CHAPTER 2 – REVIEW OF LITERATURE

The debate regarding new media technology is an ongoing discourse. In fact, many scholars would write about how the Internet is bringing about new forms of democracy while other scholars are sceptical of the very same idea. Regardless, it is necessary that we discuss this new public domain and what the technology can provide societies.

2.1 Social media for democracy

According to Rheingold (2000) the Internet has made a drastic change in the way we use CMC for communion. He said that the Internet has reconceptualized the ideas of community wherein human interaction has turned into a game. His writing also mentioned how the Internet provides us some level of concealment by virtue of which we make more meaningful relationships (Rheingold, 2000). Age, sex, nationality, and physical attractiveness are not obvious on the Internet since we cannot see one another unless a person chooses to make such traits known. He said –

> "… virtual communities treat them as they always wanted to be treated – as thinkers and transmitters of ideas and feeling beings, not carnal vessels with a certain appearance and way of thinking and talking (or not walking and not talking)." (Rheingold, 2000, p 11).

Likewise, with regards to emergence of new media technologies, Mater (2001) argues that it will bring about the creation of a genuinely global public forum where all interested parties may participate in conversations about the necessary steps to be taken in response to pressing global political, economic, and social issues. These scholars and others argue for a revitalized counterpublic, that promotes political participation, bringing a stronger democracy through digital conjunction of online actors (Mater, 2001).

Khazaeli and Stokemer (2013) echoed similar sentiments. Their study found that countries with higher internet penetration have a more stable, better government brought about by increased access to information that we would not have been privy to before the Internet age. The rate of at which information are stored and disseminated on the Internet is so fast that any attempt at censorship becomes futile. This results in more transparency among institutions

that would have been less so if the technology did not exist. According to Khazaeli and Stokemer –

> "The more Internet penetration rates increase, the more difficult it will become for governments to maintain control over information or to conceal political transgressions." (Khazaeli & Stockemer, 2013, p 466).

This new technology generates more pluralistic sources of information resulting in a platform that invites political discourse. The study also found that an improvement in governance happens regardless of difference in regimes. However, this is not a negation of the existence of heavy censorships for some governments, they suggested that the Internet's simultaneous capacity for public reporting and criticism may motivate leaders to increase transparency and accountability (Khazaeli & Stockemer, 2013). Additionally, the Internet has become fundamental to politics, especially in democracies where it fosters open communication between the ruling class and the common populace. Social media is used excessively by political leaders and public figures to connect with their supporters or the general public. Leaders may appeal to a wide range of demographics, construct an impressive public image, and establish rapport with those that follow them online.

An important point that was noted is how this same technology also exacerbate society's existing issues such as misinformation, disinformation, child pornography, piracy, gambling, etc. Some were quick to point out the rise of vaccine hesitancy during the COVID19 pandemic to the Internet (Puri, et al., 2020; Pertwee, et al., 2022), the increased elevation of conspiracy theories, and the eventual diminishing trust in official channels as a direct result of the Internet (Stano, 2020; Iammarino & O'Rourke, 2018).

Even though governmental institutions have been quick to curtail these problems through legislations, they have also been criticized of censorship, overreaching, with debates revovling around privacy and the exact role the government should play.

In contrast, a study conducted by Nisbet and colleagues (2012) suggested that rather than internet penetration, it is internet use that is connected to citizens' demand for a more democratic government. They found that this demand is more prominent in democratic states than those that are nondemocratic. Furthermore, the study claims that there is more demand in

less democratic states than those that exhibit higher levels of democracy (Nisbet,et al., 2012). A typical supply demand model may explain this instance since the existence of higher levels of democracy may result in less demand of it. The study painted an optimistic view of the Internet as a potential for change in the long run. The researchers claim that in countries with less democratic settings, and where demand for democracy may be low, the growing capacity of the Internet for communication coupled with the increase in number of people that utilise it, this demand for democracy may rise. The Internet in its potential is still limited in bringing democratic change in an instant, especially for those that practice autocratic regimes. They may take a longer time for their citizens to demand more democratic practices, but the study indicates that they have the potential with increase in Internet use.

