

SNCR 2020 Series

Exploring New Communications Tools and Technologies

Symptoms, Causes, and Solutions to Silicon Valley's Disinformation Problem

By Thomas Stoeckle

Silicon Valley is facing a disinformation problem that is poisoning the infosphere, creating filter bubbles and echo chambers, feeding polarization and entrenchment, and resulting in the misuse of data to shape political debates through military-grade psychological operations, manipulation, and propaganda. There is incivility, disinhibition, and a loss of decorum, driven by online anonymity. First, we were told by the media, experts, and academics that the problem was an era of post truth. Then we were told it was fake news. But all the above are symptoms of disinformation and we need to get to the root causes if we want to cure them. This *SNCR 2020* article will shed some light on those root causes, which are all to do with human behavior, perception, and communication.

When we discuss the digital economy, big data analytics, artificial intelligence (AI) and machine-learning, and our algorithmic future, we often forget the analogue intelligence behind it: the humans creating the algorithms and writing the codes, not to mention the customers and users—the recipients of software, information, and communication. And we need to remember that the biggest problems are not solved by a single solution. They do not fit into one department with one sort of expertise.

When we deal with humans, it gets complicated, and messy. For example, the history of fake news, disinformation, and propaganda is a history of human communication. Whether we look at the pyramids as pharaonic propaganda, or the *New York Sun's* "Great Moon Hoax" of 1835 as a stunt to drive circulation and profit, as well as plenty of other examples, there is always the intention, the purpose to persuade and influence, often through illegitimate means.³

Modern Political Marketing and the Abuse of Data and Trust

The Cambridge Analytica saga and its use of Facebook data in its psychographic modelling of voters and subsequent microtargeting with individualized online messages has been reported since early 2017.⁴ But it received limited attention until mid-March 2018, when UK media outlets *The Guardian* and *The Observer* broke the story of Christopher Wylie, Cambridge Analytica's former director of research, who leaked documents detailing the secret workings of the firm along with a number of other whistleblowers.⁵

Now the center of global media attention, the practices described are merely the latest example of purposive, persuasive political advertising (plus a good deal of highly unethical behavior by a number of actors).

In many ways, the 2016 Presidential campaign resembled those of 2008 or 2012: it was about crunching diverse data sets looking for correlations, finding weak signals in strong noise, and identifying opportunities that opponents have missed. But at the same time there were some significant differences, such as controversies brought to light by political digital marketing, culture wars,⁶ weaponized information, and "Bannon's psychological warfare tool."⁷

The Cambridge Analytica story is significant beyond the newsworthy specifics because of its rapid metastasizing into many different but related narratives with a common theme: big tech is out of control and action needs to be taken. This paper explores some narrative strands of that so-called "techlash" and discusses various routes for action.

The public focus has been on political marketing and advertising, as the case at hand touches on challenges to Western liberal democracies through several threats beyond the misuse of Facebook data. However, it goes without saying that techniques applied in political marketing are almost always easily transferred to consumer and product marketing. In many ways, politics is the test bed for the consumer space.

The Cambridge Analytica case is about abuse of trust, as well as abuse of rules and regulations. The 2016 election cycle was big business for the social platforms. It was approached systematically and strategically, with political marketing data experts embedded at presidential candidates' campaigns to optimize the use of all available data.⁸

And let's not forget the hype factor. In 2012, *Harvard Business Review* called data science "the sexiest job of the 21st Century."⁹ It is no wonder, then, that data analytics are not just used to answer research questions but have become a form of self-promotion. Again, the case of Cambridge Analytica and its ex-CEO, Alexander Nix, may now be the most notorious. It is by no means the only one.

Is data really being weaponized?

Accounts of "weaponized data analytics" to sway elections need to be taken with a grain of salt, as a number of commentators have pointed out.¹⁰ Independent verification of these claims is still missing. Everything that is being reported is about underhand, covert practices, but there is no coherent, comprehensive picture yet of how data, models, targeting, and outcomes are related. Antonio Garcia Martinez, the former head of Facebook's ad targeting team, is an informed skeptic who understands the possibilities of granular targeting but questions the bullish claims of efficacy. He cautions against "truthy marketing fairy tales."¹¹

Attributing effects to causes is notoriously difficult. It brings to mind the eternal struggle of marketing communications to prove return on investment. John Wanamaker's famous lament still stands: "Half the money I spend on advertising is wasted; the trouble is I don't know which half." In politics, the desired effect can be mobilization or suppression, agitation or apathy. It seems clear that data has been used and abused to promote, and at least in some cases, achieve these various goals. Many observers are now concerned that this happened not only in a way that runs counter to democratic principles, but also, that we are only seeing the very beginnings—the tip of the iceberg.

