

Social Media Technologies: An Important Factor of the Loss of Critical Thinking Ability

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Abstract: Nowadays, information leakage and disinformation have become a hot research topic. Behind this, the influence of online technologies such as algorithms and data push can not be ignored. This article argues that technologies used on social media platforms help to create an invisible and dangerous system, in which digital surveillance and digital manipulation take place, and gradually numb individuals and deprive them of their critical ability. Many related theorists, including Foucault and Frankfurt School scholars, have studied how people are controlled and disciplined in spaces of public interactions, thus lose their critical ability. This paper uses theories provided by Foucault and Frankfurt School scholars to study the technologies uses on social media platforms that needs further examination.

Keywords: Foucault, Frankfurt school, social media technologies, big data, loss of critical ability , propaganda, advertisements.

1. Introduction

Nowadays, the negative influence of social media on people's critical ability has become increasingly prominent, and contemporary research has also aroused heated debates. According to the World Bank's statistics [1], 3.5 billion people use social media. However, there is a rising concern of people behaving irrationally in the online public space and being misguided by distorted media information. Technologies used on social media platforms can sometimes be manipulated improperly, becoming a tool to control and whisper individuals and thus cause the loss of their critical ability. Famous scandals of disinformation and information leakage are seen commonly, and computational propaganda that targets social media have become the mainstream [2]. Many researchers called attention to the situation that people are highly controlled. Many founding scholars have previously researched how people are controlled and disciplined in spaces of public interactions, and lose their critical ability. Their works have historical significance, and they are still applicable to many influential phenomena. This paper will argue that technologies used on social media platforms help to create an invisible and dangerous system, in which digital surveillance and digital manipulation take place, and gradually numb individuals and deprive them of their critical ability. In addition, this paper will use Frankfurt School's theory and Foucault's research to analyze digital monitoring and digital manipulation, in order to show their unique contemporary significance in explaining new technologies that can make people lose their critical ability.

2. Digital Surveillance

The first part of this paper will focus on digital surveillance. Digital technologies are promoting a completely new type of communication, but according to Molok, unprecedented danger will occur once the information leaks inappropriately [3]. As mentioned above, social media technologies have created a systematic control over massive users, which contains two parts: the digital surveillance and the manipulation. This section will explain how digital surveillance, as the first half of the entire controlling process, makes citizens numbed, misled and then even become homogeneous internet mobs with limited critical abilities. At present, individuals live under the despotic control of the monitoring system underpinned by digital surveillance technologies, presenting in varying ways of controlling public attitude through media platforms [4]. The internet and data-related technologies are not only intensifying this situation or causing blind obedience to the public but also making this a hidden aspect of the standard process. This is because, unlike offline social practices, the online behavior of most users will be monitored almost anytime and anywhere. Monitoring and surveillance are without visible forms such as police and cameras, making them less detectable.

To illustrate the current situation more clearly, crucial theories of this surveillance-related power that has been shedding light on will be discussed. Cases that offer a more concrete knowledge of how people lose their critical ability will be discussed.

2.1. The Digital Surveillance, Data Monitoring and Foucault's Panopticon

Firstly, Foucault's theories depicted a panopticon that suits this context. Foucault's analysis of the panopticon used the notion of an ideal jail created by Bentham, in the middle of which is a watchtower via which prisoners feel monitored for entire days since they could not tell whether there are guards or not [5]. In modern society, people are aware of the existence of surveillance, and this kind of knowledge is transformed into power, which enables individuals to monitor and restrain themselves to avoid punishment [6]. In this way, surveillance does not directly affect citizens by managing individuals with the consequences of death penalty, but effectively affects people's lives [5]. This paper holds that by controlling the behavior and information of internet users, a virtual environment can be formed to meet the need of the disciplinary powers. A situation similar to Sunstein's theory of the information cocoons is constructed [7]. That is to say, instead of acquiring the overall knowledge of something, individuals choose to find information that meets their own requirements to confirm their hypotheses, which forms a cocoon and locks people in Internet information [7]. One-sided information is being circulated to specific groups of users via online platforms, which is even worsened by the data push and algorithms.

