

Goldie Zhu

ID#1007548414

INF 301

20 November 2020

Keyword: Attention Economy

Attention economy was first coined in 1971 by Herbert A. Simon, a Nobel Laureate in Economics, in his paper *Designing Organizations for an Information-Rich World*. He states, “Information consumes... the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it.”¹ Simon used the term attention economy to target the inefficient structuring of organizations and systems that are built to give a lot of information instead of efficiently allocating attention by filtering the information. In his paper, Simon also says that old words do not disappear but their meaning changes overtime. With the technological advancement of the 21st century, the term attention economy has evolved to adopt a supply and demand model where digital platforms compete for human attention, which is now a valuable commodity. This economic approach to human attention, known as the attention economy, is unethically damaging the social framework of society by incentivizing the spread of toxic and polarizing digital content.

Anyone with access to the digital world has endless amounts of information a few swipes away, but the problem that traditional and new media face is that users can only do one thing at a time. The goal of media companies is to make profits from the user’s attention but often its purpose can be extended to influencing their viewers to make decisions that are in line with each

¹ Simon, Herbert A.. "Designing organizations for an information rich world." In *Computers, communications, and the public interest* , edited by Martin Greenberger , 40-41. Baltimore: , 1971.
<https://digitalcollections.library.cmu.edu/awweb/awarchive?type=file&item=33748>

company's interests. As studied in "The Value of Openness in an Attention Economy" by Michael Goldhaber,² the importance of receiving attention is that the user can amplify the ideas and thoughts that he or she is exposed to on the platform. As the study states, "Self-revealing — the more aspects of oneself that express who one is, the more opportunities exist for people to align their minds to one, and the richer the accumulation of attention one may get" (Goldhaber, 13). Open access to the minds of users has never been easier with data collection, and users often cannot control how their data is being used. With their abundance of data, platforms use algorithms to analyze the behavior of their users and can manipulate unknowing users for the benefit of others, such as maximizing profit or influence through targeted ads or political campaigns. Similar to the idiom "planting a seed in somebody's mind," this attention lasts beyond the initial interactions because the experience can live on in the audience's memories. In other words, it is possible that the platform's content will continue to influence the user long after his or her initial exposure.

One of the basic concepts of the attention economy is that to prevent information overload, the audience must choose what information to process. Therefore, human attention is limited in capacity. Competition for user attention has led to increasingly lower quality and polarizing content, such as clickbait and conspiracy theories. The study "Counting Clicks: Quantification and Variation in Web Journalism in the United States and France" analyzed how editors at news organizations were influenced to make significant content decisions based on reader, or more commonly referred to as click, metrics.³ Through the analysis of many news

² Goldhaber, Michael H.. "The value of openness in an attention economy." *First Monday* 11 (2006): n. Pag.

³ Christin, A.. "Counting Clicks: Quantification and Variation in Web Journalism in the United States and France." *American Journal of Sociology* 123 (2018): 1382 - 1415.

sources, the study “Breaking the News: First Impressions Matter on Online News”⁴ came to the conclusion that the best way to attract attention is by triggering strong emotions in readers. “Strongly negative or strongly positive news tend to be more attractive to Internet users” (Reis, 7) and on average, the most popular articles and the articles with the most interaction have extreme emotional polarity in their headline and commentary. In a study called “Users Polarization on Facebook and Youtube,”⁵ researchers found from a data set of 12 million Youtube and Facebook users that almost all users became highly polarized around their fiftieth comment, share, or like.⁶ The problem with the polarization of media content and hence the public is that it leads to binary thinking, which degrades public discourse, exacerbates inequality,⁷ and creates political gridlock.⁸ Viewers will also suffer from emotional and compassion fatigue when they are constantly bombarded with content that is twisted to trigger strong emotions. Essentially, users are processing more low-quality information that is easily digestible but leads to emotional instability and distress.

