Belgian Financial Forum

What big data can do with/for insurance?

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The world's most valuable resource is no longer oil, but data. (Economist.com – May 6th, 2017). Data is the new gold. Data is going to be the most important asset in the future. And many other statements like these are popping up continuously as people are discovering the potential of big data.

Let's first take a step back and look at insurance and how insurance has traditionally always been working with data as one of the main assets in the business model. And excuse me for simplifying.

Actuaries are educated and trained to analyze big sets of data to create risk segments … with the purpose to define the most correct risk price for a risk, to calculate reserving levels for e.g. incurred but not reported claims, and many more appliances. And fact was in the past that the companies having a larger market share had more data and this was considered a competitive advantage. Hence, sharing of this granular data was not done. In the area of combating fraud – unfortunately the insurance industry is sensitive to fraud – companies were and are more cooperating together also in the data area. Much evolution in this traditional data modeling didn't happen.

Disruption in regard to the use of data (type of data, source of data, handling of data, …) these days is coming from the many insurtechs which are trying to approach distribution and marketing models, pricing models, product models and operational models from different perspectives by using various external data sources as well different technologies such as machine learning, facial recognition, geo-location and many more.

How changes in the outside world could impact this insurance model?

Let me try to explain based on 3 major trends: digitization, technology boost and growing connectivity. The most bold prediction I read about digitization was 'In the next few years, the offline world will digitize completely'. Probably it will not go that fast, but anyway the shift to digital is accelerating, not in all industries at the same pace. In the Belgium insurance market digitization is developing still at a rather modest pace.

Other industries have become big business thanks to **digitization**. We all know Uber, Facebook, Airbnb. Even dating has become big digital business. On Tinder everyday 1,2 billion swipes are made with 26 million matches as a result. Where are the days we were going to a local party to meet people? The one thing about digital is, that every step you take leaves a 'data' trail, yes also when you visit Tinder. So, the more the world is digitizing, the more data will be generated every single minute. Dealing with this tsunami of data effectively as well doing that with an open mind to how we have been dealing with (internal) data in the past, will be a huge challenge for insurance companies in their journey of being successful. A lot of creativity combined with expertise will be needed to ask the right questions in order to try to find answers in this every day growing data lakes.

The world is changing fast, really? **Technology** is foreseen to evolve faster in the coming years than ever before. Lots of predictions are being made when computers will outsmart human beings. Computational power is multiplying fast. In other words, the technological ability to deal with these enormous amounts of data will be there.

And last but not least, we are living in a world where not only humans are increasingly **connected**, but also things. We are talking for instance about self-driving cars eg alerting necessary instances and relatives in case of an accident, smart refrigerators eg ordering food, smart door locks allowing from a distance to manage the entry to your door and sending a signal on your mobile when someone enters. The Internet of Things is big business. Only in the USA it encompasses already 3,000 Companies, $125B In Funding, $613B In Valuation, 342,000 Employees. (Jul 10, 2017, Forbes.com - John Koetsier is a journalist, analyst, author, and speaker.)

Technology giants have always benefited from network effects (May 6th, 2017, the economist.com): the more users Facebook signs up, the more attractive signing up becomes for others. With data there are extra network effects. By collecting more data, a firm has more scope to improve its products, which attracts more users, generating even more data, and so on. The more data Tesla gathers from its self-driving cars, the better it can make them at driving themselves—part of the reason the firm, which sold only 25,000 cars in the first quarter, is now worth more than GM, which sold 2.3m.

None of these 3 trends on their own could cause the disruptive impact we are observing now in many industries. It is the interaction of them that unleashes huge disruptive potential to many known business models including insurance. The explosion of new insurtech ideas and start-ups are indicating the potential of redesigning fundamentally the insurance business model in a digital-connected-high tech world.

Computation

In 1965, Gordon Moore (cofounder of Intel) predicted computer chips would double in power and halve in cost every 18 to 24 months. What became known as Moore's Law turned out to be accurate, and today affordable computer chips contain a billion or more transistors spaced just nanometers apart.

That means computers can do exponentially more calculations per second than they could thirty, twenty, or ten years ago—and at a dramatically lower cost. This in turn means we can generate a lot more information, and use computers for all kinds of applications they wouldn't have been able to handle in the past (like diagnosing rare forms of cancer, for example).

Some examples :

In the US, Lemonade is attacking the home insurance market by leveraging on the one hand on digital-tech-connect combining it with the learnings in behavioral economics.