Wealth creation from "surveillance capitalism"

Shoshana Zuboff, retired professor of business administration at Harvard Business School, coined the phrase "surveillance capitalism" for the systematic and comprehensive way in which personal behavioral data and its translation into commercially relevant predictions has become a new source of wealth creation. In an article from March 2016, she quoted the chief data scientist of a well-known Silicon Valley firm to illustrate the end-to-end approach: "The goal of everything we do is to change people's actual behavior at scale. When people use our app, we can capture their behaviors, identify good and bad behaviors, and develop ways to reward the good and punish the bad. We can test how actionable our cues are for them and how profitable for us."¹²

In the past, Facebook has been fairly open about its data experiments to gauge, affect, and algorithmically predict human behavior. Its psychosocial experiment with researchers at Cornell University, where "emotional contagion" was tested on more than 700,000 unaware users through algorithmic changes in their newsfeed and subsequent observation of online behavior change, was published in the prestigious *Proceedings of the National Academy of Sciences* (PNAS) in 2014.¹³

Such experiments are seen as social engineering by some critical observers¹⁴ and as an infringement of our “cognitive liberty” by others.¹⁵ The companies benefiting from the monetization of personal, behavioral data argue that users have consented to data being taken, through the acceptance of terms and conditions. Baroness Onora O’Neill, the esteemed British philosopher of trust, argued in a 2003 paper in the *Journal for Medical Ethics* that informed consent should empower the consentor, rather than just be a ritual.¹⁶ There are lessons to be learned for companies such as Facebook, which want to rebuild trust with their users.

These experiments, together with a perceived lack of transparency and accountability in microtargeting and programmatic advertising, are contributing to a rising tide of unease about the general direction of big tech. For years now, critical experts such as former Google design ethicist and product philosopher Tristan Harris and techno-sociologist Zeynep Tufekci have been warning about the risks of algorithmic systems optimizing for users’ attention. In recent months, they have been joined by a growing movement of Silicon Valley heretics—former employees of Google, Facebook, and YouTube, etc.—who all feel it is time to rein in big tech. The [Center for Humane Technology](#) was established in February 2018 to provide a home for this growing movement.

Perception is Value

This increasingly critical sentiment toward big-tech companies has real consequences for marketers and communicators. Publicly listed technology firms are some of the most valuable companies on the planet. Consider these valuations (at end of March, 2018):

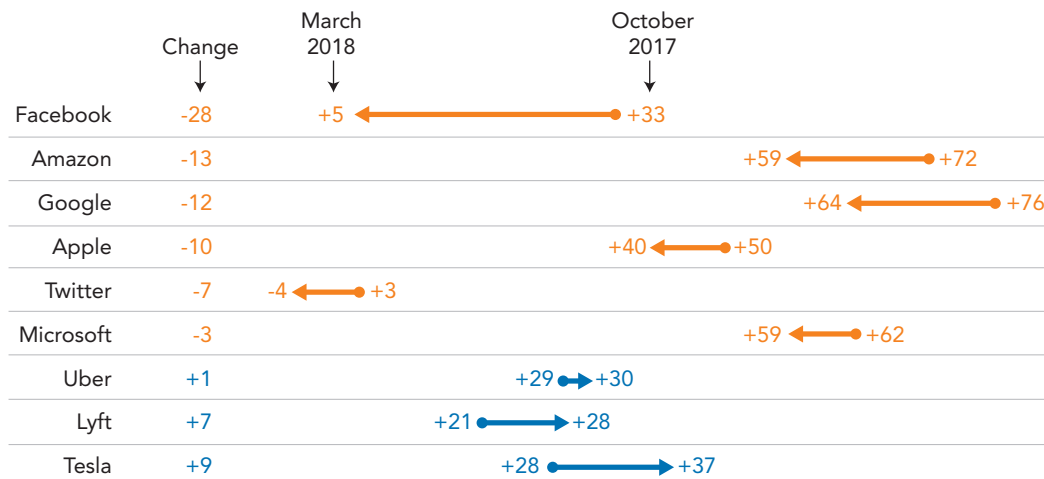
- Apple (\$865 billion)
- Alphabet (\$723 billion)
- Microsoft (\$704 billion)
- Amazon (\$698 billion)
- Tencent (\$495 billion)
- Alibaba (\$469 billion)
- Facebook (\$465 billion).

