

Internet of Things, consumers and the public interest



*What is the 'Internet of Things' and what are some of the challenges it poses? **Claire Milne**, Visiting Senior Fellow at LSE's Department of Media and Communications, explores the issue, arguing that the views of citizens and consumers need to be placed at the heart of the debate.*

Much excitement is being generated around the so-called Internet of Things (IoT) – the growing network of intercommunicating sensors, actuators and smart devices, nicely summarised in this [infographic](#).

Conferences, trade shows, media releases, forecasts of scores of billions of connected devices, contribute to making this seem a really positive development which will boost the world economy while moderating environmental disasters. Many countries and blocs are vying for a sizeable share of what looks like an enormous cake – more on this in a future blog post.

But there is also some recognition of challenges and even problems to sort out on the way to realising this vision. In particular, numerous security failures and vulnerabilities have been publicised, such as in the [case of Samsung's SmartThings](#) (ironically, a home security system). And market research highlights consumers' growing concerns about "smart" gadgets putting their personal data at risk, to the extent that [privacy and trust](#) are being recognised as important parts of sales propositions. A report for the European Parliament on [Big Data and Smart Devices](#) pointed to fundamental difficulties in squaring the opacity of technologies like IoT with citizens' digital rights.

Two recent reports, [Home, tweet home](#) from the Australian Communications Consumer Action Network (ACCAN) and [Connection and Protection in the Digital Age](#) from Consumers International (CI) now draw attention to a much wider range of potential concerns for consumers. The CI report highlights lack of transparency and complex liability chains as other existing issues which IoT will intensify. It goes on to identify new issues, of lock-in caused by limited interoperability or data portability: people may find that having bought one device from a company, they have no choice over future purchases if they want new and old to work together. Most significantly, it discusses ["the erosion of ownership"](#) with hybrid products, where hardware is driven by remotely controllable software, underlining conflicts between intellectual property and consumer protection laws.

The ACCAN report raises these issues. It also discusses issues around accessibility for people with disabilities, who could benefit enormously from technology that can, for example, effectively "see" or "hear" on their behalf. It also points to potential problems of affordability, with particular reference to personalised insurance premiums – where individuals who show "high risk" characteristics are charged more.

A group of consumer representatives, most of them members of the [Consumer Forum for Communications](#), discussed these and related issues at a recent meeting at the LSE. Points emerging from the discussion included:

- No clear line can be drawn around the "Internet of Things", for example to distinguish it from [big data](#) and analysis algorithms. In fact the consumer perspective is more easily understood if IoT and Big Data analysis are considered together.
- Nor are there clear lines separating "consumer" issues from "citizen" issues. Sometimes we pay directly for public services, such as healthcare or traffic management; otherwise we pay for them indirectly through taxes. Either way, we clearly consume the services; commonly we are affected by other people's decisions about them. And many people will have no choice but to be sucked in to [being](#)

“**smart city**” participants, for example, when simply walking along a street after dark can turn on street lights and record the event.

- Consumers’ interests and the public interest can conflict; for example, an individual may not want data on his driving behaviour to be shared with the police, but this could save his or someone else’s life. Public debate is needed to arrive at socially acceptable solutions to this type of dilemma – it is not good enough to leave it to market forces, the current *de facto* position. Public interest matters have to balance the rights and wishes of the individual with what contributes significantly to the public good. Much improved governance is needed, with systems that address both perspectives.
- The usual remedy for consumer problems, transparency (enabling *caveat emptor*), is inadequate in the digital world. Real people don’t, and can’t be expected to, read and understand voluminous terms and conditions before an initial purchase decision, let alone keep up with these changing during the product’s life.
- As mentioned above, IoT could be a godsend for people with disabilities, but with it come risks to their autonomy and their safety, as well as deeper exclusion for those who can’t access the technology because it was not designed to be accessible to people with disabilities.
- Default (factory) settings on devices, and the options open to consumers who care and know how to change the defaults, will be hugely influential – many if not most people will not change from the defaults.
- Guiding IoT developments in positive directions for society will need consumer/citizen representatives to engage at different levels – in setting policies and principles, and in practical implementation and compliance monitoring. Some think new laws will be needed, which inevitably will take time. Certainly, new standards, new soft law and new guidelines will be needed. In many cases, public interest elements deserve both open debate and specialist input.

In the UK, Consumer Futures (now part of **Citizens Advice**) worked with government and the energy sector on **smart meter policy** and settings. Their statutory funding from the energy sector enabled them to help with balancing the public and private interests involved. This was a good foundation for future work squaring public issues of energy supply with private purchases of energy; generation, management and storage equipment are making such work ever more complex. If our societies are to make the best use of IoT, ways must be found to enable the public interest to be taken into account with consumer/citizen participation in decision-making processes, large and small.

This blog gives the views of the author and does not represent the position of the LSE Media Policy Project blog, nor of the London School of Economics and Political Science.

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