Future Trends Working Group

Future Trends Volume 8:
The future of data

Introduction

With advertisers paying a premium for targeted advertising, why shouldn't the enablers of this targeting (ie people) also benefit from this premium? Why shouldn't people who are sharing data from their smart toothbrushes benefit in the same way that healthcare organisations and medical insurers can from this information. As Ben Walton from Initiative points out in the opening chapter of this paper, with the increase in the volume and value of data there is potential for consumers to monetise the data creation process and cites examples of new businesses that are exploring this new commercial model.

In chapter 2, Anthony Mayfield reports back from a Cryptoparty where he found out more about how people encrypt their online data in the wake of the Snowden affair. The idea of locking down personal data online currently seems niche and the instruments to achieve it are clunky, but what might happen if someone invents a user friendly killer app to enable true anonymity online? Can brands learn from this potential danger and will using data more responsibly be the best way to avoid this potentially damaging data doomsday?

With predictions of 50 billion connected devices by 2020, Tej Rekhi looks at the consequences of the internet of things in chapter 3 and explores what smart cities might look like when city administrators have the ability to join together all the data points to enable more efficient and environmental urban centres. This joined up data also offers opportunities to advertisers. But at what costs and how might consumers react to the minutiae of their lives being used to generate data for third parties?

But what does 'big data' mean for the retail sector? In this paper's final chapter, Josie Watson of the Future Foundation looks at the opportunities around optimising retail experiences and tailoring in-store offers based on previous browsing behaviour. The barriers to this deployment of big data, or joined up information, are of course concerns around privacy and the extent to which people really want to stand out in a crowd, with consumer data suggesting that people do want to stand out, but not too much!

One of the over-arching themes that all contributors highlight is the need for the potential applications of data to be tempered with sensitivity regarding the use of people's personal information. The advantages of the use of joined up information seem clear but will they be compelling enough for people to loosen their grip on their personal information? The IAB believes that consumer trust is central to this debate and it is important that the laws governing the collection and use of data are balanced to enable such innovative approaches. Businesses may need to adopt a careful trial and error approach under which the extent to which consumers will share their information is tested and the tangible advantages (warmer homes and more efficient cities) are showcased.

Tim Elkington
Director of Research & Strategy
IAB UK

Contents

The future of data collection

Ben Walton, Head of Digital, London, Initiative, looks at the future of data collection and the value exchange and wonders if people monetise their own data.

As we move into a world of hyper connectivity, driven by cheaper devices, faster processing speeds, the growth of wearable tech and the development of the 'internet of things' there is a greater connection to the world around us.

The capability of new digital technologies has led to the collection, storage and trading of personal data on an unprecedented scale, and largely undetectable to consumers. Moreover, as the world and how we interact with it gets smarter, questions around privacy, ownership of data and who does what with it gets increasingly ambiguous.

Take the smart toothbrush that was launched at Mobile World Congress. For example, the smart toothbrush can collect data on how often, how long and how hard you brush your teeth for. It's valuable because that data could be directed to your dentist, so when you go for your regular check ups your dentist can advise you accordingly in order to maintain your healthy teeth.

What happens when that data is then shared with retailers like Tesco who could then use the data to send personalised offers when your toothbrush is likely to need replacing. That might be beneficial for some but intrusive for others. Take that one stage further and imagine if insurance companies were to start to use this data to decide whether they pay or don't pay out for your dental care because they know you haven't been looking after your teeth properly. For most, this is probably a step too far.

The potential value of this data to companies has transformed privacy into a transaction, which consumers don't always benefit from. Currently, the transfer of data between consumers and companies can be one-sided and consumers have little power and less control. Significant revenues can be made off the back of people sharing their data and this is only going to increase as more data is generated.

According to entrepreneur Claudio Gandelman, "The users who create and share much of the content that sites use to advertise against - that is, the people that provide all the data for the targeted ads that make these sites so profitable - never make anything. The next logical step is for the people to get paid."

There are a few companies that have been set up to take advantage of this next stage of data. Startup Teckler, which launched in May, works differently. On the surface it's a social media site for sharing and discovering text, audio, photos, or video. But unlike a normal social network, which sells ads and data and keeps the cash, Teckler splits all its data-derived revenue 70-30 with users.

Reputation.com, initially founded as a way for people and businesses to scrub their online reputations, allows users to share selected tidbits of personal information - your income, or the make and model of your car - in exchange for perks, like discount offers or loyalty memberships.