But this share price and market value is only investors’ perception of future return and growth. It is not the same as tangible assets and revenue. In 2017, Walmart’s revenue was three times that of Amazon and, as a result, Walmart has paid significantly more corporate tax over the last ten years than its competitor.¹⁷

Figure 1

Net change in company favorability

October 2017 to March 2018



Source: Axios and Survey Monkey, 2018

For marketers and communicators, this is the big story: perceptions of trust and fairness matter. So, when the leading technology firms are seen as exploiting their users' data, when they portray themselves as socially conscious but at the same time are portrayed, at least in Europe,¹⁸ as not paying their fair share of corporate taxes, that has immediate and longer-term consequences for their reputation and share price. Figure 1, taken from an Axios study, shows the reputation effect.¹⁹

Trust in the Digital Media Supply Chain

There is an almost typical story trajectory of Silicon Valley start-ups enjoying stratospheric early success, followed by varying doses of hubris, arrogance, and complacency before the unavoidable rude awakening. Uber is an example, and now so is Facebook.

Inevitably, these stories are about trust. They involve users, investors, regulators, and the media. In the case of Facebook, the biggest concern of CEO Mark Zuckerberg seems to be the community of users. But it is not just about a social contract, it is also about a commercial contract between Facebook and its users. If you don't pay for the product, you are the product, as the saying goes. Users have the benefit of Facebook's free platform and app ecosystem. The cost is incurred in the form of access to their data, which Facebook makes available to advertisers to help them optimize their ad targeting.

But Procter & Gamble's chief marketing officer, Mark Pritchard, has raised the concern of "transparency issues in the digital media supply chain, including viewability, fraud, a lack of measurement, and murky contracts."²⁰

The Facebook story also illustrates how fast things are moving these days, how urgent the problem is, and how vast the scale is. In the two weeks since *The Guardian* first broke the story of Cambridge Analytica's use of Facebook data, Facebook's share price dropped more than 15 percent, with further volatility induced by news that the US Federal Trade Commission (FTC) is investigating Facebook regarding concerns over privacy practices.²¹

It's hard to ascertain how much of this is down to suboptimal communications in crisis.

With the benefit of hindsight, some of the poor communications choices Facebook made seem obvious. First, it threatened to sue the newspaper about to break the story. Then it banned the whistleblower from the platform, and executive management refrained from making public comment for almost a week. Finally, it admitted the problem by taking out full-page print ads in the *New York Times*, the *Washington Post*, the *Wall Street Journal*, and six UK newspapers.²²

Facebook is framing the issue as a consumer privacy problem, but its stakeholders across user, investor, and regulatory communities see challenges around monopolization of the advertising market (together with Google), the manipulation of attention, and the continued erosion of traditional publishers' business models.

The wider story at play—psychology, persuasive technology, and ethics

Facebook is just one example of a technology start-up struggling with its success. The larger tale—the broader context—is one of oversimplified concepts of human psychology and behavior. Mechanistic, behaviorist, stimulus-response models of human behavior, whether of individuals or groups, have dominated marketing and communication since its beginnings. Edward Bernays, often called the “father of PR,” was hugely influenced by the psychological and sociological science of his day—no surprise given that he was Sigmund Freud's nephew.²³

Today, Stanford University's Persuasive Technology Lab is seen as a fast track to success in Silicon Valley. It teaches “captology” as the intersection between persuasion and digital technology, where persuasive product design influences people and changes behavior. The lab's founder, behavioral psychologist B.J. Fogg, is conscious of potential ethical challenges of persuasive technology, and features this in his teaching.²⁴

Teaching is one thing; practicing is another. Introducing ethics into a technology company's business model and operational management is no small feat. Former Google design ethicist, Tristan Harris, now runs the nonprofit Centre for Humane Technology, having decided that his work would have more impact as an outsider than as an employee of Google. Harris and others warn against the addictive patterns of modern technology design, which are tapping into the same neurobiological dopamine cycles as, for example, gambling. He likens the swipe on a smartphone or tablet to pulling the lever on a slot machine: you don't know what's coming, but every time you're hoping for a win.²⁵

Through ongoing media and public attention on data misuse and interference in democratic processes through disinformation, organizations are highly aware of the issue of digital ethics. There are calls for chief ethicists to join management boards, but unless business ethics become a standard of corporate reporting, this role has limited impact. In the meantime, ethics continue to play a role through the impact of media coverage, corporate reputation, and public opinion.

