.
11. *Association Between Social Media Use and Depression Among U.S. Young Adults.* Lin, Lui yi, et al. 4, Pittsburgh : Wiley-Blackwell, 1 April 2016, Depression and Anxiety, Vol. 33, pp. 323-331.

12. *The Facebook Experiment: Quitting Facebook Leads to Higher Levels of Well-Being*. Tromholt, Morten. 11, Copenhagen : Mary Ann Liebert, 1 November 2016, Vol. 19.
13. *Seeing Everyone Else's Highlight Reels: How Facebook Usage is Linked to Depressive Symptoms*. Steers, Mai-Li N., Wickham, Robert E. and Acitelli, Linda K. 8, Florida : Guildford Press, 2014, Journal of Social & Clinical Psychology, Vol. 33.
14. Nguyen, C. Thi. The problem of living inside echo chambers. *The Conversation*. [Online] 11 September 2019. [Cited: 1 April 2020.] <https://theconversation.com/the-problem-of-living-inside-echo-chambers-110486>.
15. Rajan, Amol. Do digital echo chambers exist? *BBC News*. [Online] 4 March 2019. [Cited: 1 April 2020.] <https://www.bbc.com/news/entertainment-arts-47447633>.
16. Fisher, Max and Taub, Amanda. How Youtube Radicalized Brazil. *The New York Times*. [Online] 11 August 2019. [Cited: 3 May 2020.] <https://www.nytimes.com/2019/08/11/world/americas/youtube-brazil.html>.
17. Christchurch mosque shootings. *Wikipedia*. [Online] [Cited: 16 April 2020.] https://en.wikipedia.org/wiki/Christchurch_mosque_shootings.
18. 2019 El Paso shooting. *Wikipedia*. [Online] [Cited: 16 April 2020.] https://en.wikipedia.org/wiki/2019_El_Paso_shooting#Manifesto.
19. Russian interference in the 2016 United States elections. *Wikipedia*. [Online] 28 March 2020. [Cited: 2 April 2020.] https://en.wikipedia.org/wiki/Russian_interference_in_the_2016_United_States_elections.
20. Leathern, Rob. Shining a Light on Ads With Political Content. *About Facebook*. [Online] 24 May 2018. [Cited: 2 April 2020.] <https://about.fb.com/news/2018/05/ads-with-political-content/>.
21. Facebook, Inc. Fact-checking on Facebook: What publishers should know. *Facebook Media and Publisher Help Centre*. [Online] [Cited: 2 April 2020.] <https://www.facebook.com/help/publisher/182222309230722>.
22. Halpern, Sue. The Problem of Political Advertising on Social Media. *The New Yorker*. [Online] 24 October 2019. [Cited: 2 April 2020.]

<https://www.newyorker.com/tech/annals-of-technology/the-problem-of-political-advertising-on-social-media>.

23. Feiner, Lauren and Graham, Megan. Twitter unveils final details for political ad ban, but it's still looking murky. *CNBC*. [Online] 15 November 2019. [Cited: 2 April 2020.] <https://www.cnn.com/2019/11/15/twitter-unveils-new-political-ad-policy.html>.

24. Hutchinson, Andrew. Twitter Releases New Political Ad Policy Following Announcement of Ban on Political Ads. *Social Media Today*. [Online] 16 November 2019. [Cited: 2 April 2020.] <https://www.socialmediatoday.com/news/twitter-releases-new-political-ad-policy-following-announcement-of-ban-on-p/567461/>.

25. Google LLC. YouTube Community Guidelines enforcement. *Google Transparency Report*. [Online] [Cited: 20 April 2020.] <https://transparencyreport.google.com/youtube-policy/removals?hl=en>.

26. BBC Reality Check team. Social media: How do other governments regulate it? *BBC News*. [Online] 12 February 2020. [Cited: 20 April 2020.] <https://www.bbc.com/news/technology-47135058>.

27. European Parliament backs copyright changes. *BBC News*. [Online] 12 September 2018. [Cited: 20 April 2020.] <https://www.bbc.com/news/technology-45495550>.

28. Pappalardo, Kylie. Criminal Code Amendment (Sharing of Abhorrent Violent Material) Act 2019. *World Intermediary Liability Map (WILMap)*. [Online] 05 April 2019. <http://wilmap.law.stanford.edu/entries/criminal-code-amendment-sharing-abhorrent-violent-material-act-2019>.

29. BBC News. Social media faces EU fine if terror lingers for an hour. *BBC News*. [Online] 20 August 2018. [Cited: 20 April 2020.] <https://www.bbc.com/news/technology-45247169>.