

The Psychology of Attention Economy

Shankhabela Mukherjee^{1*}

ABSTRACT

Attention Economy is the commodification and monetisation of human attention. In the digital age, the attention economy has emerged as a predominant factor in user-experience on digital platforms. The present essay examines the nature of and psychological factors related to Attention Economy. The paper explores how the commodification of human attention affects cognitive processes, behaviour, and mental health, all the while pushing ethical boundaries. The various mechanisms used by digital platforms to capture and retain user attention have been discussed along with its implications. The essay touches upon potential interventions.

Keywords: *Attention Economy, Data-privacy, Social-media Ethics, Digital Addiction*

In 2018, there was major outrage world-wide regarding major social media platforms selling our personal data. However, as the experts explained to the general public in layperson terms, “*They are not selling your data, they are selling you*”, (Halpern, 2018; Tuffecki, 2018; Wozniak, 2018) . This is the essence of the Attention Economy. The attention of the general human being is now a commodity. Attention is a scarce resource which has become a commodity to be monetised by digital platforms (Davenport & Beck, 2001). This commodification has profound psychological implications, influencing cognitive functions, behavioural patterns, and emotional well-being.

Nobel Prize-winning economist Herbert A. Simon is credited with coining the term ‘Attention Economy’ as early as the 1970s. Simon explained that when information becomes abundant, human attention becomes a scarce resource. This leads to companies and platforms vying for this scarce resource by making their content increasingly engaging, compelling, and personalised through notifications and algorithms. The term ‘attention economy’ gained traction in the early 2000s when Thomas Davenport and John Beck (2001) emphasized the business implications of limited attention in a world oversaturated with content. In this model, platforms do not merely provide information or entertainment, their aim is to capture the user’s attention as much as possible to generate revenue primarily through advertisements. The main motto is ‘User Engagement’. This is manifested through clicks, views, likes, and shares and platform design decisions and content strategies are all based primarily on this metric.

¹Department of Applied Psychology, University of Calcutta

*Corresponding Author

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This commodification of attention has led to the development of sophisticated algorithms designed to capture and retain user focus. For example, platforms like YouTube, Instagram, and TikTok employ machine learning algorithms that continuously personalise content feeds based on user interaction patterns (Covington et al., 2016). These recommendation systems optimize user experience to maximise screen time and engagement, which directly correlate with advertising revenue.

Attention is now a product that is harvested, packaged, and sold in the form of user data profiles. Zuboff (2019) refers to this as ‘surveillance capitalism’, where behavioural data is mined not only to predict but also to influence future actions. This has completely altered the original purpose of the internet which was to democratise access to information with the intention of increasing dialogue amongst the citizens of the world, thus broadening view points and improving communication. In stark contrast, the current digital landscape is one of polarisation, echo chambers, and behavioural manipulation (Pariser, 2011)

The impact of the Attention Economy extends beyond mere distraction. It actively reshapes our cognitive components, mental health, and social dynamics. As content becomes more emotionally provocative and sensational to maintain user interest (Pennycook & Rand, 2018), the quality and integrity of information have declined, giving rise to misinformation and polarization.

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Selective Attention and Cognitive Load

According to Broadbent (1958), human attention is a selective filter that accepts only a limited amount of information for further processing. Digital platforms use this theory to design their content in a way as to use this filter for monetary or political gain. This is achieved by presenting salient and emotionally charged content to capture user focus (Lavie, 1995). The Perceptual Load Theory by Lavie (1995), proposes that the extent to which irrelevant stimuli are processed is determined by the level of perceptual load in the task. High-load tasks consume more attentional resources, reducing the processing of distractors, whereas low-load tasks leave some capacity to spare, thus allowing the processing of some distractors. Digital environments maximise the use of our limited attention and direct it to multiple content by presenting tasks with low-load tasks laced with powerful distractors, thus driving our attention towards irrelevant information.