Psychological Operations

We are experiencing an arms race for our behavioral control center through the manifold applications of persuasive design: visual and audio notifications, microtargeted programmatic advertising, autoplay features, and plugins. Experts are asking questions about how to disarm the “weapons of mass distraction.”²⁶

This close connection to the military is more than just semantic: alongside the four classic dimensions of warfare—land, sea, air, and space—there is now a fifth, information and cyberspace,²⁷ and even a sixth, the human brain.²⁸ Edward Bernays, the aforementioned “Father of PR,” worked in Woodrow Wilson’s Committee on Public Information, a government agency created to influence public opinion to support US participation in World War I.²⁹ Professor Tamsin Shaw from New York University discussed the role of the “new military-industrial complex of big data psy-ops” in an essay for *The New York Review of Books*.³⁰ She described the history of dual-use research in social psychology in the US since World War II in which the military not only funded academic research but also encouraged commercial application. This is common practice, but Shaw advocates paying closer attention to how this might affect life in our democratic society.

Disinformation as a strategic military tool has a very long tradition, going back to the ancient principles of confusion and deception laid out by Sun Tzu in *The Art of War*. It is common knowledge that the internet protocol TCP/IP was developed by the US Defense Advanced Research Projects Agency (DARPA), and a lot of the technology that powers innovation and finds its way into our smart devices was originally funded by DARPA. It is thus no surprise that principles and methods of psychological warfare have found their way into nonmilitaristic applications, in particular in political marketing.

Gaming, hacking, and jacking

In nonmilitaristic contexts and language, politicians have argued that algorithmic suggestions and choices for users of platforms such as YouTube are being manipulated by bad actors, resulting in a “gaming of reality.”³¹ Meanwhile, Harris suggests the smart phone and social media culture have resulted in phenomena such as “mind-hacking”—using data to persuade—³²and “attention-jacking”—appropriating your attention without your consent.³³

Data is often described as the new oil in that it is now a hugely valuable resource. But a perhaps more poignant adage is that attention is the new oxygen, in that it helps media companies survive.³⁴ Technology companies earning advertising money from getting and keeping the attention of users use algorithmic optimization. That optimization taps into fundamentals of human behavior, as previously discussed: dopamine drives reward-seeking, and every ping on a smartphone is a trigger. Every swipe and every response add to the digital trail, which in turn is hoovered up for more optimization.

Optimization for advertising is not negative in itself, despite having been described as the “original sin”³⁵ or the “Faustian bargain”³⁶ of the internet. What can make using data for optimization problematic is a lack of understanding of the consequences of both companies and users.

Taking Back Control: Education, Regulation, Governance

Education has a critical role to play in curbing the excesses and unintended consequences of the disinformation society. Responsibility for this education lies with everyone from parents and elementary schools, all the way to tertiary education or vocational training. Experts advocate for more media literacy to address the disinformation problem.³⁷ This paper considers the issues through an even wider lens, including civic literacy, or even human literacy, becoming meaningful concepts.

On regulation and governance, there is a growing awareness that we have a largely analogue legal and regulatory framework, dealing with exponentially growing digital challenges. With regard to data protection, the idea of a “Consumer Privacy Bill of Rights,” first suggested in 2012 by President Obama, is resurfacing, despite being criticized from all sides.³⁸ Such a bill, together with the General Data Protection Regulation (GDPR) in Europe, could form a powerful transatlantic platform for a global data protection initiative.

It is worth remembering that the US Constitution, the Bill of Rights, and the First and Second Amendments were passed more than 200 years ago. The historical context we find ourselves in today calls for digital amendments. Marcello Ienca and Effy Vayena from the Swiss Federal Institute of Technology (ETH Zurich) discussed some ideas for this in a recent contribution to *Scientific American*, including the concept of “cognitive liberty” as the “freedom to control one’s own cognitive dimension (including preferences, choices, and beliefs) and to be protected from manipulative strategies that are designed to bypass one’s cognitive defenses.”³⁹

Holding social platforms accountable

In his response to the Cambridge Analytica revelations, Facebook CEO Mark Zuckerberg advocated for ad transparency regulation, putting responsibility for data privacy on the ad buyers.⁴⁰ Regulators, however, are considering holding social platforms more directly to account, for example, by curbing their ability to monetize their users’ data.

