

Big Data, big opportunity

IN THIS FAST EMERGING BIG DATA AGE, OPERATORS NEED TO WAKE UP TO THE TRUE VALUE OF THE KNOWLEDGE THEY HAVE ABOUT THEIR CUSTOMERS, WRITES ANDREW EATWELL

Telecommunications service providers probably know their customers better than any other industry after banking.

They know where their subscribers live, who they call, what websites they visit and the games they play, they even know how long it takes them to commute to work each morning. It's a

treasure trove of information on anyone who owns a phone that the Googles and Facebooks of this world can merely dream of.

But operators are only slowly starting to see the enormous potential of their customer data and the ways it can be used to help them keep ahead of the competition, increase productivity, drive

new products, improve customer experience, predict future trends and, especially, make money.

"Look at Facebook, Google and many internet start ups. They need customer data to have a business, and they need to keep building services customers love in order to get it. Operators on the other hand don't have to make a big effort to get customer data because they already generate a lot of it as a side effect of their operations," notes Dr V Richard Benjamins, director of Telefónica Digital's BI Unit.

From CDRs to billing records, customer profiles and location data from mobile devices, operators are sitting on a gold mine of information – more perhaps than most people realise, and certainly more than operators are currently able or willing to exploit. More significantly, customers have long trusted operators – explicitly or implicitly – to safeguard and manage that information, putting them a step ahead of internet natives in a Big Data age in which trust will be essential to any business model based on exploiting personal information.

In effect, operators are in a prime position to become data companies as well as communications providers, and even data guardians.

"[Operators] are only just starting to realise that the information they have is an untapped asset," says Ed Marsden, telecoms partner in Deloitte's Information and Technology Risk team. "We're now seeing them waking up to the idea that if you're not using all the data available to you then you're not using all your senses."

Some customer data is already used, but almost always internally and to support operators' core business, for example by helping improve customer

experience or for network optimisation.

"The biggest upside of Big Data for operators lies, in our opinion, in being able to exploit huge volumes of data we already have at hand like network and infrastructure data more efficiently, with more flexibility and at lower cost," says Catherine Deltenre, Vice President Customer Experience & Intelligence at Belgacom. "Even if there is room for improvement, operators can do a lot with the information they have: build a view of the customer across touch points and use it to improve the customer experience, profile customers and align solutions to the customers' needs, predict the up-selling potential."

Kognitio, for example, runs a service for BT, using high-performance analytics software to analyse the operator's UK call data. "We can predict the effect a change in pricing schemes would have on churn, revenues etc," says Ian Bird, VP of Cloud Solutions at Kognitio.

Because Big Data is by definition big, storing it, structuring it and analysing it requires powerful technology, and, more importantly, a fundamental rethink of the way data is managed. In the view of many analysts, Big Data goes hand-in-hand with cloud computing, and to exploit its full potential, operators need to break the hard-outer, soft-inner data silos they have built to enable data to be used in more flexible and innovative ways.

"The data is there, but it has not typically been mined for external and in some cases even internal consumption. This means the data lives in large data sets, not correlated or analysed. There are tremendous costs to move the data and analyse it in volumes of petabytes and exabytes. Operators need to set up the infrastructure for this now and manage new data moving forward," argues Laura Merling, Alcatel-Lucent SVP of Application Development Platform and Strategy.

Michal Halama, Principal Analyst, Business Network and IT Services at Current Analysis, stresses the impor-

tance of cloud solutions: "The cloud might be last year's hype but so much of what's happening will be wrapped up with the cloud: it's providing a way for companies to do all sorts of things."

In essence: out with expensive data centres and five-year business plans; in with on-demand, flexible cloud services and sandboxes for innovative developers to experiment with different data applications.

““ The telecom sector's history, strict regulatory framework and data protection obligations could work in operators' favour ””

"It starts with fixing the plumbing, sorting out the basics and walking before you can run. Operators need to look at how they store data, how they use it, analyse it, and the legacy systems they have built around it. Only then can they do sexier things with it," says Marsden.

The sexier side of Big Data lies in operators exploiting customer information commercially, for example by partnering with advertisers, retailers and public administrations for e-commerce, M2M applications and location-based services.

Orange, for example, recently participated in an experiment called Traffic Zen with highway operator Autoroutes du sud de la France, which looked at the movements of mobile phones.

"By analysing this data, we could look at how each car moved from one cell to another. By collecting 5.6 million fields of data, we were able to create a traffic forecast through the collective trends. This concept can be mapped out in other scenarios such as in the medical sector, which can help tackle the malaria epidemic in emerging countries by tracking population movements," says Jean-Yves Leonnec,

Head of Strategic Anticipation at France Telecom-Orange.

"For us, the analysis of Big Data has been exciting and has opened a number of new opportunities in areas as diverse as M2M, healthcare as well as in emerging markets," he adds.

Later this year, Telefónica plans to launch data monetisation trials in Germany and Brazil. Telecom Italia, meanwhile, is already running an open data pilot with the Province of Trento in Italy.