Controversial content is also an effective method for maintaining the user’s attention and keeping the user on the application or website. The attention economy incentivizes the creation of extremely accurate algorithms that utilize machine learning to predict user behavior and push content that reinforces the user’s existing beliefs, which leads to further user polarization. Other results of personalized content include confirmation bias, selective exposure theory, and echo

⁴ Reis, Júlio César dos, Fabrício Benevenuto, Pedro O. S. Vaz de Melo, R. Prates, Haewoon Kwak and Jisun An. “Breaking the News: First Impressions Matter on Online News.” *ICWSM* (2015). <https://arxiv.org/pdf/1503.07921.pdf>

⁵ Bessi, A., F. Zollo, Michela Del Vicario, M. Puliga, A. Scala, G. Caldarelli, B. Uzzi and Walter Quattrociocchi. “Users Polarization on Facebook and Youtube.” *PLoS ONE* 11 (2016): n. Pag. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0159641>

⁶ Ford, Anne. “The Surprising Speed with Which We Become Polarized Online.” KelloggInsight. April, 2017. Accessed November,

2020. <https://insight.kellogg.northwestern.edu/article/the-surprising-speed-with-which-we-become-polarized-online>

⁷ McCarty, Nolan M., Keith T. Poole, and Howard Rosenthal. 2006. *Polarized America: the dance of ideology and unequal riches*. Cambridge, Mass: MIT Press.

⁸ Jones, David R. "Party Polarization and Legislative Gridlock." *Political Research Quarterly* 54, no. 1 (2001): 125-41. Accessed November 23, 2020. doi:10.2307/449211.

chambers. By equating user interaction with money, social media algorithms play a leading role in the creation of misinformation filter bubbles and the rapid distribution of misleading, inaccurate, or distressing content.⁹ More importantly, polarization and belief reinforcement makes users more susceptible to manipulation and misinformation on social media.¹⁰ In the competition for attention, media outlets have become less strict about their content quality and more open to tailoring content to what they think users want to see, regardless of its potential to foster public disturbances and violence.

Another prevalent method for controlling the flow of attention is through social bots. Bots employ the platform's algorithm to manipulate content that real users see by 'liking' or 'sharing' content, which increases the rate of distribution and the visibility of the content. Studies estimate that up to 15 percent of Twitter users, or around 48 million accounts, are bots¹¹ while Facebook shut down 5.4 billion fake accounts in 2019 as well as 3.3 billion accounts in 2018.¹² To put the numbers in perspective, Facebook has 2.7 billion monthly active users and Twitter has 330 million monthly active users. The use of bots make the general public susceptible to manipulation by wealthy individuals or corporations, usually for financial or political purposes. All of these previously mentioned characteristics compose a business model that is also known as the click economy, which is simply a variation of the modern digital attention economy.

⁹ Vicario, Michela Del, A. Bessi, F. Zollo, F. Petroni, A. Scala, G. Caldarelli, H. Stanley and Walter Quattrociocchi. "The spreading of misinformation online." *Proceedings of the National Academy of Sciences* 113 (2016): 554 - 559.

¹⁰ Ciampaglia, Giovanni L. Menczer, Filippo. "Biases Make People Vulnerable to Misinformation Spread by Social Media." *The Conversation US*. June, 2018. Accessed November, 2020.
<https://www.scientificamerican.com/article/biases-make-people-vulnerable-to-misinformation-spread-by-social-media/>

¹¹ Varol, Onur. Ferra, Emilio. Davis, Clayton A. Menczer, Filippo. Flammini, Alessandro. "Online Human-Bot Interactions: Detection, Estimation, and Characterization." *ICWSM* (2017). arXiv:1703.03107

¹² Fung, Brian. Garcia, Ahuza. "Facebook has shut down 5.4 billion fake accounts this year." *CNN Business*. November, 2019. Accessed November, 2020.
<https://www.cnn.com/2019/11/13/tech/facebook-fake-accounts/index.html>

