

# Personal Data Governance in the Big Tech Era

## What is happening to our personal data?



Credit: DALL-E

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## 1. Introduction

We're increasingly dependent upon digital technologies to live, manage, and enjoy our lives: we maintain relationships and friendships over email and Skype; we organize our work and home lives through online applications and platforms, like buying groceries from Amazon; and we spend enormous amounts of time online, whether watching YouTube or Netflix, or writing blogs, or staying on top of the news. Many of these activities and services are free, or seem free, but we are giving something up each time we sign up to a new online platform, software application, or electronic device. And that something is our personal data. We've been exchanging our personal data for access to online platforms, services, and devices for some time now without realizing what the implications are of that trade: what is it that we're actually giving away?

Our personal data has become the defining asset of the digital economy that now shapes our lives. Today, five so-called Big Tech firms dominate much of our economies, societies, and politics: Apple, Amazon, Microsoft, Alphabet/Google, and Meta/Facebook. These firms have collected a treasure trove of personal data from us that they can use to make new products and services or sell our attention to advertisers who want to target us individually. How we govern our personal data is an increasingly important issue we need to think about. One major problem is that Big Tech has transformed our personal data into a [private asset](#) from which they can extract revenues and profits, but only through the expansion of surveillance and the destruction of our [privacy](#).

Despite their influence, Big Tech firms have been in the public and political spotlight for the past few years as the result of growing concerns about their market and social power. The 2018 Cambridge Analytica scandal, in particular, revealed that Big Tech firms like Facebook are sharing our personal data with little regard for its harms. The *Financial Times* commentator Rana Farooq defines the resulting backlash against Big Tech since 2018 as the '[techlash](#)'. In light of this techlash, it's hardly surprising that Shoshana Zuboff's 2019 book [The Age of Surveillance Capitalism](#) has become an international bestseller, defining one of the key concepts of our age.

The aim of this ITS Policy Briefing is to outline the power of Big Tech and specifically to examine what that power means for us when it comes to the collection, use, and exploitation of our personal data.

## 2. What is Big Tech?

Generally, Big Tech can be characterized as the five largest digital technology firms in the world, usually defined by their market capitalization – the total value of their shares. Currently, Big Tech includes Apple, Amazon, Microsoft, Alphabet/Google, and Meta/Facebook (see Figure 1). It's become increasingly evident over the last few years that these five Big Tech firms have an outsized and unhealthy influence over our lives.

