

USE OF DATA IN DIGITAL ECONOMY CONFERENCE

2-3 October 2017

Rationale for conference

The use of data by firms as an input into production and operations across a broad array of sectors – whether in goods, services, agriculture or public institutions - appears to be growing substantially. With this in mind, the WTO secretariat organized a two-day conference on 2-3 October 2017 to bring academics, businesses, national statistical offices and international organizations together to better understand how this data is used, how it makes businesses more productive, and how to better measure and value it.

Who attended (sectors represented)

The conference on the Use of Data in the Digital Economy was attended by various academics, think tanks, businesses, business representatives, and International Organizations (please see the agenda for presenters).¹ The timing of the workshop aimed to draw on the fact that many businesses and IOs were already in Geneva for either the WTO Public Forum or for the UNCTAD Intergovernmental Group of Experts on E-commerce and the Digital Economy.

Key points from the presentations

- Data has very different properties than physical goods and it has value.
 - a. However, a lot of the value is not priced and it is not always clear where that value is acquired as the data travels across interfaces and over networks.
 - b. Data can also exist in multiple places at once and can be created anywhere (there are no geographic constraints, only infrastructure constraints). Thus while data is sometimes referred to as the new “oil” this characterization is misleading as data has many properties that are quite different from an exhaustible resource.
 - c. Data also needs to be thought of in terms of its users and “absorption capacity,” (e.g., just because the plans to build a power plant are freely available does not mean that a person has the skills to understand those plans, the means to build it, and the ability to operate a power plant).
 - d. Furthermore, data can be given value outside of the company that collects it (e.g., Flowminder looks at connectivity data from telecommunications to analyse migration, such as after a natural disaster).
- Data has changed business
 - a. Now services and maintenance are sold with products (e.g., GE sells turbines for electricity generation with guaranteed 95% ability to supply to the grid provided through GE’s monitoring services).
 - b. Furthermore, manufacturing and repair plants are now generally smaller and more numerous to be closer to customers with possible implications for trade in goods. For example, this could lead to reduced international trade flows of physical goods, but lots of cross border flows of information/data.
 - c. Trade flows might also be affected by 3D printing that reduces a product down to only a few hundred parts instead of thousands (i.e., less to theoretically transport across borders).
 - d. Even though manufacturing employment may be reduced, P&G, for instance, now has planning centres everywhere (i.e., it has more services employment).
 - e. Data can challenge the traditional hierarchy of decision-making within the firm as well as blur the boundaries of the firm.
- Big data **can lead** to: better design, better forecasting and management of the supply chain and better matching of product with consumer needs.

¹ 1Point Commerce, Amazon, BT Group, Brookings Institute, Ericsson, GE, Google, GSMA, Huawei, ICTSD, ITIF, ITU, Mastercard, Microsoft, OECD, Pernod-Ricard, Procter & Gamble, Progressive Policy Institute, Sidley-Austin LLP, Swiss E-commerce Association, Tata Consultancy Services, Telenor Group, UNCTAD, University of Geneva, University of Zurich, US International Trade Commission, Vodafone, WCO, WEF, WIPO, and the World Bank.

- a. However, data is only as good as its managers and handlers. You might have the data, but it has to be analysed and the results have to be used. You may also need additional data, external to your company's processes, to gain value from your data.
- b. In many cases, it is the company's ability to extract insights or intelligence from data that differentiates successful from unsuccessful companies.
- c. The value of data depends on the context and purpose for which it is used.