Another example of the attention economy is the rise of social media influencers, also known as micro-influencers. Though strategic self-branding, regular people can gain recognition and power by attracting a following online. In the “online attention economy in which page views and clicks are synonymous with success” (Marwick, 157), the currency of these influencers is the attention that their followers give them in the form of likes, comments, and engagement. The increasing influence of non-celebrities is frequently used and even exploited by advertisers, who can effectively market to a target niche consumer group using the influencer’s platform and appeal. However, the increase in competition and demand for an audience means that microcelebrities are falling back on more traditional methods to attract attention, from desirable body figures to conspicuous consumption. As a result, Instagram micro-influencers do not create new accessible standards for fame and attention, but instead reinforce “an existing hierarchy of fame, in which the iconography of glamour, luxury, wealth, good looks, and connections is reinscribed in a visual digital medium” (Marwick, 141). The trend of normal people with celebrity-level appearances and lifestyles can lead to a toxic decrease in body confidence, self-compassion, and lifestyle satisfaction.

The rise of the attention economy is significant in modern human history because “the new economy cannot simply co-exist with the market economy permanently, because each demands its own social structures, its own mindsets, its own modes of life, and its own values” (Goldhaber, 2). Money is no longer needed as a currency but rather its flow is a tracker of attention, with attention being the more valuable currency. As a result, the attention economy is moving to become the more dominant economy in place of an economy based on money, market, and the exchange of goods. In order to adapt to this new form of monetary exchange, media companies are changing their business models and making the user experience more

addictive to sustain user attention. As mentioned in the documentary *The Social Dilemma*,¹³ media platforms manipulatively use human psychology to their advantage when competing for the user's time. They change the design and layout of their platform to become extremely addictive while using algorithms that predict and curate content that the user would want to see. The exploitation of data collection means that algorithms can develop a comprehensive understanding of every user, and a popular saying is that users are the product being sold. However, this isn't completely accurate because advertisers are paying for advertising space. The final goal in the attention economy model is efficient advertising; advertisers want to capture the attention of the users that are most susceptible to the advertiser's message, such as rallying for a cause or purchasing an item.

There are a few offline variations of the attention economy that are not related to currency and economics, but it has become increasingly obvious that they have negligible relevance to modern society in comparison with the digital economy. Attention is very hard to quantify and assess the value of but one attempt shows that control of the attention economy would be hugely profitable. In his study "Attention Platforms, the Value of Content, and Public Policy,"¹⁴ University College London Professor David Evans estimated that American adults spend 437 billion hours consuming ad-supported content and 779 billion hours partly consuming ad-supported content. Using the average before-tax household income of \$13.60, he estimated the value of this time to be worth \$7.1 trillion. This amount is almost one-third of America's 2019 GDP, and control of the attention economy would be every corporation's dream. However, this also demonstrates why it is so important that the industry becomes regulated by governments

¹³ Orlowski, Jeff, dir. *The Social Dilemma*. 2020; USA; Netflix.

¹⁴ Evans, D.S. Attention Platforms, the Value of Content, and Public Policy. *Rev Ind Organ* 54, 775–792 (2019). <https://doi.org/10.1007/s11151-019-09681-x>

because an unregulated capitalist online system could have unprecedented effects on mental health, misinformation, accessibility, and other social, economic, and political infrastructures.

Regulation of the internet would give the government control over the capital that the internet circulates and creates, which is crucial in managing the attention economy. The lack of morals and guidance in the attention economy has led to devastating scandals, such as Cambridge Analytica and Facebook's 2016 election gaffe, but fortunately there have already been policy and political changes in the past decade. Gideon Lichfield, the editor-in-chief of MIT Technology Review, argues that the attention economy may already be evolving back to the traditional economy based on money.¹⁵ Lichfield argues that in the future, paywalls for quality journalism will gain more traction, and media companies will be forced to specialize on niche topics or specific location coverage in order to compete for a subscriber's money and attention. Google and Facebook, two Silicon Valley giants that hoard user data, have been more upfront about their data collection and have given users more control over their data. Awareness about the problems created by the attention economy has led to legislative debates over antitrust laws, data collection and storage restrictions, and other forms of transparency regulations. Attention regulation possibilities include copyrights and paracopyrights, which give monopoly control over the product's exposure and consumption. 2020 U.S. Presidential Candidate Andrew Yang even proposed creating a Department of the Attention Economy that would focus on the responsible technology design and use to make the internet safer and less addictive for children and youth. The possibilities are endless but in this unprecedented age of technology, it is unclear how

¹⁵ Lichfield, Gideon. "Goodbye Attention Economy, We'll Miss You." NiemanLab. 2018. Nov, 2020. <https://www.niemanlab.org/2018/12/goodbye-attention-economy-well-miss-you/#:~:text=The%20attention%20economy%20is%20toxic,the%20giant%20social%2Dmedia%20platforms.&text=And%20everything%20is%20digital%2C%20so,will%20be%20much%20more%20intense.>

legislative bodies will take action and effectively reign in on the tech industry and the attention economy.