**Figure 1: The Growth of Big Tech – Market Capitalization, 1990-2019**

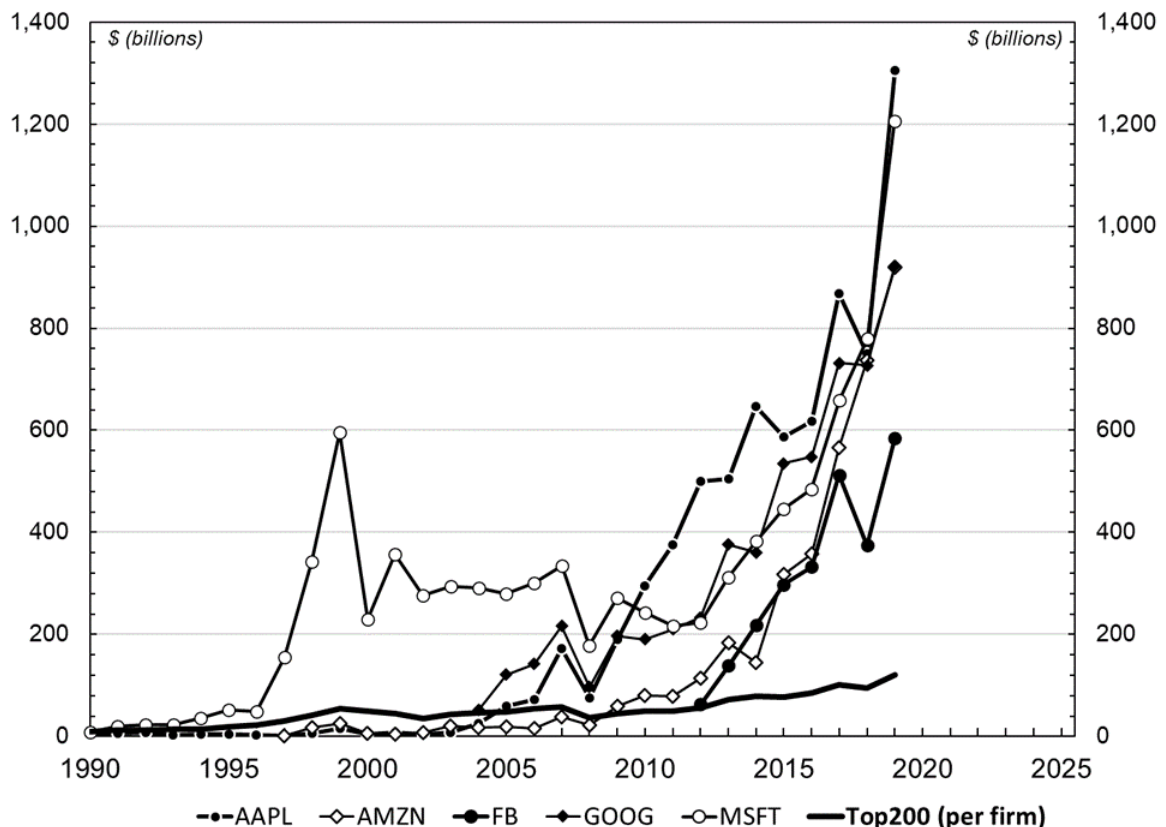


Figure Source: produced by D.T. Cochrane with data from Compustat via Wharton Research Data Service; AAPL = Apple, AMZN = Amazon, FB = Facebook, GOOG = Alphabet, MSFT = Microsoft. Reproduced with permission.

Some people point to the late 2000s as the turning point in the history of digital technologies and the ascendance of Big Tech: Apple launched the iPhone; Alphabet/Google pivoted its business model towards online advertising; and Meta/Facebook emerged as the dominant social media platform. Other technology firms aren't far behind either, including Tesla, Alibaba, Tencent, and Uber. Notably, most of these Big Tech firms come from the USA, although China has several Big Tech firms too. Other regions like the European Union aren't dominated by these firms to the same extent, although Big Tech is still influential in these countries.

Our economies, societies, and politics are increasingly defined by Big Tech in the same way that previous 'Big' industries defined their eras, whether that's Big Auto, Big Oil, Big Pharma, or Big Finance. Unlike previous eras, though, Big Tech can often seem to be

everywhere and yet almost nowhere, invisible to the naked eye. We're often not aware of what these firms are doing, especially when it comes to our personal data, except when there's a scandal like [Cambridge Analytica](#).

The backlash against Big Tech has provided us with an opportunity to get a better look at what Big Tech does and their implications for our lives, going beyond concerns about privacy. These public and political concerns about Big Tech are illustrated by the findings of the 2019-2020 US Congressional Hearings on digital platforms and market power. These findings are outlined in a [450-page report](#) published by the House Subcommittee on Antitrust, Commercial, and Administrative Law in October 2020.

### **The Antitrust Case Against Facebook?**

In December 2020, the US Federal Trade Commission (FTC) started a lawsuit against Facebook for '[illegal monopolization](#)', alleging that Facebook has pursued a multi-year strategy undermining competition as a way to cement its social network monopoly. The FTC points to the acquisitions of Instagram in 2012 and WhatsApp in 2014 as key examples of this strategy, acquisitions that the FTC itself waved through at the time. But these are potentially just the tip of the iceberg. There is the possibility that the suit will end with a ruling that Facebook divest itself of Instagram and WhatsApp, thereby creating two new competitors and major digital players.

So, what has Facebook been doing? And what are the implications of the FTC suit?

The best account of Facebook's strategies and practices is the [Investigation of Competition in Digital Markets](#) report released by the US Congressional Subcommittee on Antitrust, Commercial and Administrative Law. Meta/Facebook is the dominant global social network with over 2.9 billion 'monthly active users': it made revenues of US\$116 billion in 2022, almost all of which came from online advertising. According to the Congressional report, 'Facebook has held an unassailable position in the social network market for nearly a decade, demonstrating its monopoly power'. Much of this monopoly power comes from the network effects that attract increasing numbers of people to Facebook, but there are other strategies Facebook is alleged to have pursued too. These include: using its data assets and centrality as a digital platform to identify and neutralize potential competitors; acquiring potential competitors like Instagram and WhatsApp; using its platform policies to undermine potential competitors by selectively cutting off access to its platform; and attempting to clone competing products and services, like Snapchat Stories.