The organizational aspect of political participation in online spaces can be quite complicated since there can exist an unparalleled disparity in the range, extent, and intensity of activisms in the global context. Scholars and activist alike might even find it difficult to label a particular form of activism under a single name (Ganesh & Stohl, 2010). Ganesh also mentions that with the increased dependency on new media technologies, this new trend tends to devalue the existence of formal organisations highlighting the critical role of online activist systems. Furthermore, their studies social justice movements in Aotearoa New Zealand found that activist highly depend on ICTs claiming that it greatly assisted in reducing cost while increasing the speed of collecting and sharing information, thereby, imparting a sense of efficacy and agency among participants, even those that were sceptical of the role ICTs play in activism, their scepticism did not deter them for participating. The scepticism included the superficiality of online activism, claiming that the virtual spaces do not foster actual commitment to causes while offline activism provide for richer possibilities (Ganesh & Stohl, 2010).

It would be naïve to think that democratic participation in online spaces is without its own counterpublics. These may involve the structure of the social media platforms themselves. The profit driven industry has a priority that has very little to do with participatory democracy. A study by Youmans and York's (2012) analysis shows how barriers are created by the same institutions that provided the platform. They emphasized the existence of government regulations as well as regulations borne of commercial interest by the gatekeepers of information. Furthermore, it is crucial to acknowledge the role that the Internet has played in

the growth of democratic participation, it is clear that social media are used to further the political objectives of progressives, rebels, and authoritarian governments equally (Youmans & York, 2012). The researchers proposed that social media users flock to other platforms that is more suited for activism. However, this suggestion may be challenging since platforms that are solely designed for activism may be so niche that they may not be suited for issue amplification. Also, citizens can demand for a more open Internet calling out companies to take an active step in challenging governments that favour censorship and surveillance. They also stressed on the idea that there is a need for a shift in power from industry leaders to end users. The study highlights the lack of trust users have on the players that run the platforms due to the commercial interest that guides their motives. Furthermore, they also emphasized the lack of trust Internet users have on their governments due to the practice of censorship and surveillance practices that most regimes tend to exert to different degrees.

Other studies somehow link the increase in democratic demand of the internet as fervently operating in some administrations but not others. A study by Wike and colleagues (2022) argue that social media is one of the main factors contributing to the global decline of democracy. They argue that social media has made it simpler to divide and control people, yet some argue that it also educates and increases awareness. A country-wise study they introduced claimed that most countries consider social media as an upgrade to democratic functions while Australia, France, Netherlands, and United States of America consider the platform to be a negative influence on democracy. The study also noted that among the 19 countries that were studied, the overall statistics pointed towards an optimistic opinion of the Internet. As represented by the median of 19 countries, social media has a positive reputation in consideration to its democratic responsibilities.