Policy concerns

- Good policy can only come from better understanding of data and its flows.
 - a. There is currently "zero sum" thinking within governments (i.e., only one government can have any given data). However, data's inherent replicability means this way of thinking is incorrect. One person, or one group's, use of the data does not prevent others' use of the same data. This is one important way data is different than oil which is a finite natural resource.
 - b. The categorization of businesses may not be well adapted to the digital age (e.g., telecommunication companies that now operate like an internet provider, are still regulated as telecommunications).
 - c. Governments also struggle to generate tax revenue (or other income) from the new economy.
- Data might require a re-think within the Balance of Payments Framework – the traditional data organizing framework for international economic data collection.
 - a. The fact that data can exist in multiple places at once means standard accounting is more challenging.
 - b. Things that generate data (e.g., jet engines, locomotives, etc.) are themselves moving across borders. Where does the data originate? What nation can claim it?
- Localization is a real problem and can lead to duplicative efforts by firms.
 - a. There are security gains from the cloud that cannot be matched by a physical location. Cloud storage can increase security through redundancy (frequently copies of the data are stored on multiple servers in different locations); limited, password-protected access; and lastly permission for direct viewing and editing by third parties, rather than information that is copied and sent over unsecured networks. Ultimately, the physical location of the data is less important than controlling how it is accessed.
 - b. Often the flow of data is more efficiently managed within hub-and-spoke arrangements which could be hampered by data localization requirements.
 - c. Further, within-company data transfer and B2B restrictions are similar to putting export restraints on companies.
 - d. Data localization can adversely impact inclusiveness as the restriction might make it difficult for firms to offer the same quality of services to their marginal or less-served customers as to their best customers.
- Concerning trade regulation specifically, the TPP is a model of a recent trade agreement that attempted to address data/trade restrictions. However, given varying national privacy approaches, trade regulation of data flows remains outstanding.
- Given that telecommunications services are an essential piece of the digital economy's ecosystem, telecoms chapters in particular should be reviewed and made more robust (e.g., GATS+ and TPP+), within all agreements to ensure competition.
- Approaches to data protection differ across the globe. There is the European norm represented by the General Data Protection Regulation (GDPR) to be enforced beginning 25 May 2018, in which personal data is owned by the humans that produce it. In the U.S.-approach, data is owned by the collector of that data. Lastly, APEC has a model Privacy Framework that tries to make different privacy approaches interoperable.
 - a. GDPR specifies 6 subject rights
 - i. Breach notification
 - ii. Right to access (right by the subject to receive a confirmation that their data is being used)
 - iii. Right to be forgotten
 - iv. Data portability (right for a subject to receive their own data and submit it to another entity)
 - v. Privacy by design

- vi. Data protection officers (only certain firms will now be required to submit internal records for review by DPOs)
 - b. Most companies are gradually following GDPR. However, there is concern about its implementation (27 EU members all with different strategies).
 - c. Privacy policy should differentiate between whether data are machine-generated for industrial processes (such as sensor data) or whether they are generated by, or for, humans and have personally identifiable information (this would include machine-generated data such as that from smart home applications). In other words, the above distinction is what matters more for privacy, rather than whether data are generated by B2B or B2C transactions.
 - d. In general, the biggest challenge faced by companies to follow privacy regulations is the cost of compliance, albeit with company recognition of the value to customers and the improved user experience such privacy provides.
- 5G, which will drastically increase mobile data transfer speeds, will be a big development, but spectrum frequency bands are needed from governments.
 - Further, the issue of "the last mile" for connectivity remains. In this context, it is vital that WTO members live up to their commitments in the WTO Telecommunications Reference Paper.
 - There is also a need to bring developing countries into the mix. To come to an agreement on privacy rules and the free movement of data, developing country support is needed. However, 60% of people, mostly in the developing world, remain unconnected. In order for interests to align, efforts should be made to increase access to digital networks throughout the world.

Ideas for the role of the WTO

- Act as a forum for international discussions on data flows and sharing.
- Provide more education and research to Members.
- The GATS has the elements to protect cross-border data flows, however it requires Member commitments.² From this, the WTO could provide the framework to make different privacy requirements interoperable across jurisdictions.
- Create an Information Technology Agreement (ITA) equivalent for data (an agreement facilitating the movement of data).

Way forward

- The conference has been valuable in establishing the importance of data to today's business and a common interest among the participants to continue collaborating on the subject.
- One suggested collaboration was to include a digital dimension to the TiVA database so as to capture the importance of data or digital information to the global economy.
- Another suggestion made was to use some members of the Friends of E-commerce group as subjects for an operational experiment to demonstrate the benefits of e-commerce and/or the digital economy.
- One important research need is to demonstrate empirically that constraining data is deleterious.
 - Also need to show how hard it is to estimate the true cost of data constraints (e.g., even self-imposed data localization can lead to unintended costs, such as software incompatibility and security problems).
- Need to continue work to measure data and the productivity gains it makes possible.
- Studies to model the benefits of raising de minimis thresholds are needed to understand its effects given the increase in low-value shipments through e-commerce.
- An industry that has successfully used data to improve efficiency and productivity is wind power generation. This could provide a useful case study.

² <http://e15initiative.org/wp-content/uploads/2015/09/E15-Policy-Brief-Crosby-Final.pdf>