Vincent Blondel, a professor of applied mathematics at Université Catholique de Louvain in Belgium, has carried out studies using anonymised call and location data from different European operators. With it, he has been able to map social connections across countries, create population heat maps of cities, determine how many people are going to a music concert or football match and even infer when and where two people meet face to face.

"Mobile phones in particular are an amazing source of information. From the data they generate we know how much time people spend at home and at work, who they talk to, even when and where they go on holiday – the range of uses for this are enormous, both for good and less good purposes," Blondel says. "Operators have been timid to use it, but I think that will change and those who do so first will have an advantage."

Adds Merling: "Imagine operators offering retailers access to subscriber profile data (opt in of course) to auto fill forms – for retailers the drop off rate goes from 70 percent to 15 percent and for mobile users, purchasing has never been easier. The data is even more valuable when you also consider the increase in machine-to-machine transactions between a greater number of devices. As companies look to improve efficiency, process, products and services, machine-to-machine will also provide a key data opportunity."

But with such big opportunities come big risks, particularly if data is not only

going to be used externally in an anonymised, aggregated fashion but in a personal, individual way. Privacy concerns, contractual obligations, regulatory hurdles and fears that a perceived misuse of data could seriously damage their brand image have led many operators to hold back.

"We are aware of the opportunities that come along with all the data in our various systems. However, it is our firm belief that a customer's data belongs to the customer. Therefore conclusions and measures that result out of the analysis of customer data need to serve the customer. Not everything which is possible should be done," says Carsten Roetz, a Swisscom spokesperson. "Swisscom is currently developing a strategy of how to create value for the customer out of the amount of data."

In developing any Big Data strategy, operators are watching internet players closely. Apple's recent privacy blunder after iPhone apps were revealed to be copying customers' contact lists without consent and reactions to Google's new privacy policy, for example, are case studies for operators as to what customers, regulators and society at large will accept.

"What internet companies are doing is very good for us to learn from... they are basically seeing what they can get away with: they push the bar and then step back if they find they've gone too far. We are not in a position to adopt such a short-term view," says Telefónica's Benjamins. "The question is: Are we sitting on a privacy time bomb?"

Benjamins compares the growth of Big Data to the nuclear energy industry in the US, expanding apace in the 1960s and 1970s until the Three Mile Island incident set it back decades. It is not unthinkable, he argues, that one big mishap involving personal information could have the same impact on Big Data players.

Perhaps therefore operators should not risk following internet players down the same path, but rather carve out an

alternative and perhaps even more lucrative route to exploit their data assets.

"What we are seeing today is that operators are complaining about Google, Facebook and the like not respecting data in the same way that we are required to respect data: if you read between the lines, operators are telling regulators either stop them or let us play the game with same rules," argues Roberto Saracco, director of the Future Centre, Telecom Italia Lab.

"But if people are serious about privacy, then we should tell them to place their data with us, not with Google. Tell them: we have had your data for quite a while, you have been our client for many years and you have expected us not to release your data and we've done that – not just because we're good guys, which may not be the case – but because there's an authority that's ensuring we're behaving."

In that view, the telecom sector's history, strict regulatory framework and data protection obligations could work in operators' favour, helping position them as trusted guardians of personal data in trust networks.

In such a scenario, people would entrust their personal information, everything from call and location information to insurance and health records to one entity, which would be responsible for keeping it secure and managing access by authorised third parties. However, making that model a reality requires a change in the mindset of operators.

"We have to stop talking about customers in terms of a cell phone number and talk about them as people," Saracco says.

"People share much more data than they realise. However, if consumers are put in a position where they can subscribe a value to their information the paradigm shifts and maybe people will understand that they can get better opportunities and deals depending on how much information they are willing to share," Marsden observes.

Some start ups, such as ALLOW in

the UK, are using that concept to build a business, taking charge of consumers' personal data, deleting it from marketing databases and selling it only to those companies their users authorise. The model relies largely on transparency, enabling consumers to see who knows what about them and letting them take charge of their own information.

Operators are realising that too. Telefónica, for example, is launching a digital confidence trial in the UK this year allowing O2 customers to sign up for a service to view their personal data such as who they've called and where they've been over the past month.

"We're on a journey. People have to get used to the fact that they leave digital traces. We can help make people more comfortable with that by being more transparent with them," says Benjamins. "My vision is that operators are well-positioned to become trusted guardians of personal data. As I like to say, maybe in 2020 Telefónica sells information and, by the way, it also sells phones."

Adds Merling: "Operators have an amazing trusted relationship with consumers on the individual level. Maintaining this trust is critical, but finding ways to leverage that trust can also be invaluable."

Saracco likens entrusting your personal information to a telco to putting your money in a bank: "You know they will use your money, but you also know you can get your money back and you get something out of it too."

At the recent Subscriber Data Management and Data Warehousing Summit in London, it was noted that operators are considered one of the most trusted entities after banks with which customers are willing to share personal data.

Certainly, banks and financial services providers have been pointed to as other big institutions that could act as guardians of personal data. But then, in the current environment, people might be forgiven for thinking twice about putting their trust in a bank. 