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Insurance and the 'Internet of Everything'

13 Dec 2013, By Richard Barnes, Mindtree.

In October, research organisation Gartner declared the start of the 'Digital Industrial Economy'.

This is where the integration of mobile data and information with cloud computing and social networking results in the 'Internet of Everything', combining the physical and virtual worlds.

For example, nobody invented the mobile phone in its entirety. It came about as a cluster of related technologies - cellular networks, high frequency radios, microprocessors and batteries - simultaneously advanced to the point at which it was possible to conceive the idea of a phone you could carry around with you.

In the same way, the 'Internet of Everything' has not been deliberately invented in its entirety. Again, a number of technologies have advanced to the stage at which we can conceive of wiring up everybody and everything - something which could have dramatic implications for the insurance industry.

Up until recently, insurance companies have largely used proxies to forecast the risk experienced by insured objects. In car insurance, for example, they have previously used attributes such as age and gender to try and predict the riskiness of a person's driving style.

However, the introduction of telematics technology is allowing insurers to replace these proxies with actual measurements of speed, location and g-forces, with the data being transmitted in near real-time. The previous guesses at the level of risk have been replaced by actual measurements,

using connected remote sensors.

So, the first challenge for insurance companies is to work out what risks can be priced more accurately using connected remote sensors linked to other information sources, such as weather or traffic. Imagine if every house was monitored by a network of sensors that measured temperature, moisture, and the presence or absence of humans. Imagine if every insured item had its own IP address. What new ways of pricing risks would emerge?

The power of the new networks is not limited to objects. People, too, will be able to be remotely monitored - and it may not require them to carry or wear anything.

Already, there's a smartphone app that can measure someone's pulse simply by looking at their face and measuring the minute variations in its colour. It will certainly become possible for your clothes to analyse your sweat and report back to your insurance company on the state of your health.

There's also the related challenge of privacy. Will people accept being continuously monitored for the purposes of insurance, or is this a step too far? And does the rise of social networking show us that the next generation has decided that privacy is not so important after all, and that continuous monitoring is a price potentially worth paying in exchange for security?

The third major challenge for insurance companies is to work out how to manage all this data. If your company insures 1 000 000 items, each of which is reporting back 100 bytes of data a minute, then your organisation is going to receive 144 GB a day - or 52.5 TB a year.

A large insurer may be covering 100 000 000 items, which gives them 5.2 petabytes per annum to store and process. This monumental mass of data is going to require formidable storage and processing capabilities if it is going to be put to use in pricing and risk models.

Insurers have not traditionally been early adopters of new technology. However, the Internet of Everything is going to present opportunities to those companies that have prepared and equipped themselves for its arrival - opportunities to gain business and increase profits through more accurate pricing and through using data to devise and offer new and innovative products to customers.

As Peter Sondergaard (senior vice president and global head of research at Gartner) said: "Enterprises doing this today are setting themselves apart and will collectively lead the new digital industrial economy" - and insurers could be among these leaders.

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