



August 18, 2018

United States Federal Trade Commission  
Office of the Secretary  
600 Pennsylvania Avenue NW, Suite CC-5510  
Washington, DC 20580

*Re: Competition and Consumer Protection in the 21st Century Hearings, Project Number P181201*

#### **Issue 4: The intersection between privacy, big data, and competition**

##### **I. Introduction**

These comments are submitted in response to the U.S. Federal Trade Commission (FTC)'s announcement regarding hearings on competition and consumer protection in the 21st Century.<sup>1</sup> The Computer & Communications Industry Association (CCIA)<sup>2</sup> commends the FTC for seeking a better understanding of the legal and policy challenges that arise with the digitalization of the global economy and CCIA welcomes the opportunity to provide its views on the variety of competition issues raised.

For tech-related innovation to drive the economy, both competition policy and sound antitrust enforcement play a crucial role in ensuring that competition exists across markets. The development of Internet data-driven enterprises has raised antitrust commentary concerning the viability of the current antitrust framework to address such concerns. CCIA believes that the U.S. antitrust norms provide the right framework to enable agencies to address any competition challenge that arises in the digital economy. To this end, CCIA considers it crucial to understand the nature of data and how businesses use such assets to do business.

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<sup>1</sup> Press Release, *FTC Announces Hearing on Competition and Consumer Protections in the 21st Century* (June 20, 2018), <https://www.ftc.gov/news-events/press-releases/2018/06/ftc-announces-hearings-competition-consumer-protection-21st>.

<sup>2</sup> CCIA represents large, medium and small companies in the high technology products and services sectors, including computer hardware and software, electronic commerce, telecommunications and Internet products and services. Our members employ more than 750,000 workers and generate annual revenues in excess of \$540 billion. A list of CCIA members is available at <https://www.ccianet.org/members>.



## **II. Data as a dimension of competition, and/or as an impediment to entry into or expansion within a relevant market**

### **A. “Data as a dimension of competition”**

Intervention in data-driven markets without evidence of harm to competition could harm consumers and deter innovation, especially when based on a misunderstanding or incorrect understanding of the role data plays in these markets. Therefore, understanding the nature of data usage in Internet and technology services is crucial.

The existing U.S. competition framework, based on the consumer welfare standard that relies on evidence-based analyses, should continue to be applied to data-driven markets. The value of data depends on its commercial utility, and does not present special characteristics as a dimension of competition. Authorities should therefore assess data as any other non-rivalrous asset that companies use to compete in the market under the existing competition framework.

### **B. Data is an asset like any other**

Data itself should not be seen as a barrier to entry, or to automatically grant a competitive advantage in the market. Data is characterized by the so-called “Four Vs”, namely:

- **Volume:** The amount of data available, which is infinite and non-rivalrous.
- **Velocity:** The speed of data generation, which requires business to update datasets quickly
- **Variety:** The diverse forms of data that are available to companies.
- **Veracity:** The trustworthiness of data.<sup>3</sup>

The mere accumulation of data, in and of itself, is useless and not of importance to compete effectively. In addition to the Four Vs, data must be analyzed before it becomes useful. As such, the value of data only appears once companies have processed such data. As economists Anja Lambrecht and Catherine Tucker note:

Our analysis suggests that big data is not inimitable or rare, that substitutes exist, and that by itself big data is unlikely to be valuable. There are many alternative sources of data available to firms, reflecting the extent to which customers leave multiple digital footprints on the internet. In order to extract value from big data, firms need to have the right managerial toolkit. The history of the digital economy

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<sup>3</sup> See IBM, The Four V's of Big Data - Infographic, available at <http://www.ibmbigdatahub.com/infographic/four-vs-big-data> (last visited July 20, 2018).



offers many examples, like Airbnb, Uber and Tinder, where a simple insight into customer needs allowed entry into markets where incumbents already had access to big data. Therefore, to build sustainable competitive advantage in the new data-rich environment, rather than simply amassing big data, firms need to focus on developing both the tools and organizational competence to allow them to use big data to provide value to consumers in previously impossible ways.<sup>4</sup>

The authors further conclude that the tools used to analyze the data and ‘provide value to consumers’ confer a ‘sustainable advantage’ to companies rather than the mere possession of data.<sup>5</sup>

The key to gaining a competitive edge is not data, but rather, the capacity to analyze and monetize data. In other words, human capacity and better products such as improved algorithms, rather than data or scarcity thereof, is what is necessary to compete in data-driven markets.