As an example, the so-called Great Firewall of China will be used as an example of Foucault's ideas of the panopticon. Among many cases where technologies are used as tools to monitor individuals, China's Great Wall firewall is the most common. The Great Firewall of China, namely "an umbrella term for a range of filtering and monitoring mechanisms" [8], could be a contemporary example of using technology to create the panopticon in the digital world. Accordingly, the method used by the government called Deep Packet Inspection (DPI) is essential to the construction of Chinese panopticon. It can monitor keywords that individuals entered when posting information on social media, which gradually creates an atmosphere that makes individuals feel monitored and therefore pay attention to their own behavior. Real-time face recognition technology is used to implement law reinforcement, and the fear of being captured makes online users obedient [8]. The government not only uses internet communication technology to monitor dialogue between social media users, but also conducts specific Biometric marks collection to track individuals [8]. This kind of firewall created a unique way to monitor and manage the population by using the big data technique. With the nationwide censorship and content filtering system controlling online graphics and

conversations, the Internet environment has been formed [9]. The consequence are obvious. One-sided network environment has been created, and individuals can only get in touch with the mainstream information. The truth of being supervised has become the common sense of the public, and the fear of being caught and punished gradually trained the public to obey the rules. The online environment created by an obedient population will thus benefit the government. Then, individuals will follow the rules made without critical reflections, because accepting one-sided information will lock them inside the cocoon of information.

2.2. Digital Surveillance, Data Volunteering, and One-Dimensional Man

Secondly, as one of the founders of Frankfurt School, Marcuse raised the framework of the consumer society and mentioned a situation that can be more dangerous. Marcuse mentioned the concept of "one-dimensional person", which refers to the person who lost his critical ability and became homogeneous in capitalist societies [10]. The development of industries and technologies helps to meet people's material needs, and people may gradually devote themselves to what they don't need, that is, "artificial needs", and forget what their real needs are [10]. At this stage, Marcuse, argued that people would numbly volunteer their effort to function in a one-dimensional society without critical thinking [10]. Digital surveillance is achieved by forming one-dimensional men on social platforms, and this results in the loss of critical thinking. In the context of social media, people will volunteer their information and data to forces like the governments and capitals. Technologies constrain individuals while creating propaganda that claims they are reasonable [10]. Gounari highlighted Marcuse's theories of one-dimensional man can still adapt to modern social media platforms, which are supported by technologies [11]. These theories are connected to the sublime stage where digital surveillance occurs.

Examples related to Marcuse's theories will be studied. As the monitored person is not a passive receiver, they are even active in volunteering their data without consideration. Nowadays, consumerism forces use new ways to make people voluntarily provide their data, and Guilbeault [12] mentioned this new type of digital monitoring. As Marcuse suggested, people have lost their critical ability to reflect upon their artificial needs [10]. Nudged to offer their data to Twitter, people believe that these can benefit their lives. For example, access to health-related data is a pressing issue for consideration. Referring to Ajana, the body is made amenable to monitoring techniques that are intended for mass control of the population by neoliberal ideologies [13]. There was a trend of encouraging individuals to volunteer health-related data on digital devices for health enhancement, such as the quantified self movement, which established a direct relation between biology and knowledge [13]. These behaviors are not ethically appropriate, because people may be stimulated to share their data, even if real-time monitoring of large amounts of health data is sometimes unnecessary, and obtaining these monitoring devices can just be a gimmick. The marketing skills behind these technologies covered up the reality of data monitoring on people's health situation, which encourages the public to believe in the artificial demand [13]. The critical ability is mainly affected, because individuals lose the ability to express their real needs and are guided by imperceptible forces within the process of monitoring.