Finally, a Swedish company called Flattr has been using a system of micropayments, allowing people to be rewarded for providing useful information either through self-expression or just in the course of daily

interactions – simply rewarding people for what they do and share on the web. That is, if users ever realize the true value of the assets they've sunk into Facebook and Twitter.

The intelligent use of data will become one of the biggest competitive advantages a company can have in the future. At the same time, the loss of customer data is one of the bigger risks. As consumers become more aware of security issues, and of the value of their data, privacy is increasingly important to a company's wider reputation. By giving consumers more control about what and how that data is used then they are more likely to gain consumer trust.

Ain't no party like a cryptoparty

Antony Mayfield, CEO & Founding Partner at Brilliant Noise, reports back from the fringes of the internet and wonders if consumers will start hiding from brands online.

Last month I saw a warning from the near future for brands.

I was at something called a [Cryptoparty](#), one of hundreds happening every month around the world where activists teach ordinary people how to lock down their personal data online and avoid the perceived twin evils of Big Brother and big brands. A nice man called Chris quickly taught me how to encrypt my email, web browsing and instant messaging.

In 2008 the founder of Facebook predicted that the amount of information people shared online would double every year. [Zuckerberg's Law](#) as it was inevitably named, was part of the spirit of openness and increasing transparency that had been sweeping through the web and our personal lives since the first glimmerings of social media as mass media took hold in the early Noughties.

That wave may now be breaking with some violence on the rocks of the [Snowden](#) revelations of mass surveillance by the US and its allies, along with the clumsy efforts of governments and corporations to take advantage of the big data bonanza to peer into the lives of citizens and consumers.

Marketers have been lazy and clumsy in their use of customer data to date. Even floating the idea for this article met with indifference and denial from some peers - consumers couldn't give a fig about privacy, is the gist of some individuals' feelings on the matter.

Things move fast on the web, however, and soon enough [Martin Sorrell was telling Ad Week Europe](#) that the Snowden scandal was going to hit brands harder than they thought and that "people are underestimating its significance among consumers."

At the Cryptoparty, I learned that there are a mass of apps and services you can use securely, but as soon as I try them a big downside becomes clear. They are slow, clunky and lack the features of free services like those from Google, Microsoft and Apple, for instance. I point this out to Chris.

"People think my machine is broken when try it," he admits cheerfully, "But it's just very secure."

Where I see a frustrating user experience, though, I'm sure others will see a massive market opportunity. Just as Google gave people search that worked in the late 90s, you can be sure that today someone - probably several people - is working on a way to give people web mail, browsing and search that will work but won't give away their personal data.

That would mean that brands are one hot start-up away from their consumers becoming invisible online.

What can brands do to avoid the fate of consumers pulling up the data drawbridges and shutting the doors on valuable interactions and touch-points with them online?

Last word to [Sir Martin](#): "We want to be more respectful of privacy and also want to monetise our audiences our way. Being more focused on privacy is not bad for business, it can be good."

From smart cities to smart shopping

Tej Rekhi, Director of Product Innovation at Sizmek, explores the human impact of big data and argues that having the ability to track consumers across devices will provide the data needed to complete the evolution from smart cities to smart shopper.

There's a revolution occurring in how our urban spaces are managed but it is less about the parks, roads, and apartments and more about an explosion of digital technology and data.

With the dropping costs of storage and the proliferation of smart devices with the internet of things, everything is programmable and can share digital data. There are already twice as many "things" connected on the internet than people. And by 2020, this is set to rise to 50 billion connected devices, according to Cisco.

This technology can be used by councils to identify busy routes and redirect traffic, capture images of damage to public buildings, monitor playgrounds and be informed when the recycling bins need to be emptied. In the future governments can provide e-health, e-education, and e-government services, reducing the need for government staff, reducing drastically the amount of paper consumed, while ensuring the right people receive the most relevant information when they need it most.

Smart citizens

This technology can also be used to provide other services in the home, initially to conserve energy and eventually to offer targeted products and services.

Residents can be notified when they are close to exceeding recommended consumption levels of water and electricity, and devices at home can be switched on and off based on when residents are home to save heating costs. Predictive analytics can anticipate residents' needs in advance and synchronize all the associated devices and services. For example, gas deliveries can be made before canisters empty.

There is also the opportunity to enable commuters to come home to a warm house, with the coffee machine ready to go, the outdoor entrance already lit, and the TV turned on. To take the concept a step further, all this information from commuting habits, how much residents exercise, and if they have pets can be used to have a much deeper understanding of their habits so that promotions they receive on their smart phones, tablets, or smart TVs are timely and related to their interests.