### **C. “Data to expand market power”**

The FTC requested comment on the role that data plays in whether a company expands in a relevant market. The key element is to better understand whether incumbents that have accumulated data over the years may expand or maintain market power for the mere possession of historic data. Like any other factor of production, there is empirical evidence to prove that there are diminishing returns to the mere *accumulation* of data.

Stanford University conducted a study to analyze whether increased accumulation of data improves the outcomes of the analysis performed on such data. The Stanford Dogs Dataset contains images of 120 breeds of dogs from around the world.<sup>6</sup> This dataset was constructed for the purpose of fine-grained image categorization. Researchers used this dataset for classifying breeds of dogs in images, and calculated the mean accuracy for identification as the number of images in the dataset increased. The results showed that additional access to data provided diminishing returns to the accuracy of classification results (see chart below).<sup>7</sup> In short, a growing dataset provided diminishing returns as it grew.

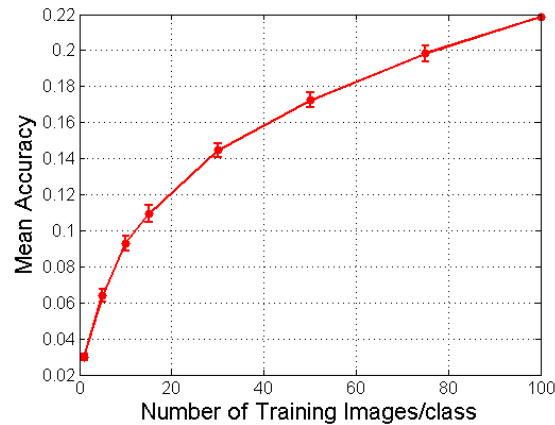
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<sup>4</sup> Anja Lambrecht & Catherine Tucker, *Can Big Data Protect a Firm from Competition* (Dec. 18, 2015), available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2705530](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2705530).

<sup>5</sup> *Id.*

<sup>6</sup> Stanford Dogs Dataset, available at <http://vision.stanford.edu/aditya86/ImageNetDogs/>.

<sup>7</sup> *Id.*



Similarly, economists David Evans and Richard Schmalensee found that across technology companies, data did not grant incumbents the power to strangle competition. Their research highlighted that:

A number of previously dominant companies all had user data — so-called “attention platforms” such as AOL, Friendster, Myspace, Orkut, Yahoo!, Blackberry in mobile, as well as numerous search engines including AltaVista, Infoseek, and Lycos. This data did not give the incumbents the power to stifle competition in their respective markets, nor is there any evidence that data increased the network effects for these firms in a way that gave them a substantial lead over challengers.<sup>8</sup>

University of Florida Professor Daniel Sokol and Central University of Finance and Economics School of Law (China) Professor Jingyuan (Mary) Ma conclude that little, if any, user data is required as a starting point for most online services. They noted that:

The data requirements of new competitors are far more modest and qualitatively different than those of more established markets. Little, if any, user data is required as a starting point for most online services. Instead, firms may enter with innovative new products that skillfully address customer needs, and quickly collect data from users, which can then be used towards further product improvement and success.<sup>9</sup>

<sup>8</sup> David S. Evans & Richard Schmalensee, *Network Effects: March to the Evidence, Not to the Slogans*, Antitrust Chronicle (Aug. 2017) at 9, available at <http://mitsloan.mit.edu/shared/ods/documents/?DocumentID=4243>.

<sup>9</sup> D. Daniel Sokol & Jingyuan (Mary) Ma, *Understanding Online Markets and Antitrust Analysis*, 15 NW. J. TECH. & INTELL. PROP. 43 (2017), available at <https://scholarlycommons.law.northwestern.edu/cgi/viewcontent.cgi?article=1267&context=njtip>.



This research shows why the accumulation of data alone is not a tool for companies to shut out competitors, and is unlikely to lead to decreased competition in the relevant market.