3. Digital Manipulation

This section focuses on misleading digital technologies and digital manipulation operations. Information distributed on social medias is always hard to evaluate. When propaganda and advertisements are hidden in the message, individuals can not identify the correct information. When faced with a large amount of misleading information, an individual may lose his/her critical ability. On social media platforms, data related technologies have made disinformation more serious. There

is a large number of social platforms intensifying the spread of misleading information and fake news [14]. The situation of digital manipulation is worsened by technologies such as algorithms, and political parties are taking advantage of big data to spread computational propaganda. Individuals are guided by information and critical opinion leaders without critical thinking.

3.1. Digital Manipulation and Mass Culture

Firstly, Adorno, another scholar of the Frankfurt school, believed that individuals were misled and lost their critical thinking through cultural industries, particularly mass culture [15]. Accordingly, mass culture includes products, beliefs and actions that are dominant in certain era, and these mass cultures promote artificial needs and cover real needs of individuals [5]. For example, when entertaining tidbits replace political news, the population will lose critical ability in politics since they fail to sense their actual political demands. He also argued that the mass media is a creation that benefits the mass culture. Controlling forces such as political organizations and capitals sublimely guide people and harm their critical abilities. Many studies rest on Adorno's theory to examine media manipulation and propaganda. According to Swingewood [16], mass culture enables the creation of "propaganda which is accessible to everyone" with social media technologies. To refer Zhurzhenko [17], mass culture is involved in weaponizing the culture, which means using mass culture to spread political information. That is to say, political propaganda and cultural output are hidden in popular forms of information, even inside memes on social media. Technologies on social media are intensifying this situation by allowing a broad and fast spread of disinformation that contains misleading political messages.

Online political propaganda could be an example of digital manipulation. Public voice is influenced and disinformation misleads individuals who lose their critical ability. To begin with, nowadays the public sphere is filled up with entertaining mass culture, which Adorno claims to make leisure time toxic [15]. The online population sinks in tidbits on the social media platforms and keeps spreading them. Thus, the public fails to distinguish the serious and important information from the entertaining messages. Additionally, the troll armies spread political images that suit the mass culture and use culture as weapons against other groups. Unveremployed the examples of troll troops which are taking advantage of algorithms and big data [8]. A large amount of misinformation will make people lose their critical abilities. Referring to Zannettou, Russian trolls are spreading disinformation, political images and funny memes on Twitter, and these funny memes spread hidden information which is uncritically accepted by some internet users. Political image making can also use mass media since mass media can benefit certain candidates running for president election [18-19]. Technologies such as data push obviously have abilities that can intensify this situation. Referring to Jamieson [19], Trump used trolls on social media to spread political information to form political images and this information helped him win. According to Lomas [4], the research Oxford Internet Institute made over bot accounts illustrated that 80% of countries use trolls to spread political propaganda. This propaganda creates illusions of richness and stability in various countries. By disinformation, individuals are manipulated and lose their abilities to tell the truth.

3.2. Digital Manipulation and Sign Values

Secondly, Baudrillard [20] argued that individuals are enslaved by objects thus they are purchasing products because of their sign values and there is an illusion created showing the richness and equality of the society. Sign values are values of products that are not determined by use values but are values that people use to illustrate their social status. Baudrillard argued that in the consumer society, the increasing productivity and material overproduction help to create a situation in which objects dominate people's lives and enslave people [21]. Capitalists use every opportunity to control

illusionary symbols of objects and allow people to be subtly manipulated by the vanity of advertisements. Accordingly, the mass media is the promoter of this process. Individuals will lose their critical ability and chase these symbols as "upper-class" status symbols without questioning.

