

Talking point

In our data industry we are not the miner but rather part of the mine!

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As one possible way of reacting to the loss of our data sovereignty, efforts should be taken to launch education campaigns without delay (ideally on an international basis). This can help to establish greater internet and media expertise among the population at large in the medium to long run. Furthermore, an international legal framework would be desirable in order to regulate the use of data and algorithm-based technologies as well as limiting lax data-collection practices.

Imagine the following scenario: “You wake up refreshed because your mattress contains a sensor that monitors your sleep pattern and ensures that you are not in a deep sleep phase when it wakes you up. [...]. Temperature, humidity, music and lighting can be regulated using simple hand movements and spoken commands. On a transparent display you can browse through the daily news while your automated wardrobe provides you with a freshly ironed suit because an important appointment is marked in your diary for today. As you make your way to breakfast in the kitchen the transparent display floats right in front of you as a hologram, steered via motion detectors mounted in the walls.”

This is not a scene from a Hollywood blockbuster, nor over-the-top science fiction. It is an excerpt from *The New Digital Age*, a book published in 2013 that was written by Google CEO Eric Schmidt and the head of the Google Ideas department, Jared Cohen, who was an advisor to the US government until 2010. The book describes scenarios with internet-based technologies that already exist but have not yet become established in the mainstream.

The above-mentioned objects will be smart thanks to their programmability, storage capacity, sensors and ability to communicate, and they will be capable of autonomously performing internet-based and wireless information transfer, amongst others. Shared communication allows the initiation of scores of actions as well as reciprocal control. The objects linked to the internet also act as physical access points to additional online services. The discussion about these technologies is conducted under the banner of “the internet of things”; and many service providers and industries are focused on tapping their potential for smart automation and standardisation. This trend is being driven by, among others, the merging of technologies, the increased, progressively cheaper use of sensors, biometric recognition software and self-learning algorithms as well as the constant adaptation of our media usage and consumption behaviour to the march of technology.

Many people continue to underestimate the impact of the internet with all its welcome efficiency-boosting and productivity-enhancing technological achievements. After all, in our data economy the way that algorithm-based analyses are utilised in future will fundamentally and permanently alter our concept of data usage, our ways of interacting with one another and also our future approach to value creation in many aspects of our lives and work. The negative macroeconomic repercussions triggered by the disproportionate data collection activities of various operators in the private and public sectors are also being underestimated. Anyone who feels observed will no longer act authentically. The daily reports of new data misuse cases will incrementally affect our online behaviour over the medium to long term. Even though many consumers are quite willing to make their personal data (freely) available to various companies in return for marginal price discounts or rebates, we will become more cautious and wary in our day-to-day relations with one another, especially in digital channels. This can have a negative impact on the innovation performance of an economy.

Differing desires from various directions

The growing volume of data collected will increasingly become an essential macroeconomic factor of production harbouring comparative advantages. The use of personal data in particular has an economic value and gives rise to differing desires among many market players. It is primarily the goldrush mania in Germany's data industry that

is fuelling many people's hopes that professional and comprehensive customer profiles will deliver rising revenues. However, creating a better database for scientific and business forecasting may be another motive.

Many advanced internet services undoubtedly boost our everyday efficiency, productivity and convenience. However, despite all the positive aspects of these technologies we should not disregard their potential downsides. After all, using these services does not come free of charge. Although we seldom have to hand over money for them, they are paid for via the voluntary disclosure of our personal data in digital form. The danger lurking here – due to the absence of a legal framework – is that primary data sets collected once can be used for a variety of purposes and be evaluated countless times for a variety of clients. True, the data thereby proves to be a source of innovation, creativity and “out-of-the-box thinking”, on the one hand, and ideally culminates in new business ideas, processes, products or services. On the other hand, it can and will, however, give rise to concerns and fears because personal data sovereignty can quickly be lost.

The risks accompanying the increasing data collection activities, such as the loss of informational self-determination, are frequently glossed over. Great expectations are being placed especially in the self-learning algorithms to reduce complexity or to generate predictability analyses. Underlying interests, power relations, ethical and moral aspects, control, rights and obligations are often of only secondary importance, if at all.

We have become the traded good

As things stand today, the convenience aspect is anchored more firmly in people's minds (unfortunately) than is the need for data security and greater data sovereignty. Even though the data sovereignty scales are already tipped much too far in the wrong direction, consumers and the public at large should not be underestimated. It will only be a matter of time before we all realise that we ourselves have become traded goods, that during the current goldrush we merely serve as a (gold) mine and supplier of raw material. Many people already notice that they constantly have to fight against opaque structures, that they no longer have control over the security of the systems available, over potential access to or deletion of their personal data. This insight will continue to spread, and it could reach critical mass if more and more people are excluded from access to diverse services, or discriminated against, by data collecting companies because, perhaps, the underlying alleged data profile determined by opaque means fails to dovetail with the firm's philosophy.

Reduce legal uncertainty and launch education campaigns

Commercially, there may already be a basis for the big data debate. Now, however, what needs to be done is to discuss the key aspects of data protection concerning fundamental rights and personal freedom and the potentially competition-distorting effects of a few internet firms' activities. An isolated national internet policy can hardly be the answer to the increasing legal uncertainty being caused by the use of advanced internet technologies and self-learning algorithm-based analytical methods. The required legislation – at the very least at the European level (and ideally internationally) – must put a stop to overly lax handling of personal data.

Advanced technologies and analytical methods will only be able to develop optimally if they are beneficially integrated into people's daily routines without the infringement of personal freedoms, the incidence of discrimination or tampering or an increase in the public's fear of participating in virtual spaces. So in future success will come to those online providers who can convince clients credibly and sustainably that in particular their (personal) data will neither be sold to third parties nor used for other non-business purposes.

In parallel, an education campaign with as international a basis as possible will ensure that young people can gather appropriate internet and media expertise in order to deal (more) confidently with situations in (future) aspects of their lives and work and have an enlightened understanding of their own data sovereignty. Only in this way will it be possible for today's more or less “data-volunteering” citizens to turn into enlightened, data-conscious ones; citizens who can decide with aplomb and with sufficient legal protection about who may evaluate their personal data in what way, for what purpose and how often. This is the only way we can stop being a part of the mine. At that juncture, we will also be able to monetise our personal data as we ourselves see fit and on our own account.

Details about the opportunities and risks of “Big Data” can be found here:

Big Data – the untamed force

Fintech reloaded – Traditional banks as digital ecosystems: With proven walled garden strategies into the future

Fintech – The digital (r)evolution in the financial sector: Algorithm-based banking with the human touch

On the record ... Prof. Dr. Stefan Wrobel on the significance of big data, opportunities, risks and future challenges

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