Here are some allegations from this report about the egregious activities of Big Tech firms:

- Meta/Facebook has used its platform policies to undermine potential competitors by selectively cutting off access to its platform and the valuable 'social graph' of their lives that users generate (but cannot export to other platforms);
- Meta/Facebook has bought out competitors like WhatsApp to protect its social network monopoly;

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- Apple locks users and developers into its devices ecosystem by controlling the rules of its App Store; for example, they restrict developers from offering their software applications outside the App Store;
- Apple has an unfair advantage when it comes to developing software products and services released through the App Store, setting its own apps as defaults and the rules to preference Apple's apps;
- Amazon uses its Alexa voice assistant to drive consumers to its complementary business lines (something called self-preferencing);
- Amazon engages in predatory pricing to drive out competitors;
- Alphabet/Google's ownership of the Android operating system (OS), the most popular smartphone OS, enables it to set its search engine and browser as the global default;
- Alphabet/Google operates as both buyer and seller of online advertising assets, meaning that it can exploit its position as an intermediary;
- Overall: these Big Tech firms are discouraging the emergence of innovative startups because investors won't invest in new entrants that challenge dominant Big Tech firms. The reason being that investors think Big Tech will just buy-out the startups.

The hearings did not investigate that activities of Microsoft, or other large digital technology firms.

### 3. Collecting & Using Our Personal Data

We've been handing over our personal data to Big Tech firms for some time, usually in exchange for access to specific online platforms (e.g. Facebook), services (e.g. search, email), and devices (e.g. smartphones). Big Tech firms then turn our personal data into a private asset. Often, we hand over our personal data without really realizing it when we sign long and complicated [terms and conditions](#) agreements, like software end user licence agreements (EULA) or platform privacy policies. Basically, every time we click '[I agree](#)' when we download an application, or visit a website, or buy a new product we are agreeing to hand over our personal data.

But what is personal data? Table 1 outlines some examples of where, how, and what [personal data](#) Big Tech firms – and others – are collecting about us.

**Table 1: Some Examples of Personal Data Collection**

	Where?	How?	What?
<i>Apps</i>	Downloading software or application	License agreements	Location, use, identity, financial
<i>Cookies (1<sup>st</sup> party)</i>	Visiting website	Cookie agreements	Location, use, IP address, device
<i>Cookies (3<sup>rd</sup> party)</i>	Visiting someone else's website	(above)	Location, use, IP address, device
<i>Devices</i>	Using smartphone	Terms & conditions Privacy policies	Location, use, identity, IP address
<i>Platforms</i>	Signing up to social media	Terms & conditions Privacy policies	Location, use, identity, financial
<i>Signal trackers</i>	Visiting stores or other locations	Wi-fi connection to smartphone	Location
<i>Internet of things devices</i>	Everywhere	RFID sensors	Location, use
<i>Data brokers</i>	Everywhere	Collect from you, public sources, and purchase from other companies	Identity, financial
<i>Loyalty cards</i>	Real or online stores	Terms & conditions	Identity, use, financial

Table Source: information derived from [Wired](#) and other sources.

Personal data includes [three types of data](#): (1) any 'personal identifiable information' about ourselves – our names, our addresses, our birthdates, and so on; personal data can also be (2) anonymous or (3) pseudonymous, meaning that the information (e.g. on our purchases) is no longer linked to an individual's identity (e.g. name). Most personal identifiable information is knowingly given, in that we are the one's handing it over (e.g. when we sign up for a credit card). Anonymous data is often collected involuntarily and unknowingly (e.g.

via website cookies), while pseudonymous data is often obtained from third parties (e.g. data brokers). However, Big Tech firms increasingly have the capacity to connect anonymous and pseudonymous data to personal identifiers, meaning that it's increasingly evident that all these data can be linked to us as individuals.