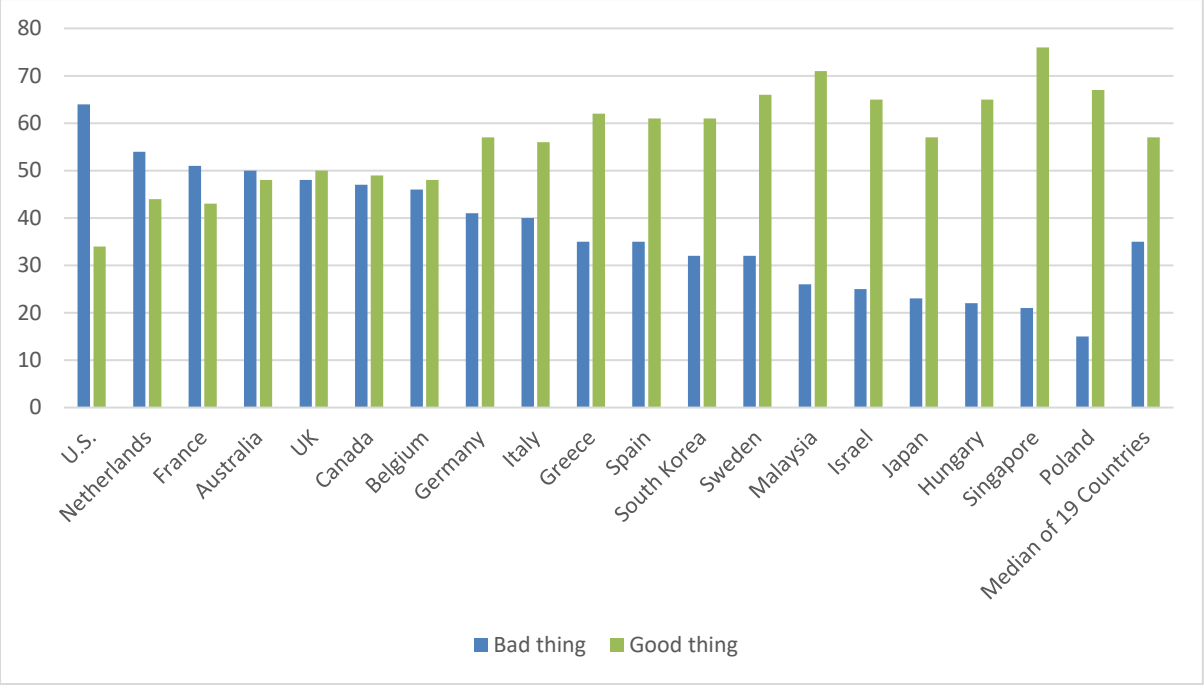

Figure 2. Opinion on Social Media for Democracy. (Source: Spring 2022 Global Attitudes Survey[10])

The study also claims that in comparison to older individuals, young adults are more likely to use social media, have a smartphone, and utilise the Internet with more frequency. They argue that adult youths are also more inclined to think that social media increased their awareness of national and international affairs. They are also more likely to believe that these tools have increased tolerance for persons with somewhat diverse inclinations.

As seen in Figure 2, United States of America seems to be an outlier when you consider public opinion regarding social media. However, the study also showed that even in countries that had a good opinion of social media expressed concerns of its shortcomings concerning issues such as spread of misinformation and the level or risk that is involved. The study also showed evidence that suggest that social media has caused larger divides among society with different political opinions. As discussed in Section 1.5, this can be a result of the *echo-chamber* social media has provided for like-minded users to form groups, strengthening their existing beliefs (Cinelli, et al., 2021; Garrett, 2009). Therefore, rather than looking at political divides as worsening, existing divides may have just become more obvious and pronounced

[10] Figure created by researcher using data from Spring 2022 Global Attitudes Survey. Q28

now that we have a platform to express opinions. Even though people are more well informed, confirmation bias creates barriers that limit peoples' ability to absorb new ideas. Some communities might even downright refuse to accept new forms of understanding and practices since their long-held beliefs are suddenly challenged.

The study mentioned how a most people from the countries studied claim their political structures does not provide them the goods to influence real change, the fact still remains that social media provides a space to express such opinions as well. The empowerment that it brings does not seem to manifest into tools for actual change, rather it fosters citizens that are well informed with current events, while providing an effective network that fosters political discourse.

Howard and Parks (2012) argue that social media facilitates the distribution of contents that are individualistic in nature but at the same time represents collective values. They believe that individual expressions in the larger context are borne out of group mentalities. Furthermore, these expressions become cultural products for the individuals that produce and consume the medium (Howard & Parks, 2012). Therefore, social media, for the purpose of directing collective contempt on an issue, could be effective in gathering larger support. Social media, in its core, always maintains a social element to its function. News sharing in social media is also different from the traditional forms. The applications that user's implement on social media influence design decisions and infrastructure in ways that go much beyond the conventional classifications of uses and gratification theories.

2.1.1 Media hype and social issue amplification

Regardless of the criticism and negative opinions towards the Internet regarding its role in democracy, social media activism can cause media hype that can be disruptive enough to question the status quo. New media technologies are critical for modern day activism to a point where even the so-called low-effort clicktivism, or slacktivism tend to demand politically relevance and contributes to offline participation (Freelon, et al., 2020). Chung and colleagues (2018) studied how prolonged media attention can cause significant civic concern and vice versa, intensifying the attention towards a problem. This is the reason why even small local

issues quite often advance into news stories that garner national interest. They studied media hype surrounding the environmental hazards associated with a brand-new high-speed railway tunnel development in South Korea in an effort to uncover the dynamic process of increasing social attention to an issue. The study found that a novel hazard with limited information tends to influence public perception through the risk amplification process, more than an established hazard that people are already exposed to or familiar with. Extended media coverage, can attract strong public attention and vice versa. According to Chung, neither the media alone, nor the public by themselves can make an issue develop into a media storm.

As social stations, environmental groups and activists gathered data regarding the development of the tunnel and its ecological effects, and disseminated it to the broader public, communities, and organisations. The Internet provides social media platforms and the general public a productive method of interactive communication as well as a public forum for active information exchange and participation (Chung, 2011). For instance, while a website for a company like an environmental activist group may initially spark local interest, the Internet enables the dissemination of this information to a much larger audience in a way that was not possible with traditional media.