Multitasking and Task-Switching

The current digital landscape often demands multitasking and frequently switching between applications, tabs, and devices. It is not uncommon to be communicating with the same person via WhatsApp and simultaneously sharing Reels with them via Instagram. In the online workspace too, co-workers collaborating on a Google Doc simultaneously have a Google Meet window open while also sharing documents via instant messaging services. However, research indicates that multitasking impairs cognitive performance, leading to decreased productivity and increased error rates (Mark et al., 2008; Ophir et al., 2009; Rubinstein et al., 2001). Task switching incurs a ‘switch-cost’ (Rubinstein et al., 2001), as the brain requires time to reorient and refocus, resulting in diminished attentional control and working memory capacity.

Conditioning and Reinforcement Schedules

Behavioural psychologists provide insight into how digital platforms shape user behaviour through operant conditioning. The Classical conditioning theory by Pavlov (1927) explains

how previously neutral stimuli become conditioned to elicit specific responses. The 'ping' of notification or simply the blinking light from a new message, the number of 'likes' or 'hearts' on a post, etc., become conditioned stimuli associated with validation or attention from others. The schedules of such reinforcement cues are kept variable and deliver rewards unpredictably, thereby reinforcing engagement leading to habitual use. According to Skinner (1953), variable reinforcement schedules lead to stronger habit formations. This mechanism is comparable to gambling behaviours where the unpredictability of rewards sustains user involvement. To bring users to the digital platforms in the first place, the digital platforms promote content by influencers as 'viral' and 'cool', evoking FOMO or Fear-Of-Missing-Out in individuals. Bandura (1977), proposed that behaviours are learnt through observation and imitation, specially when associated with rewards. Keeping up with the latest social media trends is a source of reward and validation. This encourages constant scrolling which in turn ensures the scarce resource of our attention is hooked to the content the platform wants us to consume.

The never-ending cycle of cue-routine-reward is the cornerstone of compulsive digital media consumption. Notifications serve as cues, prompting routines such as checking the device, which are reinforced by rewards like social validation. Over time, these loops become ingrained, leading to habitual behaviours that are resistant to change (Duhigg, 2012).

Impact on Brain Structure and Function

The structures of the central nervous system involved in attention and reward processing have been studied to better understand the neural involvement of the Attention Economy. The prefrontal cortex has been found to be critical for executive functions and attentional control, (Volkow et al., 2011). These skills are often taxed in digital environments since they are designed with the intent to distract. The dorsolateral prefrontal cortex (DLPFC) helps in maintaining focus and resisting distractions. The Ventral Tegmental Area (VTA) and Nucleus Accumbens (NAcc) are part of the mesolimbic dopamine pathway, crucial for processing anticipation and receipt of rewards (MacDonald et al., 2010; Miller & Cohen, 2001). Dopamine release in this pathway is linked to positive reinforcement, such as the pleasure of receiving a "like" or message (Montague et al., 2004; Turel et al., 2014). Digital stimuli that are novel or emotionally stimulating activate these reward circuits, releasing dopamine and reinforcing engagement. The orbitofrontal cortex (OFC) contributes to evaluating reward value and shaping decisions about content consumption and digital behaviour (Wallis, 2007).

Chronic exposure to digital media may lead to changes in the neuroplasticity of the brain (Sigman, 2017; Small et al., 2009). Studies have shown alterations in gray matter density in regions associated with attention and impulse control among heavy internet users (Lin et al., 2012). These changes may underlie difficulties in sustaining attention and increased susceptibility to distractions. The specific change in neuroplasticity has been highlighted by Loh and Kanai (2016). According to their study, frequent exposure to fast-paced stimulating content reinforces neural pathways that deal with fast stimulus-response cycles than those that support sustained cognitive effort. This essentially re-wires the brain to expect constant quick stimulation, making it hard to focus on events requiring sustained focus. Rothbard and Posner (2015), found that consumption of rapid highly-stimulating content that is designed to capture attention within seconds impairs sustained attention and makes it difficult for the brain to engage in deep prolonged focus.