Information will be collected along each stage of the purchase funnel, including when consumers shop on the desktop, do price comparisons on the tablet and when they make purchases using their credit card at the shopping mall. By combining offline and online data, advertisers have a complete picture of consumers' purchases enabling them to promote products more intelligently so offers are less like spam and more like helpful recommendations. With more data, advertisers can be more creative about the ads and how they are served, making the promotions more interesting and engaging.

For example, by providing advertisers a complete data set from smart devices, travellers won't be offered a plane ticket to Paris after they've already bought one through their travel agent, but instead they can receive recommendations for a local GPS system, or a SIM card to place calls overseas.

There will no longer be distinctions made between traditional media, mobile devices and laptops. Everything will be digital and media will appear wherever and whenever it has the most relevance. There will be a transition towards smart advertising and as a result smarter shoppers.

Barriers to data sharing

In order for all this data to be aggregated, analyzed and shared there needs to be a common form for sending, receiving and storing data to glean insights. A group of 23 companies, the AllSeen Alliance, has pledged to use the code underlying Qualcomm's AllJoyn protocol to help get this process started. The consumer brands that have signed up include LG, Sharp, Haier, Panasonic and Sears Brand Management Corporation.

There are also many privacy issues for residents and consumers. There needs to be a way to have aggregate data without personal identifying information that meets EU standards, that works across devices and all touch points with consumers.

In addition to privacy issues, there is the danger that data collected by a sensor in the home, in the field or in a smartphone can be compromised. A recent survey by SSH Communications Security and Forrester Consulting found the rise of M2M connections in data centres across most industries has far outstripped the ability of organizations to secure them.

Proofpoint - a security service vendor that routinely researches large-scale spam and phishing campaigns - discovered that last January hackers successfully targeted and manipulated more than 100,000 consumer gadgets including smart appliances and routers in order to send out more than 750,000 malicious emails.

Pieces coming together

These projects are currently in the experimentation stage, and expectations are that with experience new applications will become apparent. With feedback mechanisms to benefit from lessons learned, smart technology will continue to evolve to increase the value it provides to residents. The strength of the business case will continue to push the envelope for technology innovation.

Once there are sufficient security safeguards, data ownership guidelines, and standards for data sharing, the internet of things, can become a pervasive part of our day to day life enabling technology to anticipate consumers' needs and improve the quality of the services they receive. In time, having the ability to track consumers no matter which device they use will provide the data needed to complete the evolution from smart cities to smart shopper.

The promise of Big Data

Josie Watson, Marketing Manager at Future Foundation, examines the impact of Big Data on retail and argues that it offers great benefits for both brand and consumer.

Deeper knowledge; greater insights; risk-free product development – these are just some of the claims of a Big Data age. But in retail, where human nature, crowd-determined decisions, and the sublime pull of *desire* all throw unpredictability into the path to purchase, can we really expect to unravel the forces at work on individuals? More to the point, how can we use Big Data to approach shoppers with the love and respect to which they respond?

Big Data might offer huge gain; but does it also stifle the creativity and serendipity that make brands wonderful, and that make shopping a thrill? On these points, we are yet to see.

What Big Data actually means for retail

1. Modelling the retail space

First of all, Big Data promises to better our understanding of how retail space is actually used. Companies like Shoppertrak suggest a future in which high-tech sensors forensically monitor stores, capturing countless data points drawn from mobile and video analytics that collectively reveal a great deal. Hot spots in stores, the demographic spread of customers, queuing times, how solitary shoppers differ from those in groups, where store staff are bothering to engage shoppers…

All of this, it is claimed, can inform tactical decision-making in individual stores. One of Big Data's first battle grounds covers something that we certainly can model: the behaviour of people in physical spaces.

We can now know, in other words, where people are likely to walk and what they are likely to look at. We can build new design rules to accommodate a more mathematical understanding of where people's feet take them; a subsequent – much bigger – challenge for Big Data is using that data in real time to address people in a one-to-one manner.