Therefore, issue amplification can cause a media storm on social media when dealing with issues that are novel and have extended media coverage coupled with strong public interest.

2.2 A rhizome but with algorithms

Hess (2008) questions the usefulness of the Internet in a democratic system. According to Hess, the idea that the Internet is a rhizome with the ability to fundamentally transform the landscape of interaction and governance is mistaken in early writing about cyberspace. The ever-expanding Internet has been attributed to what Deleuze and Guatarri called a *rhizome*. A rhizome is defined by a non-hierarchical structure that allows for multiple entry and exit points. It is often contrasted with the structure of a tree that has roots, a trunk, branches and leaves, among other things. Therefore, the Internet, as many scholars agree, exhibits these characteristics, wherein, you can access information from any point in the system, a system which can expand without having a fixed point of origin. However, according to a study on four major search engines done by Aaron Hess of Arizona State University, a commercial

restructuring has mitigated the access of new knowledge (Hess, 2008). The online space has become more of a personalized experience. This is either through the use of 'cookies' which limits an individual's capability to experience new things, or users' own preferences that are set. The search engines utilize a hierarchical structure to present information based on relevance that privileges the mainstream and silences the marginalized voices. He said –

> "Thus, what was once considered a tool for limitless knowledge and information becomes a commercial filter of packaged and priced data." (Hess, 2008, p 36).

The author made an interesting point of how we have sacrificed the ability to gain limitless knowledge for the sake of convenience. This phenomenon can be seen in full effect on video streaming platforms such as YouTube. What happens is that recommended videos on YouTube home pages only show videos that are either trending, have a higher click rate than others, the videos that are recently watched, or videos that are similar to the previous ones that were watched. Facebook also follows a similar algorithm where it presents content that you expressed interests in, either by clicking, or commenting on them, among other things. These algorithms are used so that the platform will filter out contents that it deems are not worth of your time because you haven't watched or interacted with them lately, even though you willingly subscribed to those contents (in the case of YouTube), thereby keeping you hooked to your devices. It is worth noting that users have a certain range of freedom to filter out contents they think are irrelevant and uninteresting. They pick the forums they think are in line with their interest, accept 'friend request', follow or accept a 'follow' request, and subscribe to the channels they want. The claim here is that the algorithm still exerts control over the filtration of content that users consume.

The rhizome nature of cyberspace seems to be inappropriate at the present scenario since the space has become more of a personalized experienced which limits an individual's capability to experience new things. Search Engine Optimization (SEO) utilizes a hierarchical structure to present information based on relevance that privileges the mainstream and silences the rest.

Aaron Hess' study compares these two broad principles that guide a rhizome and the cyberspace by using a textual study of four major search engines online. He found that the style

and layout, the algorithms used, and the use of cookies, while making it convenient for the users, preclude our ability to generate new means of knowledge.

2.2.1 Search engine optimization and standardization

The vast and ever-expanding Internet provides us with a thick forest of information where one can easily get lost. Users, therefore, require an efficient tool to navigate through it. The online giant, Google, has by far been the most successful search engine in the 21st Century surpassing every other search engine to a point where Google has become somewhat of a generic term. Regardless of the vastness, ease of access, and the availability of diverse ideas or contents, we as users of the Internet don't seem to exhibit variations in what we consume. There seem to be a set of standard goods that we all gravitate towards. Some videos on YouTube have millions of views while some have a few. Search engines provide us with a standard list of results when we type a certain query, and we consume these content that show up on the first page.

According to Fishkin (2018), Google dominates search engine platforms by a huge margin. Fishkin sourced his data from jumpshot.com that showed Google processes 3.4 billion queries a day. This statistic accounts for a whopping 90.8% of online searches. How did Google manage to grab a monopoly-like status on the Internet? First, Google's strategy is to go where the users are, and to ensure that wherever users go, a Google search is not hard to do. This meant being the home page on every Internet browser or to be the browser (Chrome) itself. Secondly, dominate the mobile phone market share either by owning the mobile OS (Android), or launch its own phone (Pixel), and thirdly, owning the most dominant video platform, YouTube. Undoubtedly, Google's has attained gargantuan status on the online market.