Implications

Attention Deficit and Cognitive Fatigue

The constant bombardment of information in the attention economy contributes to cognitive fatigue and attentional deficits. Users have reported increased mental exhaustion, difficulties in concentrating, and reduced capacity for deep thinking (Carr, 2010). This phenomenon, often referred to as "digital brain fatigue," impairs cognitive performance and overall well-being. Historically, moving pictures, A.K.A. motion pictures or *movies* captivated audiences by engaging their attention in a focused, sustained manner. A single narrative unfolded over time in a coherent manner. Today, even while watching a film or television program, we feel the need to simultaneously scroll through our phones, consuming bite-sized content designed to trigger dopamine-driven feedback loops. This multitasking further fragments attention and trains the brain to expect constant stimulation, reducing tolerance for stillness or prolonged mental effort. The 'infinite scroll' opportunity of digital platforms leads to compulsive engagement. As a result, many people now find it increasingly difficult to engage in activities requiring patience, focus, or delayed gratification such as reading a book, writing that requires organisation of thought, or even engaging in uninterrupted conversation. We need to scroll through apps even while talking to people face to face!

Addiction to Devices and Reduction in Productivity

One of the most concerning outcomes of the attention economy is the growing addiction to digital devices largely driven by the monetization of user attention. Through infinite scroll, autoplay, push notifications, and variable reinforcement schedules, digital platforms capture, hold, and monetise user engagement (Alter, 2017; Harris, 2019). These mechanisms are effective at maximizing screen time leading to a significant decline in cognitive focus, time management, and productivity. Addiction-like behaviour toward smartphones and digital media has been widely documented (Mukherjee & Dasgupta, 2020). Montag and Walla (2016) argue that the overuse of social media and smartphones reflects behavioural addiction marked by compulsive checking, withdrawal symptoms when disconnected, and interference with daily responsibilities. This compulsive usage is not accidental but rather the result of deliberate design. Features such as 'likes', rewards, and curated feeds are intended to release dopamine, reinforcing repeated engagement (Montague et al., 2004).

The resulting fragmentation of attention makes it difficult for individuals to have sustained focus on cognitively demanding tasks. Mark et al. (2008) found that frequent interruptions from digital notifications significantly impair performance and increase mental workload. A study on workplace multitasking found that the average time spent on a task before switching to another has dropped to as little as three minutes, with a recovery time of up to 23 minutes required to regain full focus after a disruption (Mark et al., 2012). Over time, constant device checking and multitasking erode cognitive endurance and reduce one's capacity for strategic thinking, problem-solving, and long-term planning (Newport, 2016).

Disruption of Sleep and Resulting Health Costs

One of the most pervasive and harmful effects of the compulsive use of digital devices late into the night is the disruption of healthy sleep patterns. Digital platforms are designed to be immersive and stimulating, with features such as autoplay videos, endless scrolling, and constant notifications that encourage prolonged screen time, often at the expense of restorative sleep. Twenge et al. (2018) linked increased screen time to sleep deprivation and elevated rates of depressive symptoms among adolescents and young adults. Numerous studies have established that exposure to digital screens before bedtime suppresses melatonin production, the hormone responsible for regulating the sleep-wake cycle

(Cajochen et al., 2011; Higuchi et al., 2005; Wood et al., 2013). The blue light emitted by screens disrupts circadian rhythms, delaying sleep onset and reducing overall sleep quality (Chang et al., 2015).