An example of online marketing and shopping will be introduced. Holt mentioned that brand marketing is similar to the situation in which individuals purchase a product for its symbolic meaning in the Cultural Strategy [22]. With the rapid development of social media technologies, online brand marketing intensifies the current engagement with slick simulacra and digital fantasies by virtualizing fashion consumption online [23]. Individual online users are thus more likely to be involved in the consumption of solely sign values [23]. Technologies used to share and receive information on social media are crucial in guiding individuals in purchasing things for vanity. The accurate client portrait and orchestrated data push make the marketing more indirect and sublime. Before online platforms exposed consumers to data shared by forums, family members, friends and peers, consumers directly got information and advertisements from merchants. At this stage, some individuals are not critically aware of their demands or the use-value of products, yet they turn to purchase things for sign values to highlight their position. This situation is especially remarkable in brand marketing. Social networks on social media helped brands to spread persuasive messages via the "like" and "post" shown by users [24]. These indirect advertisements are hidden in digital platforms and lead people to purchase goods for their sign values and then post them to present their social status. The sign value is the primary determinant of the consumer's engagement in the online purchase since it targets customers' imagination of social status. According to Baudrillard [20], purchasing products for their sign values demonstrates the loss of awareness of actual needs. Objects control individuals' minds in this way and enslave people, making online users lose their critical ability.

4. The Combination Between Digital Manipulation and Digital Surveillance

Based on points discussed above, this paper demonstrated how digital surveillance and digital manipulation achieve their purpose of personal restriction through various technologies on the social media platform. In fact, the coordinated operation of these two parts has contributed to the gradual loss of people's critical thinking. In this section, examples will be given to discuss how the two parts coordinate and form a complete "numbing system".

Cambridge Analytica serves as the most appropriate example, because it perfectly reflects how the technology on the social platform promotes the data obtained by political forces through surveillance, and how to use the obtained data to shape the public opinion environment, as well as to manipulate people. Cambridge Analytica is a company that obtains private information from the Facebook platform and achieves its goals of customers through public opinion guidance. According to Cadwalladr [25], Cambridge Analytica company illegally obtained the private information of about 50 million users and used it for political campaigns, including Trump's campaign. This starts with the digital surveillance. Many social media users have become the object of data monitoring because of big data technology, and their data has been purposefully collected by Cambridge Analytica company. In this process, Cambridge Analytica uses special techniques to construct algorithms and models to infer the characteristics of voters. As mentioned above, the technology of social platforms is used to monitor people and induce them to share their information unconsciously. Then, it began to make accurate user's portraits and data push, and helped candidates win by promoting an online public opinion environment that benefits them. In this phase, digital manipulation plays a vital role in promoting technology. Voters are gradually deprived of critical ability and cannot fully understand the real situation. Therefore, the two parts form a whole system of control, one that makes people unintentionally lose their critical ability. Of course, it is not that technology itself is terrible and needs to be worried. What calls for more attention is how to use these technologies to operate social

media, especially the underlying political and economic power that change or even reshape people's ideas in a more hidden and terrible way.

5. Conclusion

In a word, this paper demonstrated that new technologies used in social media platforms aggravate people's loss of critical thinking. It listed the theories of Frankfurt School and Foucault, and illustrated a contemporary control system consisting of digital monitoring and data manipulation. First of all, this paper used the theoretical frameworks of Foucault and Marcuse to explain how the new technology collects and monitors the data of Internet users, and how institutions and governments create a one-sided network public opinion environment and make people blindly cooperate with the operation of the monitoring system. Secondly, this paper used Adorno and Baudrillard's theoretical concepts to explain how new technologies discipline social media users and induce them to make improper judgments based on false and distorted information. Under this sophisticated and hidden system, people are trapped by the power of politics and capital, and gradually lose their ability to think critically. This situation calls for vigilance and further academic investigation. Although emerging technologies have brought us a better life, they might also be used to harm our freedom and other interests.