Given the plethora of content available online, what search engines need is an effective way to present the *best* results in the shortest amount of time for users' queries. For this purpose, most search engines (including, Google) utilize what's called web crawler, often referred to as spider or *spiderbot* to search the web for resources. Once the spider crawls the web, it analyses the codes on the site to create more information for the indexing process. It was a good initiative for a start, but it was just the beginning. During the 90s, Google introduced the PageRank (named after its co-founder Larry Page) where they gave higher ranks to sites that have other sites linking to it. The more sites that provides links to your site, the more relevant it becomes. That means the more one website borrows from and or references another

website, that site gets plus points on its ranking, pushing it to the front of the Search Engine Results Pages (SERPs).

Currently, PageRank is not the only algorithm used by Google to order search results, but it is the first algorithm that was used by the company, and it is the best-known. We know that Google ranks pages (also), among many others, based on the location of the user, the device compatibility of the website, the website's conformity to standards, its accessibility for persons with disabilities, the users' search history (patterns), whether the website is fresh or out-dated, etc. In fact, Google uses over 200 ranking factors. The exact details of which ranking is given preference over another, or what combination of these are used is still unknown since Google keeps it a trade secret. However, PageRank is the innovative idea that made Google what it is today.

2.3 Unlimited information at the price of our attention

Even when they are unaware that their phone is ringing or buzzing, 67 percent of cell phone owners check their device for messages, notifications, or calls, according to a recent survey from the Pew Internet & American Life Project published on November 30, 2012. The technology for which modern society is defined, the Internet and smart devices, provide for a constant reminder that we need to read something or catch up with a notification that an individual is compelled to respond to.

Larry D. Rosen in his book "iDisorder: Understanding our obsession with technology and overcoming its hold on us" discussed how technology can significantly increase or even cause well-known psychological problems like narcissism, anxiety, and addiction. As a research psychologist, he highlights how extensive use of new media technologies can cause many people to display symptoms of classical, common, psychiatric disorders (Rosen, et al., 2012). He mentions how the Net Generation (those born in the 1980s and onwards) are more stressed than the newer Generation Z (those born between 1996 and 2010) that were born during the advent of the Internet. Rosen, therefore, suggest that we embrace our preoccupation with new media technologies. This suggest that he is, in fact, not against new media technologies and even claimed to be an early adopter. He scorns some of the most fundamental forms of electronic communication, such as emoticons, but goes on to quote studies showing

that psychological suffering is not related to how much time is spent online, but rather the quality of the communication that takes place online.

He also mentions a phenomenon known as phantom vibration syndrome where you feel your phone vibrating or ringing even though it is not. Interesting though this phenomenon is, it does not seem to permit its use as an indicator for what could be considered a full-blown disorder. The idea of "internet addiction" in itself is problematic and is still and ongoing debate. It might be considered that internet itself is not the focus of an addiction, however, is a mere channel with which the addiction is gratified. For example, a person that participates in online gambling might be considered as being addicted to gambling, and not the Internet that facilitates the behaviour. Furthermore, the book suggests solutions to the iDisorder as having a healthy relationship with the technology, and knowing when to practice time away from one's devices. He calls these "tech breaks" and suggest that we have a balance and moderate usage of our tech. A therapist Dr. Kate Anthony, in her review of the book, mentions that Rosen took a rather patronising approach to the problem whereby he treats readers as incapable of being responsible. She stresses the importance of giving credit to a person's intuition when it comes to understanding the need to have a good sleep, good nutrition, and a healthy time spent away from technology (Anthony, 2013).

Continuing the idea of spending time apart from our devices, American computer scientist Jaron Lanier (2018) provided us with "Ten arguments for deleting your social media accounts right now", which conveniently is also the title of the book. He used to work in Silicon Valley, therefore, had an interesting insight into the inner workings of the industry. However, his mode of expression was not lacking the dramatic flair, in fact he makes social media seem like a demon at times. In spite of that, his writings bring out some interesting arguments for how new media technologies change the way people behave in society.

Firstly, he criticized the algorithms that feed us unrestricted, targeted ads that has an influence on our, if one thing is for sure, purchasing habits. He considers social media as "…continuous behaviour modification on a titanic scale" (Lanier, 2018, p 6). Consider legacy media's advertising model and compare it with that of social media. A TV show will show ads that everyone watching the show gets to experience within the commercial break that is

allotted. Lanier said these ads were fleeting as compared to the level of stimulus social media ads can accomplish.