In many ways, the debate has only just begun in earnest, and companies, advertisers, regulators, and consumers will have to find better solutions together. The sheer size and power of the big tech companies will likely not be enough in the long run for them to avoid the debate that goes to the heart of their business, namely selling user data to the highest bidder in return for convenience and seemingly free services.

We are not quite at a point where comparisons to Standard Oil and AT&T—companies that became so big and powerful that they were forced to break up—seem appropriate.⁴¹ On the other hand, we are probably not that far off, either.

Tim Wu, who coined the phrase “net neutrality” and remains its lead proponent,⁴² is also one of the most vociferous critics of big tech. He explored the subject in two books, *The Master Switch* in 2011 (where he drew comparison with previous information empires, for example AT&T and Bell), and *The Attention Merchants* in 2016 (where he addresses the problem of permanent attention seeking in our information economy). He is also a former senior adviser to the FTC, which described the intrinsic problem of for-profit businesses leveraging public trust while negating privacy, saying it was “kryptonite to their business model.”⁴³

The Economist highlighted comparisons between the “robber barons” and the “silicon sultans” already in late 2014,” suggesting “today’s tech billionaires have a lot in common with a previous generation of capitalist titans.”⁴⁴

Seeking solutions to tech’s power

Questions about the power of tech companies are now being asked, and solutions to control it will need to be found, whether that’s through industry self-regulation or national governments and/or international authorities imposing rules. Any solution should include certification, auditing, and more open data access for independent researchers. The aim should be to bring the social platforms closer to the public sphere, where communities of like-minded people can interact freely, and not be restricted by the walled gardens of commercial entities whose only business purpose is to maximize the gains from connecting users and advertisers.

The US legal thinktank Just Security has some interesting thoughts on how Facebook should be regulated. They include:⁴⁵

- Registration with the federal government
- Quarterly disclosures and certifications
- Auditing and access for independent researchers
- Anti-fraud provisions
- Private enforcement
- Levies for remediation of social costs.

Regulation must be coupled with common sense on all sides: be conscious, be cautious, be compliant, be diligent. In many ways, principles of proper conduct such as transparency and accountability are more important than trying to employ new technical standards and rules. Openness will address the information asymmetry, which in turn is a precondition to foster trust.

Whatever the chosen regulatory path (or paths), what might be lost for businesses in terms of competitive advantage will be made up for in terms of regained trust and reputation.

Conclusion

“When the context of a story changes, so does its trajectory,” said Emily Bell, director of the Tow Centre for Digital Journalism at Columbia University in her *Tricky* podcast series recently.⁴⁶ One of the defining characteristics of our times is an acceleration toward ever faster, real-time, always-on news cycles. In fact, the term “news cycle” is no longer adequate as we experience a constant news stream, created, triggered, and amplified through social channels and networks. This has created a lot of volatility with the permanent potential for disruptive transformation and change.

The technological advances that have led to the World Wide Web, a globally networked information sphere, a fast-growing attention economy, and evolving surveillance capitalism, have also created unintended consequences that have the potential to threaten our civic society through fake news and mis-, dis- and mal-information.⁴⁷

So far, the marketing and communications industries have been comparatively quiet on this topic. Academic and industry critic Mark Ritson commented in *Marketing Week* that the silence is not surprising, given that the industry has been applying Cambridge Analytica style tactics for years.⁴⁸ *PR Week* advocates more transparency with consumers, more due diligence with partners, and a more ethical approach generally to data collection practices.⁴⁹ This is a double-edged sword for marketing and communications: on the one hand, there is an opportunity to reach target audiences much more precisely and efficiently; on the other, there is a risk of invasion of privacy and erosion of trust and goodwill.

One of the critical new challenges for organizations is to navigate a more uncertain, less foreseeable world and one of the most important ways they can meet this challenge is by using big data-powered analytics. But when that data is drawn from humans, uncertainty will continue to prevail.

In the long run, regulation and legislation might provide better guidance for how to navigate the challenges of personal data collection and use, but for now, marketing and communications functions need to help their organizations tread the fine line of reaping the benefits of more targeted advertising versus the perils of data collection. Rather than waiting for more concrete guidelines and regulations, marketing and communications functions could help their companies take the lead by helping them apply simple common sense.

Endnotes

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