Sleep deprivation has cascading effects on physical and mental health. Chronic lack of sleep is associated with increased risks of obesity, cardiovascular disease, weakened immune function, and Type-2 diabetes (Medic et al., 2017). Cognitive impairments include reduced attention span, poor memory consolidation, and slow decision-making (Killgore, 2010; Lim & Dinges, 2010). In the context of mental health, disrupted sleep is strongly linked to elevated risks of depression, anxiety, suicidal ideation, psychological distress, and emotional dysregulation (Twenge et al., 2018). A decade ago this problem was mostly seen in adolescents and young adults, who were the primary users of smartphones; but in the last decade, this problem has become more pervasive, spreading to older adults as well.

Polarisation of Views Due to Algorithmic Content Display

Tailor-made personalised content to keep users hooked to the digital platforms often leads to polarisation of views. When an individual engages with a few videos describing a social event from a particular perspective, their feed is suddenly filled with videos reinforcing that perspective leading to the *false-consensus effect* (Bakshy et al., 2015). The false consensus effect refers to an overestimation of the number of people who share an individual's view point (Ross et al., 1977). This prevents people from hearing both sides of the story and reduces the possibility of a middle ground based on arguments from both sides (Sunstein, 2001). Pariser (2011) calls this the *filter-bubble* where algorithmically driven personalisation reinforces and strengthens existing beliefs leading to *ideological polarization*. Cinelli et al. (2021), have empirically confirmed that algorithmically determined personalisation on digital platforms lead to confirmation bias and polarisation of ideas. Confirmation bias refers to the phenomenon where an individual's attention is automatically directed to information that aligns with their beliefs and values (Nickerson, 1998). Events in the modern world are highly polarising. Digital platforms were originally hailed as media through which people all over the world could share their views thereby making the world more cosmopolitan and open in their thinking, thereby reducing conflict (Catells, 2010). However, the discussion above shows, the present reality is anything close to this utopian expectation.

Cashing-in on Outrage

A lot of content on social media is tailored to cash-in on people's outrage toward various issues. The title or thumbnail (the picture seen before the video plays) of the video is chosen carefully to arouse anger, making people click on the video and engage further by commenting on it to express their views and counter the claims made by the video (Frimer et al., 2017). There are in fact 'influencers' whose YouTube Channels or Instagram accounts feature such exclusively 'rage-bait' content which draws viewership and engagement from righteous people with the need to assert their views on various matters. This constant outrage and rage-bait fosters a sense of 'doom and gloom' leading to heightened emotional distress and an increase in depressed and anxious states (Merrill & Oremus, 2021; Pera, 2020; Wiederhold, 2020). Repeated and prolonged exposure to rage-bait content leads to continuous negative arousal which in-turn affects cardiovascular health. The human body's stress response system, primarily governed by the Hypothalamic–Pituitary–Adrenal (HPA) axis and the sympathetic nervous system, triggers the release of cortisol and adrenaline, which in turn increase heart rate and blood pressure (McEwen, 1998). Prolonged exposure to content that triggers stress, hostility, and anger can severely impact cardiovascular

functioning by increasing heart rate and blood pressure (Chida & Steptoe, 2009; Krantz & McCeney, 2002; Suls & Bunde, 2005)

Ethical Considerations

Manipulation and Autonomy

The matter of concern here is not just the monetisation aspect of the Attention Economy. The design of digital platforms to maximise user engagement raises ethical concerns regarding manipulation and autonomy of users. Techniques such as infinite scrolling and personalized content feeds exploit cognitive biases, potentially undermining users' ability to make autonomous choices (Zuboff, 2019). The ethical implications of such practices necessitate scrutiny and potential regulation. In 2012, Facebook conducted a study (without user consent) to investigate how content on their platform could affect users' moods. This experiment involved manipulating news feeds for nearly 700,000 users to display more or less positive or negative content to see how it affected the nature of posts related to their mood and affect. Needless to say, this sparked significant ethical debate.

The Cambridge-Analytica scandal of 2018 sent global shockwaves when the extent of the manipulative abilities of digital platforms was first exposed (Cadwalladr & Graham-Harrison 2018, March 17). Strong claims were brought forward about digital platforms showing tailor-made content to shape political views and influence voting patterns amongst the citizens of various countries including India.