### **III. Competition on privacy and data security attributes**

Competition between digital services based on their privacy and security attributes can help consumers choose services that best align with their personal privacy preferences. Scholars Ramon Casadesus-Masanell and Andres Hervas-Drane demonstrated that in the marketplace for services partly dependent on information disclosure for revenue (used as a proxy for how protective of privacy a service might be), competition can drive the provision of services with more privacy protective features. However, where the net utility of a service far outweighs the value consumers place on data protection, that service will continue to outperform competitors who are offering an ostensibly more privacy protective service.<sup>10</sup> This research indicates that consumers seek to optimize various features, including privacy, in maximizing their own personal utility.

Promoting interoperability between services with different data protection features is one mechanism of increasing competition on privacy features where there are marked disparities in the net utility of services. However, designing interoperability for complex digital systems may introduce security risks that may lessen or negate the net privacy utility derived by consumers. Academics Peter Swire and Yianni Lagos noted the tension between moving data between services and users' security interests in evaluating an early version of the EU's General Data Protection Regulation (GDPR)'s right to data portability.<sup>11</sup> The risk of inadvertent disclosure or data leakage through vulnerabilities increases when independently designed systems are made interoperable.<sup>12</sup> Where operators of interoperable systems may be acting in bad faith, sharing of data can pose privacy risks. Further, mandated interoperability or API access might result in unforeseen anticompetitive consequences that could advantage incumbents over smaller competitors,<sup>13</sup> and could allow some companies to free ride on the efforts of others, chilling the incentive to develop innovative services. Finally, rather than promote competition, mandated

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<sup>10</sup> Ramon Casadesus-Masanell & Andres Hervas-Drane, Harvard Business School, Working Paper (2013), available at [https://www.hbs.edu/faculty/Publication%20Files/13-085\\_95c71478-a439-4c00-b1dd-f9d963b99c34.pdf](https://www.hbs.edu/faculty/Publication%20Files/13-085_95c71478-a439-4c00-b1dd-f9d963b99c34.pdf).

<sup>11</sup> Peter Swire & Yianni Lagos, *Why the Right to Data Portability Likely Reduces Consumer Welfare: Antitrust and Privacy Critique*, 72 MD. L. REV. 335 (2013), <https://pdfs.semanticscholar.org/b826/c58ff279d3e6b3ae96583dcd5f023585b68b.pdf>.

<sup>12</sup> Urs Gasser & John Palfrey, *When and How ICT Interoperability Drives Innovation*, Berkman Center for Internet & Society (2007), available at <https://cyber.harvard.edu/interop/pdfs/interop-breaking-barriers.pdf>; *Open, Closed, and Privacy*, Stratechery (Apr. 25, 2018), <https://stratechery.com/2018/open-closed-and-privacy/>.

<sup>13</sup> Chris Riley, *Using Interoperability For Horizontal Competition and Data Portability*, MEDIUM (May 24, 2018), <https://medium.com/@mchrisriley/using-interoperability-for-horizontal-competition-and-data-portability-6706906ce699>.



interoperability could increase the risk of collusion when competitors are required to collaborate and share information.

These potential pitfalls do not mean that data portability and interoperability of digital systems are unrealistic aims. They point to principles that can help ensure that these risks are mitigated and consumers are empowered. In particular, they suggest that to ensure data transfers between systems are private, secure, and balanced, data portability tools should be voluntary, industry-developed, and responsive to actual consumer needs. For example, they should: (1) allow users to move data they have provided to the service, but not data that may relate to other users; (2) afford consumers control over how and when the tools are used; and (3) be tailored to the privacy and security expectations of specific products and services. Further, access to data portability tools should enable machine-to-machine transfers where technically feasible. Several technology services recently launched a data portability project based on these principles. The Data Transfer Project (DTP) connects the APIs of many different digital services through an open-source system that securely encrypts machine-to-machine transfers at the direction of users.<sup>14</sup> The success of the DTP and other tools to increase consumer control and interoperability between services depends on adoption and good faith participation by services of all sizes.