Social media also provides us a *dopamine hit* through its *social-validation feedback loop* that does not serve any civil discourse, doesn't promote cooperation, and spreads misinformation. He said that the people behind social media knew this even at the start, however, they have also been scrambling for damage control through policy changes to curtail these issues. Furthermore, the algorithm, Lanier claims tend to prefer negative feedback as a business choice. This is due to the idea that fear and anger are emotions that the algorithms find easier to use to convince individuals on social media to participate. Negative emotions illicit more participation as compared to positive ones. He expanded on this idea later on when he talked about how social media turns us into "antagonistic" people (although he used a different word for it), claiming that the strong foundation of social groups is a result of a shared hatred for other groups. This idea will be reiterated in the findings and interpretations chapter.

He came up with the term BUMMER which is an acronym for *Behaviors of Users Modified, and Made into and Empire for Rent*. This machine exhibits various characteristics that – 1) turn people into intolerable human beings that function off of attention; 2) it is extremely invasive; 3) overloads us with information; 4) creates subtle changes to human behaviour; 5) generates profits by putting the intolerable human beings on pedestals; and 6) provides a breeding ground for inauthenticity (Lanier, 2018, p 29). Not to mention the existence of AI's and bots, Lanier said human beings themselves are inauthentic on social media. Which has a level of significance since it takes more than tweets or photos to discover the authentic person.

One other interesting impression that Lanier's writing indicated further on advertising in social media – the idea that advertisers have a more meaningful voice since they are the *true* customers of the platform (Lanier, 2018, p 64). Considering social movements such as LGBTQ issues, he claimed that, the BUMMER structure favours the antagonistic players. This is evident in the current climate whereby any contentious issues relating to transgender rights, Black Lives Matter, and others, are met with loud opposing noise by the BUMMER system (Lanier, 2018, p 114, p 119).

The notion of equating human emotions of irritation, anger, and obsession as antagonistic behaviour that has negative effects to society creates problematic situation especially considering activism. Since, agitation and civil disobedience exhibit similar emotional characteristics, hence, antagonism seems subjective, depending on the observer, and open for interpretation.

The writer understood that it would be unrealistic to expect every reader to immediately delete their social media profiles. The objective of his writing, it seems, is to give the readers how the technology can cause behavioural changes, a provide a broader picture of what the entire structure and intentions of new media technologies are headed towards. Nevertheless, Lanier does not suggest that any idea of social media is inherently flawed. He suggests we withhold using the current ones until less harmful versions are introduced.

Expanding upon the social media promoting negative "antagonistic" individuals, Walther (2002) wrote at length about online hate in relation to social approval. According to Walther, some individuals find it fulfilling to participate in group activities on the internet to frighten, ridicule, and/or insult other people or groups because of their political, ideological, or other categorical differences, or because of the targets' behaviors. Individuals seem to possess a notion of "moral grandstanding" when it comes to their aggressive and volatile responses on social media, not so much as a means to pursuade the receipents of the message, but rather as a virtue-signaling method. In any case, it is more prevelent and clearer to identify hatred as well as support for individuals or groups in online spaces (Walther, 2022).

Even though Anderson (2010) praised the information age as the beginning of the evolution of humankind into a new era of intelligence, ways of reading, unlimited access to information, by virtue of which we will make better decisions. They predicted this to happen by 2020, to which Carr (2020) responded –

> "The year 2020 has arrived. We're not smarter. We're not making better choices." (Carr, 2010, p ix).

According to Carr, the issue does not lie in the amount of information that we're supplied, the problem lies in the way information is provided, and the situation in which our minds received them. His book highlights the idea that our brains have a limited capacity to

process and store information. He emphasised the point echoing McLuhan that we should not be distracted by the message, and focus on the medium. McLuhan understood that every new technology, changes society. He claimed that the excess information that bombards us have decreased our minds capacity to focus, reducing our attention span. The TV set was a stationary object that you don't put in your pocket and carry with you from place to place. TV shows have special time slots where they show their most valued shows, since it's the period when viewers tune in the most. A time of the day they called of *prime time.* Since, we carry our devices with us at all times, and since that devices have potential to access endless information, Carr said –

"With smartphones, all time is prime time." (Carr, 2010, p 228).