2. Personalising the shopping process

Using a mobile phone for in-store price comparisons

Thinking about shopping on the high street or in a supermarket, which of the following have you ever done? | % who have used their mobile phone to compare prices whilst in-store to check if they could buy an item more cheaply elsewhere
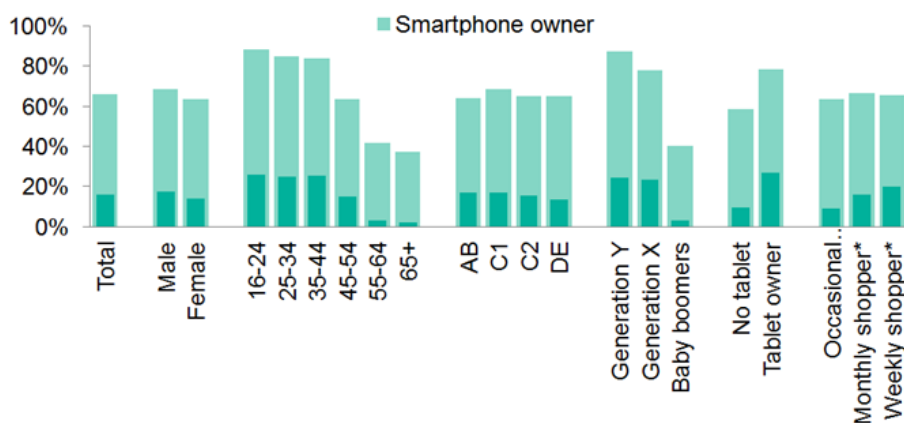
Source: nVision Research | Base: 1,000 online respondents aged 16+, GB, 2013

Perhaps one of the biggest claims made of Big Data is a future in which mass commercial messages are progressively replaced by unique and personally relevant ones – a holy grail for marketers. Personalised messaging has proved itself on the web; but the web has also made its limitations clear – consumers are likely to recoil at any uncanny intrusions into their privacy.

3. **New ways of branding**

Outdoor advertising space is already playing host to a number of innovative instalments that hint at how Big Data can completely transform the branding process.

British Airways has been (literally) turning heads with its Lookup campaign – a digital billboard in central London that cleverly responds to BA flights passing overhead. In a similar vein, Pepsi has turned a London bus shelter into an augmented-reality optical illusion: passersby are surprised to find the street ahead of them turned into an apocalyptic scene.

What does this all mean?

Big Data claims it will have a substantial impact not only on the physical retail space, but also on our ability to deliver real-time messages at point-of-sale and to engage shoppers with super-human personal service.

But we should be careful what we wish for. We must question the extent to which consumers *want* to be treated differently. Our research in this area shows that people want to be *just that bit different* rather than making themselves stand out from the crowd; how can Big Data negotiate this long term consumer motive?

Feeling the need to be a bit different from others – long-term trend

Those who strongly or moderately feel the need "to be just that bit different from others in the way I express myself"
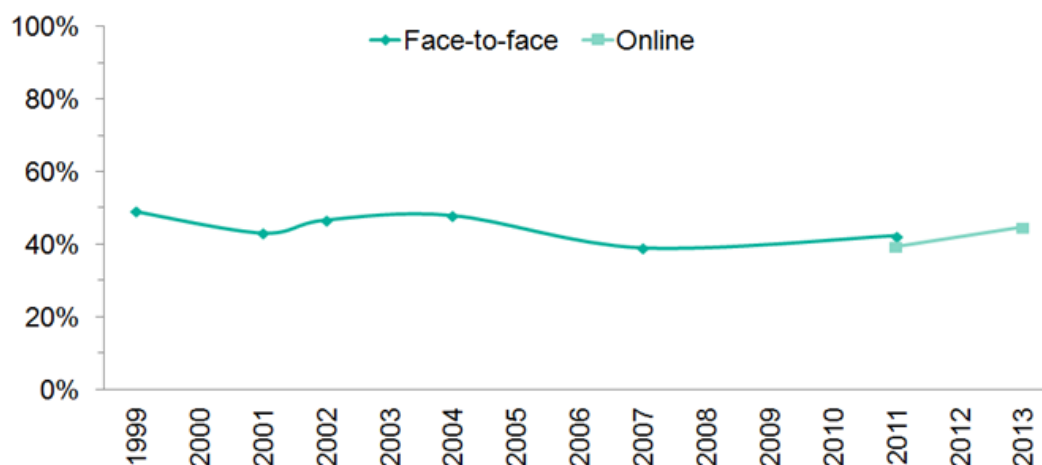
Source: nVision Research | Base: 1,000 (F2F)-5,000 (online) respondents aged 16+, GB, 2013

Finally, there are of course foreseeable barriers to this future coming to pass. Concerns about the security of personal information being shared along the high street will surely be an issue. And many of us will likely prefer our personal devices not to betray our preferences and our presence to commercial interests.

The technological promise is great; though significant barriers remain, let's hope that propitious use of Big Data means great benefit for both brand and consumer.