

How much is our data worth?

For companies, data is a raw material at the origin of value creation. It is a lever for optimising resources. The question of how much this material is worth is something that has not been adequately discussed in academic economic literature to date. It involves striking the right balance between the protection of personal data and the use of this same data for innovation and for the purpose of adding value to the services offered by the platform.

A value still poorly understood

Abiteboul and Peugeot (2017) differentiated between data that was the result of a company's investment, like a catalogue of products offered by a company, from the data produced by its customers and users as a result of the services offered. This data is co-produced between a platform and its users.

The value of personal data often equates to the advertising revenue it generates. The table below shows the amount of advertising revenue generated from various media in France in 2017. The market is largely dominated by the Internet, and if the growth rates for 2016-2017 continue at the same pace, this domination is likely to increase further.

Media advertising revenues, France

	2017 market in €m	Growth 2016-17
Internet	4,094	12%
TV	3,286	1%
Press	2,116	-7.4%
Display boards	1,180	-2%
Radio	694	-2.6%
Cinema	95	8.6%

Source IREP

Ángel and Rubén Cuevas and J. Gonzales (2017) quantify the advertising value of a profile according to the time spent on Facebook and show that even without ever clicking on a sponsored link, Facebook still generates value from a profile. But data valuation is not just about advertising: Amazon prices are optimised based on its shoppers and the data it collects about them. This makes it possible to increase sales volumes.

The temptation for companies to store a large amount of data is great, especially since storage costs are relatively low. In doing so, they hope to reap a range of benefits. Firstly, using data wisely can improve company efficiency and possibly reduce costs. For example, it can help identify opportunities to improve work processes. The second benefit is on the demand side: acquiring a better knowledge of customers allows companies to tailor the goods and services they provide and to send targeted information or advertising materials. We must add to that the development of a whole data market: collection, storage, analysis.

A third benefit consists of the individualisation of, what has been called up until now, collective services; this relates to the whole field of insurance and raises both ethical and government policy questions. It should also be added that some individual data, when processed on a large scale and anonymously, becomes public goods: this is the case with healthcare data that opens up the way to major discoveries in therapeutic treatments.

A fourth benefit is the use of data by a third party for a purpose other than what was intended by the original company. For example, a telecoms operator collecting location data and offering it to a transport or tourism company.

GDPR and the value of data

A number of services are free of charge on the Internet. This results in two-sided markets which have been widely analysed by economists since the working papers published by Rochet and Tirole (2003). Data monetisation makes it possible to build economic models when the services offered are free or the cost very low.

It is very tempting for consumers to make a judgement about accepting that their data be used for advertising purposes and accepting something for free. This is often referred to as the voluntary servitude hypothesis.

It raises several questions: the first being the lack of knowledge of what data platforms actually collect. It can be assumed that this knowledge is made even weaker by the fact that the general terms of use for these platforms are often unclear and a daunting read. For users,

the cost of the information they provide seems to far outweigh the benefits they receive in return. Secondly, there is a lack of awareness of the actual price paid for something when it is understood to be 'free': most notably an onslaught of advertising materials.

In all the cases mentioned above, the question of personal data protection arises. GDPR (General Data Protection Regulation) has just been implemented in France and in other European countries. What will this new regulation mean? The text specifies the framework within which companies will be able to use the personal data in their possession (whether that be of their employees, their customers, or their suppliers). Any serious breach of the rules may result in a fine of up to 20 million Euros or 4% of the company's global turnover. It is hoped this fine will act as a deterrent for organisations.

In economic terms, the regulation poses at least two sets of questions: the first relates to its enforcement costs. In fact, as a result of the new GDPR regulations, a real market has developed to provide compliance services to businesses. The second is the balance between the protection of privacy and the development of innovations and services whose economic model is largely dependent on data valuation.

The conflict between data protection and data usage is particularly strong in the field of healthcare: if mass data make it possible to better regulate prevention, detection and care mechanisms employed by public or private bodies, the risk of reverting to information about individuals ('de-anonymisation') cannot be eliminated.

The value of mass data is considerable; according to Abiteboul and Peugeot - op. cit - there were 5,000 e-health start-ups in the United States in 2016. But the valuation of this data raises regulation questions and requires careful monitoring if we are to prevent stifling innovation.