A study on smartphone's influence on human thought by Ward et al. (2017) suggested that the mere presence of our device reduces a person's ability to think. A limited cognitive capacity our mind means that in our attention becoming a precious commodity. This limit leads to changes in our behaviour, decision-making, and general performance. Ward also mentioned previous studies that claim this, in fact, Working Memory Capacity (WMC) is referenced as the availability of attentional resources. Other research led to concepts like the Cognitive Trade-off Hypothesis that postulates that the process of evolution has changed human beings' brain to prioritize long term memories that facilitate language while, a chimpanzee has impressive short-term memory since their survival prioritizes it (Matsuzawa, 2010).

Ward said there exist a –

> "…chronic mismatch between the abundance of environmental information and the limited ability to process that information, individuals need to be selective in their allocation of attentional resources." (Ward et al., 2017, p 2).

They conducted an experiment where they found a correlation between cognitive abilities and smartphone proximity. Participants were given two normal tests of intellectual perception. One experiment focused on the working memory capacity while the other gauged their problem-solving skills. The variable in this test was the location of their smartphones. One group had their phones on their desk, fully in sight, while another had it in close proximity but out of sight, the last group had their phones in another room, completely inaccessible. The findings of their experiment seem to indicate that the closer a person is to their smartphones,

the lower the performance score. Similar studies have also found that when providing the participants with a set of less challenging task, their results seem to be the same (Thornton et al., 2014).

2.3.1 The Attention Economy

The concept of social media's business structure is expanded upon by Hendricks and Vestergaard in their book *Reality Lost: Markets of Attention, Misinformation and Manipulation.* According to them, the easy access of free and abundant information comes at the price of our attention. This means that attention becomes a valuable resource that can be equated with money. The characteristic of money and attention is that they are both tangible resources. Even though there can be individuals that are proficient in multitasking, for most, focusing your attention on one particular thing excludes you from others (Hendricks & Vestergaard, 2018). It should come as no surprise that if you pay attention to sports rather than politics, then you will be more informed regarding sports than you would be with politics. Even though the attention economy did not originate after the advent of the Internet, the idea came about when more and more information is made available to us. The same can be applied to TV shows where they insert advertisements in between shows that are made to garner our attention.

The authors question this market structure claiming that it leads to a decline in reliability of information, as well as issues that deal with collection of user data for profit. This user information is used for advertising companies for targeted advertising which is main source of revenue for new media platforms today. Cathy O'Neil, a mathematician at Harvard University, in her book *Weapons of Math Destruction* (2016), mentioned the importance of user information in advertising. She said that if it was possible to possess people's address, demographics, hobbies and interests, etc. they may use this information to effectively target advertisements specifically to tailored to their needs (O'Neil, 2016). This mode of advertising is the norm with regards to new media, and has become very common to have a story about ads that are awfully suspicious of being custom-made for us.

Herbert A. Simon, a psychologist and economist, originally proposed the idea of *attention economics* when he wrote about the scarcity of attention in a world with an unlimited supply of information. He offered a critique towards the developers of media technologies for

prioritizing increased information flow rather than focusing on the problem of attention scarcity. He said that the priority should have been more focused on the importance of filtering out insignificant or irrelevant information (Simon, 1971).

The main point that may be highlighted with this viewpoint is the Marxist perspective that emphasises on who owns the means of production, who is being exploited, and who benefits from it. Criticism was made by McChesney (2013) who claims that social media platforms like Google, YouTube, and Facebook make our lives more convenient, more interesting, and entertaining, in the meantime provides a warning that the same mediums are the product of carefully designed procedures that enable a small amount of businesses to earn enormous profits, while providing the public with less and less value, and information essential in a democratic society (McChesney, 2013).

The author cautioned in his book, regarding the extensive collection of personal data and surveillance on the Internet. Despite the complicated privacy statements that most of us quickly click past when signing up for websites, personal privacy on the Internet is all but non-existent. Internet companies are happy to accommodate surveillance activities, which add to their profit. Concerns were raised about the decline of quality journalism claiming that news providers are merely regurgitating official, pre-packaged messages. The result of this lack of real journalism was, for example, the Iraq War, support for which rested on the Administration's claims of WMDs that went virtually unchallenged by the media that were later found to be untrue.

The solution to these imperfections, according to McChesney includes the – 1) strict regulation of advertising; 2) limits on ownership of broadcast media; 3) expansion of non-profit and publicly supported media and journalism; and 4) stricter regulations controlling online privacy and surveillance.

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