The economics of data

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Valuations

Market capitalisation	2017	2007
1	Apple	Exxon Mobil
2	Google	General Electric
3	Microsoft	Microsoft
4	Amazon	Royal Dutch Shell
5	Facebook	AT&T
6	Berkshire Hathaway	Citigroup
7	Exxon Mobil	Gazprom

Value of data

☞ The value of data to a user has a precise economic meaning.

☞ It you were ready to buy a car for 20K Euros and are told that another dealer sells it for 19KEuros, the value of the information is 1000 Euros.

☞ This is the ex-post value, once you know the information.

☞ You generally have to make a decision to acquire info before you know what it will tell you, but the principle is the same.

☞ How does the value of data change with the amount of data?

☞ How much does artificial intelligence increase the value of data?

Difficulty: public good aspects

☞ Once data has been created, usage is not by nature exclusive (non rival uses)

☞ Ex-post, it is efficient to share it as much as possible.

☞ But what about incentives to produce it?

Exchanging data

☞ Selling data is subject to "adverse selection" on both sides of the market.

☞ The market value of data depends on substitutes/complements.

☞ This creates great difficulty for people who say that the informational assets of a firm should be included in its balance sheet.

Role of data

Personal data contributed to incumbent by client

☞ create competitive disadvantage for entrants?

➥ More efficient production.

Google is drawing on its long experience in search and personalisation to improve its Assistant.

"We've trained it as only Google could, with 50m voice samples from hundreds of different ambient environments," said Rishi Chandra, general manager of Home, as

Role of data

Personal data contributed to incumbent by client

☞ create competitive disadvantage for entrants?
- ➥ More efficient production.
- ➥ Personalized services
- ➥ Increase switching costs of consumers

☞ Should there be compulsory sharing of data?
- ➥ OTAs and airlines.

& adverse selection — "let go" worse clients.

Extra difficulty: no clean separation between

☞ data provided by clients

& the IP of the firms who have collected the data.

> WhatsApp - Facebook merger.

IoT and the ownership of data

☞ IoT means lots of data.

☞ Is there scope for government intervention in the allocation of property rights to this data?

☞ Example 1: connected car.

☞ Example 2: machine tool.

☞ Example 3: tractors.

Organizing the exchange of data

☞ Sometimes difficult to explain the nature of data without showing it.

☞ Although there are few explicit data markets, data is often sold/exchanged:

➥ advertising bundles information with display;
➥ "API economy".

☞ Finding where the data is.

☞ How should access be priced?