Word Count: 1924

Further Reading: Economic Approach to Attention Economy:

- Abidin, C. "Visibility labour: Engaging with Influencers' fashion brands and #OOTD advertorial campaigns on Instagram." *Media International Australia* 161 (2016): 100 - 86. <https://doi.org/10.1177/1329878X16665177>
- Castro, Clinton and Pham, Adam K. (2020) "Is the Attention Economy Noxious?". *Philosophers' Imprint*, 20 (17). pp. 1-13. ISSN 1533-628X. <https://resolver.caltech.edu/CaltechAUTHORS:20200813-141841568>
- Ciampaglia, G., Flammini, A. Menczer, F. "The production of information in the attention economy." *Scientific Reports* 5, 9452 (2015). <https://doi.org/10.1038/srep09452>
- Evans, D.S. "Attention Platforms, the Value of Content, and Public Policy." *Rev Ind Organ* 54, 775–792 (2019). <https://doi.org/10.1007/s11151-019-09681-x>
- Goldhaber, Michael H.. "The value of openness in an attention economy." *First Monday* 11 (2006): n. Pag.
- Krieken, Robert van. "Georg Franck's 'The Economy of Attention': Mental Capitalism and the Struggle for Attention." *Journal of Sociology* 55, no. 1 (March 2019): 3–7. <https://doi.org/10.1177/1440783318812111>.
- Ryan, Camille D. Schaul, Andrew J. Butner, Ryan. Swarthout, John T. "Monetizing disinformation in the attention economy: The case of genetically modified organisms (GMOs)." *European Management Journal* Volume 38, Issue 1(2020). 7-18. ISSN 0263-2373. <https://doi.org/10.1016/j.emj.2019.11.002>
- Wu, Tim. *The Attention Merchants: The Epic Scramble to Get Inside Our Heads*. New York, NY: Alfred A. Knopf. 2016.
- Wu, Tim, Blind Spot: The Attention Economy and the Law (March 26, 2017). *Antitrust Law Journal*, Forthcoming, <http://dx.doi.org/10.2139/ssrn.2941094>

Further Reading: Other Forms of Attention Economy:

- Smith, L., Archer, A. "Epistemic Injustice and the Attention Economy." *Ethical Theory and*

Moral Practice (2020). <https://doi.org/10.1007/s10677-020-10123-x>

Further Reading: Relevant to Arguments Mentioned:

Basil Michael D. “Multiple Resource Theory.” In: Seel N.M. (eds) *Encyclopedia of the Sciences of Learning* (2012). Springer, Boston, MA.¹⁶
https://doi.org/10.1007/978-1-4419-1428-6_25

Charrie, Anthony. Quest, Lisa. “The Right Way to Regulate the Tech Industry.” *MIT Sloan Management Review*. September, 2019. Accessed November, 2020.
<https://sloanreview.mit.edu/article/the-right-way-to-regulate-the-tech-industry/>

Duggan, Maeve. Smith, Aaron. “The Political Environment on Social media Part 2: The tone of social media discussions around politics.” Pew Research Center. October, 2016. Accessed November, 2020.
<https://www.pewresearch.org/internet/2016/10/25/the-tone-of-social-media-discussions-a-round-politics/>

Hills, Thomas. Menczer, Filippo. “Information Overload Helps Fake News Spread and Social Media Knows It.” *Scientific American* 323, 6, 54-61 (December 2020)
doi:10.1038/scientificamerican1220-54

Hjouji, Zakaria el, D. Hunter, Nicolas Guenon des Mesnards and T. Zaman. “Detecting Bots and Assessing Their Impact in Social Networks.” *ArXiv* abs/1810.12398 (2018).