As the collection of our personal data has increased, Big Tech firms have found new and profitable ways to use it to make money from it by turning our personal data into a private asset. Today, a few Big Tech firms have amassed so much of our personal data that many policymakers, businesspeople, academics, activists, journalists, and others fear these data monopolies will limit the possibility of new digital technology startups emerging to compete with these incumbent firms. Big Tech's data monopolies mean that these firms have a huge first-mover advantage when it comes to developing digital technologies, especially algorithmic systems and artificial intelligence that need large datasets to 'train' them. The stifling of innovation is just one fear, there are many other fears about the implications of these data monopolies to [privacy or democracy](#).

The governance of personal data is changing as we become more conscious of its ubiquity and implications for our privacy and daily life. Some of the main governance changes include the introduction of new data protection legislation and frameworks: for example, the EU's 2018 [General Data Protection Regulation](#) (GDPR) and California's 2020 [Consumer Privacy Act](#) (CCPA). Other jurisdictions are currently considering these sorts of policies, including the Canadian Government which is currently debating the [Digital Charter Implementation Act 2022](#). Most of these new governance mechanisms are premised on a particular form of intervention based on concerns about privacy and personal data protection, so they are often framed by a [post hoc approach to governance](#), which doesn't always address emerging issues with digital technologies and the transformation of personal data into a private asset. For example, [Frank Pasquale](#) – a US-based law professor – argues that we need to move away from privacy issues towards a more structural approach in which we should first decide what digital technologies we actually want before developing them.



## 4. Turning Our Personal Data into a Private Asset

To fully understand the problems with Big Tech's control of our personal data, it is helpful to think of personal data as a [new kind of asset](#). Shoshana Zuboff argues that personal data is a new asset class, stressing that personal data is used in the production of 'prediction products' (e.g. targeted advertising). Assets are both productive resources and capitalizable property, in that they can be used to make something else and they can be sold on the basis of the future revenues they generate from their usefulness. The value of an asset depends on the protection of both control rights and the financial revenues it generates.

Thinking of the transformation of personal data into a private asset helps us to understand the relationship between personal data and Big Tech firms. These firms need to turn our personal data into a private asset in order to extract value from it. This [assetization](#) of personal data depends on a range of activities, but firms like Apple, Amazon, Microsoft, Alphabet/Google, and Meta/Facebook can capture the most value by creating data monopolies through their digital platforms and ecosystems. Digital Innovation has ended up focused on finding ways to create, extend, and reinforce control over data assets – something called [rentiership](#) – as well as buying up competitors to limit competition and lobbying governments to limit regulations. As the 2020 film [The Social Dilemma](#) illustrates, Big Tech firms have devised numerous ways to keep us 'addicted' to their products, services, and platforms, which has significant implications for our mental health as well as privacy.

### Case Study: Why Does Mark Zuckerberg Want You to Use “Accurate” Information about Yourself on Facebook?

Personal data might not be the 'new oil' some people are suggest it is – see, for example, magazines like [Wired](#) and [The Economist](#) or reports from the [European Parliament](#) – but it is still an important and valuable resource in our digital economies. Personal data is more ambiguous and fluid than oil, which is a major concern for data-driven Big Tech firms like Meta/Facebook as personal data is central to their business models. Consequently, Big Tech firms are very concerned about how we present ourselves in the world since how we do so feeds directly into how they make money. For example, in his 2010 book [The Facebook Effect](#), David Kirkpatrick discusses Mark Zuckerberg's design philosophy that we 'have one identity' and that we can only maintain personal integrity by representing our identity accurately. This is why Facebook's terms of service require users to do certain things: for example, 'Use the same name that you use in everyday life' and 'provide accurate information about yourself'. The reason is pretty simple: Meta/Facebook can only make money from our personal data – called 'user monetization' – if it can connect that data to a person and then sell it to advertisers looking for a specific target audience. If we change or alter our digital selves, then this disrupts the data on which Meta/Facebook – and other Big Tech firms – make money.

Aside from its implications for mental health and privacy, the collection, use, and exploitation of our personal data has had a rather perverse and damaging effect on our economies. The assetization of personal data – its transformation into a private asset held

by Big Tech firms and others – is now deeply implicated in the wholesale *gaming* of our economies. At least two things are worth worrying about when it comes to understanding this process.