Reference

- [1] World Bank Open Data. , (2016). Retrieved March 28, 2021, from <https://data.worldbank.org/>
- [2] Woolley, S. and Howard, P., (2018). *Computational propaganda*. 1st ed. Oxford: Oxford university press.
- [3] Molok, N., Ahmad, A. and Chang, S., (2018). A case analysis of securing organisations against information leakage through online social networking. *International Journal of Information Management*, 43, pp.351-356.
- [4] Lomas, N. ,(2019). Voter manipulation on social media now a global problem, report finds. Retrieved March 23, 2021, from <https://techcrunch.com/2019/09/26/voter-manipulation-on-social-media-now-a-global-problem-report-finds/>
- [5] Foucault, M., (1995). *Discipline and punish*. 2nd ed. New York: vintage books.
- [6] Foucault, M. and Gordon, C., (1980). *Power/knowledge*. New York: Pantheon Books.
- [7] Sunstein, C., (2008). *Infotopia*. Oxford: Oxford University Press.
- [8] Unver, A. ,(2018). *Politics of Digital Surveillance, National Security and Privacy* ,Retrieved March 23, 2021, from <https://www.jstor.org/stable/pdf/resrep17009.pdf>
- [9] Ensafi, R., (2015). *Analyzing the Great Firewall of China Over Space and Time*. *Proceedings on Privacy Enhancing Technologies*, 2015(1), pp.61-76.
- [10] Marcuse, H. (2002). *One-dimensional man*. London: Routledge.
- [11] Gounari, P., (2022). "One Dimensional Social Media: The Discourse of Authoritarianism and the Authoritarianism of Discourse" by Panayota Gounari. [online] Works.bepress.com. Available at: <https://works.bepress.com/panayota_gounari/12/> [Accessed 23 May 2022].
- [12] Guilbeault, D., (2022). *Digital marketing in the disinformation age*. [online] Jstor. Available at: <<https://www.jstor.org/stable/26508116>> [Accessed 23 May 2022].
- [13] Ajana, B., (2017). Digital health and the biopolitics of the *Quantified Self*. *DIGITAL HEALTH*, 3, p.205520761668950.
- [14] Dave, A., Chremos, I. and Malikopoulos, A.,(2022). *Social Media and Misleading Information in a Democracy: A Mechanism Design Approach*. *IEEE Transactions on Automatic Control*, 67(5), pp.2633-2639.
- [15] Adorno, T. and Bernstein, J. ,(2006). *The Culture Industry: selected essays on mass culture*. London: Routledge.
- [16] Swingewood, A., (1977). *The myth of mass culture*. [London]: [The Macmillan Press].
- [17] Zhurzhenko, T., (2021). *Fighting Empire, Weaponising Culture: The Conflict with Russia and the Restrictions on Russian Mass Culture in Post-Maidan Ukraine*. *Europe-Asia Studies*, 73(8), pp.1441-1466.
- [18] Zannettou, S., (2020). *Characterizing the use of images in state-sponsored information warfare operations by russian trolls on twitter*. [online] AAAI Conference. Available at: <<https://ojs.aaai.org/index.php/ICWSM/article/view/7342>> [Accessed 23 May 2022].
- [19] Jamieson., K., (2020). *Cyberwar: How Russian Hackers and Trolls Helped Elect a President What We Don't, Can't, and Do Know*. Oxford: Oxford university press.
- [20] Baudrillard, J. ,(2017) ,*The consumer society: myths and structures*. London: Sage.

- [21] Baudrillard, J., & Benedict, J., (2020). *The system of objects*. London: Verso.
- [22] Holt, D. B., & Cameron, D. (2012). *Cultural strategy: using innovative ideologies to build breakthrough brands*. Oxford: Oxford University Press.
- [23] O'Connell, M., (2021). *Browsing the virtual boutique with Baudrillard: The new realities of online, device-based, luxury fashion design and consumption*. *Journal of Design, Business & Society*, 7(1), pp.11-27.
- [24] Chang, Y., Yu, H. and Lu, H., (2015). *Persuasive messages, popularity cohesion, and message diffusion in social media marketing*. *Journal of Business Research*, 68(4), pp.777-782.
- [25] Cadwalladr, C., (2022). *Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach*. [online] *the Guardian*. Available at: <<https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election>> [Accessed 23 May 2022].