#### **IV. The benefits and costs of privacy laws and regulations, including the effect of such regulations on innovation, product offerings, and other dimensions of competition and consumer protection**

Privacy laws and regulations can have an unintentionally adverse impact if they do not strike the correct balance between privacy and furthering innovation. Restricting companies' use and collection of data may unintentionally impair commerce in the digital economy, and by implication, reduce investment. This especially affects firms that rely on the collection, analysis, or storage of large amounts of user data, such as companies in the online news, online advertising, and cloud computing sectors. These sectors are highly relevant to the online consumer experience as they encompass many of a user's typical online interactions.

Professor Anja Lambrecht evaluated the relationship between changes in EU privacy laws and relative venture capital investment in the EU, finding that VC investment across these three sectors was between 58-75 percent lower in aggregate each year relative to the United States,

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<sup>14</sup> Russell Brandom, *Google, Facebook, Microsoft, and Twitter Partner For Ambitious New Data Project*, THE VERGE

(July 20, 2018), <https://www.theverge.com/2018/7/20/17589246/data-transfer-project-google-facebook-microsoft-twitter>.



after controlling for several drivers of VC investments into firms in these industries.<sup>15</sup> These conclusions reflect those of Professors Avi Goldfarb and Catherine Tucker, who found that privacy regulations “directly affect the usage and efficacy of emerging technologies” in the sectors they studied.<sup>16</sup>

As with innovation, there are parallel risks to competition if privacy laws and regulations are not appropriately designed. Due to economies of scale, large incumbent companies can better bear the costs of complying with the same regulations as smaller companies and new market entrants, especially in the privacy context.<sup>17</sup> It is also important to consider that, insofar as privacy regulations function to inhibit voluntary portability of users’ data from one service to another, these regulations may cut against open, horizontal business models and indirectly favor closed, vertical models. Ensuring privacy rules are designed thoughtfully, so that requirements are scalable and context-dependent, can help promote competition and data protection goals.

## **V. Conclusion**

Antitrust and privacy actions in data-driven markets should be economically informed, so as to ensure that consumers benefit from those actions. Understanding the economic role that data plays and how it is used by companies is thus fundamental for authorities. For this reason, any action related to data-driven enterprises would benefit from expert analysis, to avoid consumer harm.

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<sup>15</sup> Anja Lambrecht, *E-Privacy Provisions and Venture Capital Investments in the EU* (Dec. 2017), available at <https://www.ceps.eu/sites/default/files/E-Privacy%20Provisions%20and%20Venture%20Capital%20Investments%20in%20the%20EU.PDF>.

<sup>16</sup> Avi Goldfarb & Catherine Tucker, *Privacy and Innovation*, *Innovation Policy and the Economy*, Vol. 12, <http://www.nber.org/chapters/c12453.pdf>.

<sup>17</sup> James Campbell, Avi Goldfarb, & Catherine Tucker, *Privacy Regulation and Market Structure*, 24 *J. ECON. & MGMT. STRATEGY* 47, 47 (2015).



**Annex:**

Per the FTC's request for empirical research regarding the topics at issue in the hearing announcement, CCIA offers the following additional resources.

- Aditya Khosla, Nityananda Jayadevaprakash, Bangpeng Yao & Li Fei-Fei, *Novel Dataset for Fine-Grained Image Categorization, First Workshop on Fine-Grained Visual Categorization (FGVC)*, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2011.
- Anja Lambrecht, *E-Privacy Provisions and Venture Capital Investments in the EU* (Dec. 2017), available at <https://www.ceps.eu/sites/default/files/E-Privacy%20Provisions%20and%20Venture%20Capital%20Investments%20in%20the%20EU.PDF>.
- Anja Lambrecht & Catherine Tucker, *Can Big Data Protect a Firm from Competition?* (December 18, 2015), <https://ssrn.com/abstract=2705530>.
- Avi Goldfarb & Catherine Tucker, *Privacy and Innovation*, Innovation Policy and the Economy, Vol. 12, <http://www.nber.org/chapters/c12453.pdf>.
- James Campbell, Avi Goldfarb, & Catherine Tucker, *Privacy Regulation and Market Structure*, 24 J. ECON. & MGMT. STRATEGY 47 (2015).
- Lesley Chiou & Catherine Tucker, *Search Engines and Data Retention: Implications for Privacy and Antitrust*, NBER Working Papers 23815, National Bureau of Economic Research, Inc. (2017).