Nixon, Brice. “COMPASS| Critical Communication Policy Research and the Attention Economy: From Digital Labor Theory to Digital Class Struggle.” *International Journal of Communication* 11 (2017): 13.

Oremus, Will. “Are You Really the Product?”. *Slate*. April, 2018. Accessed November, 2020.
<https://slate.com/technology/2018/04/are-you-really-facebooks-product-the-history-of-a-dangerous-idea.html>

Pasquale, Frank. *The Black Box Society: The Secret Algorithms That Control Money and Information*. Cambridge, Massachusetts; London, England: Harvard University Press, 2015. <http://www.jstor.org/stable/j.ctt13x0hch>.

Tucker, Joshua Aaron. Guess, Andrew. Barbera, Pablo. Vaccari, Cristian. Siegel, Alexandra. Sanovich, Sergey. Stukal, Denis. Nyhan, Brendan. “Social Media, Political Polarization, and Political Disinformation: A Review of the Scientific Literature.” March, 2018.
<http://dx.doi.org/10.2139/ssrn.3144139>

¹⁶Multiple Resource Theory is relevant. However, I based the recommendation solely off the definition of the study because the actual article is subscriber content.

Further Reading: Contrasting Arguments, Interesting Concepts, etc.:

- Bail, Christopher A, Lisa P Argyle, T. Brown, John P. Bumpus, Haohan Chen, M. B. F. Hunzaker, J. Lee, M. Mann, Friedolin Merhout and A. Volfovsky. "Exposure to opposing views on social media can increase political polarization." *Proceedings of the National Academy of Sciences of the United States of America* 115 (2018): 9216 - 9221.
- Berman, Russell. "What's the Answer to Political Polarization in the U.S.?" *The Atlantic*. March, 2016. Accessed November, 2020.
<https://www.theatlantic.com/politics/archive/2016/03/whats-the-answer-to-political-polarization/470163/>
- Brick, Cameron. Van Der Linden, Sander. De-Wit, Lee. "Are Social Media Driving Political Polarization?" *Greater Good Magazine*. January, 2019. Accessed November, 2020.
https://greatergood.berkeley.edu/article/item/is_social_media_driving_political_polarization
- Levendusky, Matthew. Malhotra, Neil. "The Effect of 'False' Polarization: Are Perceptions of Political Polarization Self-Fulfilling Prophecies?". *Washington Post*. October, 2013. Accessed November, 2020.
https://www.washingtonpost.com/blogs/monkey-cage/files/2014/01/fp_writeup_oct6_for_jop.pdf
- Jann, Ole. Schottmuller, Christoph. "Why Echo Chambers are Useful." November, 2018.
https://olejann.net/wp-content/uploads/echo_chambers.pdf
- Prior, Markus. "News vs. Entertainment: How Increasing Media Choice Widens Gaps in Political Knowledge and Turnout." *American Journal of Political Science* 49, no. 3 (2005): 577-92. Accessed November 23, 2020. doi:10.2307/3647733.
- Simas, Elizabeth N. Clifford, Scott. Kirkland, Justin H. "How Empathic Concern Fuels Political Polarization." *American Political Science Review* 114, no. 1 (2020): 258–69. doi:10.1017/S0003055419000534.
- Strandberg, Thomas. Olson, Jay A. Hall, Lars. Woods, Andy. Johansson, Petter. "Depolarizing American voters: Democrats and Republicans are equally susceptible to false attitude feedback." *PLOS ONE*, 2020; 15 (2): e0226799 DOI: 10.1371/journal.pone.0226799

Work Cited:

- Bessi, A., F. Zollo, Michela Del Vicario, M. Puliga, A. Scala, G. Caldarelli, B. Uzzi and Walter Quattrociocchi. "Users Polarization on Facebook and Youtube." *PLoS ONE* 11 (2016): n. Pag. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0159641>
Summary: The Surprising Speed with Which We Become Polarized Online
- Ciampaglia, Giovanni L. Menczerm Filippo. "Biases Make People Vulnerable to Misinformation Spread by Social Media." *The Conversation US*. June, 2018. Accessed November, 2020. <https://www.scientificamerican.com/article/biases-make-people-vulnerable-to-misinformation-spread-by-social-media/>
- Christin, A.. "Counting Clicks: Quantification and Variation in Web Journalism in the United States and France." *American Journal of Sociology* 123 (2018): 1382 - 1415. <https://www.journals.uchicago.edu/doi/abs/10.1086/696137>
Summary: What this Stanford scholar learned about clickbait will surprise you
- Evans, D.S. Attention Platforms, the Value of Content, and Public Policy. *Rev Ind Organ* 54, 775–792 (2019). <https://doi.org/10.1007/s11151-019-09681-x>
- Ford, Anne. "The Surprising Speed with Which We Become Polarized Online." KelloggInsight. April, 2017. Accessed November, 2020. <https://insight.kellogg.northwestern.edu/article/the-surprising-speed-with-which-we-become-polarized-online>
- Fung, Brian. Garcia, Ahuza. "Facebook has shut down 5.4 billion fake accounts this year." *CNN Business*. November, 2019. Accessed November, 2020. <https://www.cnn.com/2019/11/13/tech/facebook-fake-accounts/index.html>
- Goldhaber, Michael H.. "The value of openness in an attention economy." *First Monday* 11 (2006): n. Pag. https://pdfs.semanticscholar.org/75e2/ae38083fa0c871cd25fa0a9346cbcb189f7.pdf?_ga=2.100808001.1977049296.1603478700-283004248.1603478700
- Jones, David R. "Party Polarization and Legislative Gridlock." *Political Research Quarterly* 54, no. 1 (2001): 125-41. Accessed November 23, 2020. doi:10.2307/449211.
- Lichfield, Gideon. "Goodbye Attention Economy, We'll Miss You." NiemanLab. 2018. Nov, 2020. <https://www.niemanlab.org/2018/12/goodbye-attention-economy-well-miss-you/#:~:text=The%20attention%20economy%20is%20toxic,the%20giant%20social%2Dmedia%20platforms.&text=And%20everything%20is%20digital%2C%20so,will%20be%20much%20more%20intense.>
- Marwick, Alice E.. "Instafame: Luxury Selfies in the Attention Economy." *Public Culture* 27

- (2015): 137-160. <https://doi.org/10.1215/08992363-2798379>
- McCarty, Nolan M., Keith T. Poole, and Howard Rosenthal. 2006. *Polarized America: the dance of ideology and unequal riches*. Cambridge, Mass: MIT Press.
- Mintzer, Ally. "Paying Attention: The Attention Economy." Berkeley Economic Review. March, 2020. November, 2020.
<https://econreview.berkeley.edu/paying-attention-the-attention-economy/>
- Orlowski, Jeff, dir. *The Social Dilemma*. 2020; USA; Netflix.
- Reis, Júlio César dos, Fabrício Benevenuto, Pedro O. S. Vaz de Melo, R. Prates, Haewoon Kwak and Jisun An. "Breaking the News: First Impressions Matter on Online News." *ICWSM* (2015). <https://arxiv.org/pdf/1503.07921.pdf>
- Simon, Herbert A.. "Designing organizations for an information rich world." In *Computers, communications, and the public interest* , edited by Martin Greenberger , 40-41. Baltimore: , 1971.
<https://digitalcollections.library.cmu.edu/awweb/awarchive?type=file&item=33748>
- Varol, Onur. Ferra, Emilio. Davis, Clayton A. Menczer, Filippo. Flammini, Alessandro. "Online Human-Bot Interactions: Detection, Estimation, and Characterization." *ICWSM* (2017). arXiv:1703.03107
- Vicario, Michela Del, A. Bessi, F. Zollo, F. Petroni, A. Scala, G. Caldarelli, H. Stanley and Walter Quattrociocchi. "The spreading of misinformation online." *Proceedings of the National Academy of Sciences* 113 (2016): 554 - 559.