First, some estimate that close to half of all [online activity](#) consists of bots doing things, not humans. Many supposedly human social media users are actually bots; for example, a lot of online user engagements (e.g. likes, views, impressions, etc.) are bot generated, while a lot of online content is fake. People have set up businesses called ‘content farms’ and ‘click farms’ that sell ‘likes’, ‘views’, and ‘followers’. It’s got to the point where it’s increasingly difficult to tell whether rankings, recommendations, popularity, or other metrics of social value are real, or simply the result of bots. One great example of this is the British journalist [Oobah Butler](#)’s successful attempt to get his fake London restaurant to the number one restaurant spot on TripAdvisor.

Second, ex-Google employee Tim Hwang’s 2020 book [Subprime Attention Crisis](#) outlines a growing crisis in online advertising, which Big Tech firms like Facebook and Google are almost entirely dependent on. These firms make money by selling advertising, and to sell advertising they compete by selling access to what Hwang calls ‘attention assets’. These attention assets are you and me, viewers of online content. To Meta/Facebook and Alphabet/Google, users are assets; we’ve even been standardized as ‘viewable impressions’ who are measurable and legible as something valuable (e.g. monthly active users). But Hwang argues that online advertising is entering a crisis stage for several reasons: the real value of online ad space is increasingly opaque; the effectiveness of online advertising is increasingly unclear; the online ad market has concentrated with the introduction of intermediaries like Meta/Facebook and Alphabet/Google, leading to distortions in the market; and, most important of all, our attention is declining and click-through rates on online ads have fallen below 1 percent. Consequently, the value of online advertising is falling and could crater at some point in the near future, leading to potentially devastating effects for online businesses, news organizations, communities, and individuals.

## 5. Alternative Forms of Personal Data Governance

The backlash against Big Tech is ongoing. There are increasingly positive signs that the governance of Big Tech is changing as politicians, policymakers, commentators, and publics take a more critical approach to dealing with the problematic activities of these firms. After the US Congressional hearings into digital platforms and market power, for example, the US Department of Justice launched a [suit](#) against Alphabet/Google ‘for violating antitrust laws’ and the Federal Trade Commission launched a [suit](#) against Meta/Facebook for ‘illegal monopolization’. Similar investigations, legal suits, or policy actions are underway in other jurisdictions. For example, the European Union (EU) has introduced a [Digital Markets Act](#) and [Digital Services Act](#) to limit the market power of Big Tech firms. [Margrethe Vestager](#), the EU’s Executive Vice President of the European Commission for A Europe Fit for the Digital Age, argues that ‘you have data that is not to be replicated, that has a very long duration, that effectively can serve as an asset that can foreclose competitors from entering your market’.

It's important to think about alternatives forms of governance of our personal data today because the longer we leave it the harder it will get to deal with the Big Tech firms and what they've been doing. Some people have argued that we need to force Big Tech to pay for our personal data since it's obviously valuable to these firms: this is the position of people like Eric Posner and Glen Weyl in their 2018 book [Radical Markets](#). But this doesn't solve the problem because our individual personal data has relatively [little value](#) by itself; moreover it doesn't solve the [collective inference problem](#) which is caused by firms using other people's personal data to predict and manipulate us by inference, even if we don't let these firms collect our own personal data. Other [options](#) include setting up societal or collective data trusts that act as intermediaries between ourselves and Big Tech or other firms, turning our personal data into a sort of public asset. However, it's not clear if there would be any limits on the use and exploitation of our personal data in these collective data trusts, even if Big Tech had to pay for it. Would they still be able to do whatever they want with our personal data?

Another option, with a more collective and solidaristic political position, has been developed by scholars like [Barbara Prainsack](#), who derived her ideas from an analysis of health data. As she and others argue, we could collect and store personal data in societal data trusts as a social asset, but then require that any use of this personal data has to have a direct and identifiable societal benefit. We can then regulate what our personal data is used for and what sorts of technologies we would like Big Tech and other firms to develop. So, for example, if we don't want our personal data to be used to digitally profile marginalized groups in society, we could make that a requirement of its use.

## Resources

Here are further resources produced by members of the *Institute of Technoscience & Society*, some of which have already been linked to in the document itself.

### Academic Publications

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- Birch, K. (2020) [Opinion: Ottawa's post-hoc privacy plan still leaves the power with Big Tech](#), *The Globe and Mail - Report on Business* (19 November).
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- Birch, K. (2020) [Opinion: What can Canada learn from the US Congressional hearing on Big Tech monopolies?](#), *Toronto Star* (10 August).
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