Data Privacy and Surveillance

The attention economy relies heavily on the collection and analysis of user data to personalize content and advertisements. This practice raises concerns about data privacy, surveillance, and the potential misuse of personal information. The balance between personalization and privacy remains a contentious issue in the digital age (Tufekci, 2015). It is quite a common concern raised by many users worldwide about the major digital platforms 'listening-in' on our conversations because when users discuss something (a brand, a generic product, a vacation venue, etc.) while near their mobile devices, they inexplicably find related advertisements on their digital feed.

Decline of Informational Integrity

The value of our time has been reduced as the value of our attention has increased. In order to make content palatable and engaging, rather than providing information that is of value, digital platforms and content creators focus on content that will garner most 'views', 'shares' and 'watch-hours'. As a result, conspiracy theories, racially, politically, or religiously charged statements not backed by proof, and voyeuristic content have taken over most digital platforms and that is what is being consumed by the populace instead of educational or constructive material (Tufekci, 2018; Zuboff, 2019). These forms of content are more likely to go viral due to their capacity to evoke strong emotional reactions, particularly outrage or fear (Pennycook & Rand, 2018).

Interventions and Mitigation Strategies

Digital Literacy and Mindfulness

Promoting digital literacy can empower users to navigate the attention economy more effectively. Educating individuals about the persuasive design of digital platforms and encouraging mindfulness practices can enhance self-regulation and reduce compulsive usage (Kabat-Zinn, 2003). Initiatives such as "Time Well Spent" encourage platforms to adopt features that promote intentional usage, such as usage dashboards and screen time limits

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(Harris, 2019). Many smartphones now have a digital tracker that presents weekly reports on hours spent using the phone with details of hours spent using each application. This is intended to make users more mindful of their time spent on smartphones.

Design Ethics and Platform Responsibility

There is a growing movement advocating for ethical design principles that prioritize user well-being over engagement metrics. Australia has passed a law in 2024 prescribing a minimum age for social media use amongst its citizens (Reuters, 2024, November 28). Citizen groups across the globe are demanding ethical reporting and accountability of misinformation spread on social media. Platforms like Meta and X (formerly Twitter) have fact-checking mechanisms in place to routinely remove unverified content. The effectiveness of these mechanisms are yet to be seen, keeping in mind the sheer volume of posts per second on these platforms. At the Annual Media Summit 2025 held in Kenya, leaders from various media bodies emphasized the need for data protection, ethical standards, and multi-stakeholder collaboration to counter misinformation and rebuild public trust (Media Council of Kenya, 2025, May 19).

CONCLUSION

The Attention Economy exerts significant influence on human cognition, behaviour, and mental health. Considering the extent of polarisation and conflict in the world at present, the need for curbing manipulation by Digital Platforms and inciting explosive emotions any further is quite urgent. Instead of occasional opinion pieces and summits, the need of the hour is implementation of decisive global policy to rein in corporate greed and bring the internet back to its original purpose of creating harmony instead of strife, spreading information instead of *misinformation*, and promoting a healthy exchange of ideas. Understanding the psychological mechanisms at play is crucial for developing strategies to mitigate the negative impact of Attention Economy. The long-term ramifications of declining cognitive capacity, mental health issues, and chronic physiological problems can be catastrophic. Given these complexities, navigating the attention economy requires a multipronged response. At the individual level, building digital literacy, self-regulation, and mindfulness can offer deterrence against compulsive usage. At the systemic level, the onus lies on technology companies and policymakers to develop ethically aligned design principles, enforce data privacy regulations, and implement age-appropriate content restrictions. Fostering digital literacy amongst users and promoting ethical design and implementing regulatory frameworks amongst platform developers, can lead to better navigation of the challenges posed by the Attention Economy and safeguard individual well-being.

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Conflict of Interest

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