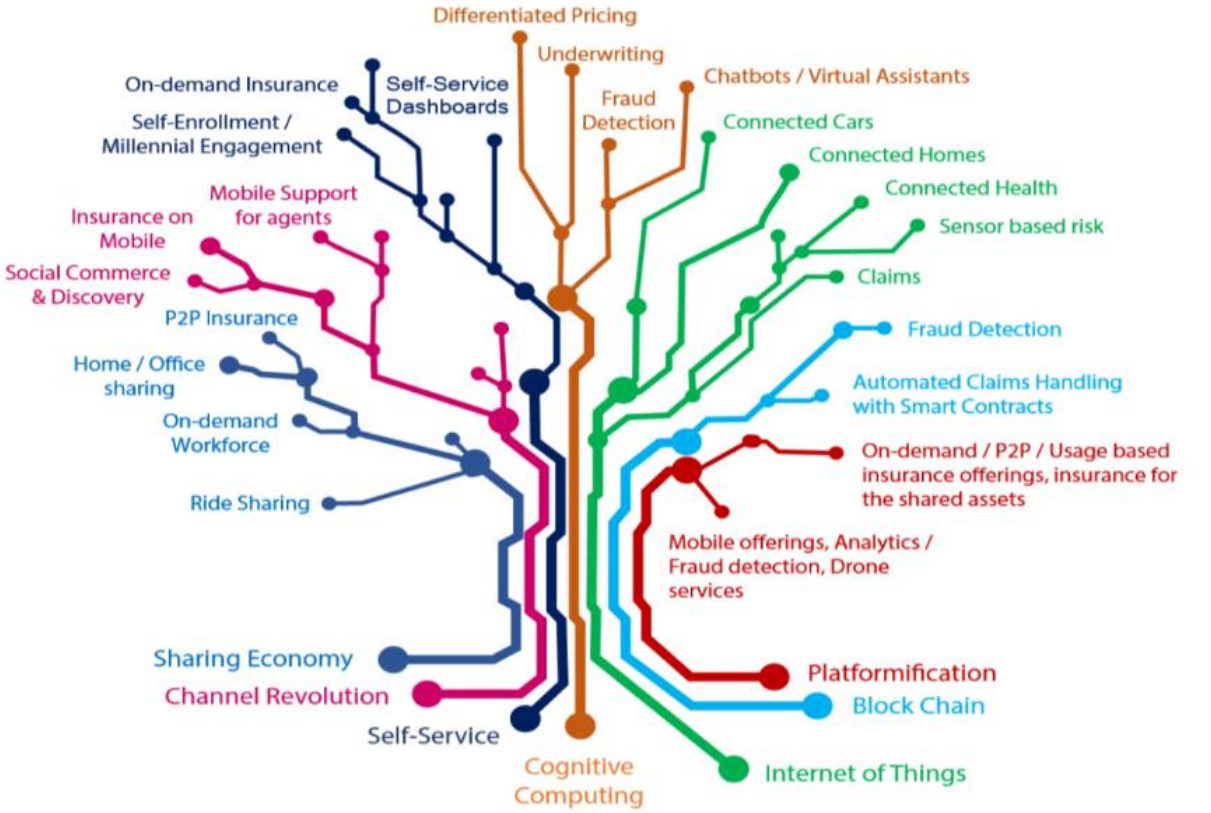
In the UK, Brolly is reverting the insurance model based on real-time AI-based comparison of a customer's insurances to similar profiles, other companies offers, … and foresees as such a continuous advice how to optimize quality & cost of your insurances depending on your situation.

In Belgium, Qover has launched an e-t-e digital solution based on API to allow anyone to connect and sell insurance.

In Germany, Deutsche Bank recently announced to plug the digital platform of the peer-to-peer broker Friendsurance into their mobile banking in order to offer an open insurance offer to their customers.

In France, Minalea launched a smart platform that is comparing the insurance offers of the different companies on quality in order to support the distribution and loyalty effectiveness. They are commercializing it in particular to banks to support bankinsurance and leverage the concept 'the power of non-experts'.

In other words, the insurance industry is facing multiple ways (Infosys chart) of (r)evolution in comparison to the traditional incumbents models, ranging from peer-to-peer insurance to on-demand or connected home insurance.



Hypes versus trends

You probably all know the phenomenon of hypes. Something gets hot in no time. Everyone wants to join. One of the latest hypes is chatbots. Which company is not launching their chatbot? And yet, general customer experience with chatbots is rather poor as there is lacking intelligence inside the bot due to lack of necessary training data. So, at the expense of customer experience, data is gathered in order to teach the bot. After praising and rising the expectations regarding the automated service centers, critics are already raising the question whether there is future in chatbots as a service vehicle.

Amara's law tries to explain this returning behavior: we tend to overestimate in the short run the potential impact of technology (in this context digital-tech-connect) whereas in the long run we rather underestimate the potential impact. This causes periods of hypes. Only those companies who get the right balance and persist in their efforts, will create long term strategic competitive advantage.

How good are we at capturing data?

For many decades capturing data has been focused on internal structured data. In systems we are registering as efficient as possible the necessary steps. A result of many years focusing on different trends in process management and operational excellence. But also because of the lack of insight what potentially in the future could be done with all this data.

In this regard the new tech companies are quite different from other companies including the insurance incumbents. These tech companies are trying to gather as much data as possible with the aim to turn it somehow later on into business models. Quite contrasting with reality in insurance companies where every day a lot of logical decisions are being made by the employees. Unique knowledge one could argue. And yet only process steps are recorded at best, not the thinking process itself. Hence, every day when employees are going home a lot of data is leaving the company and never coming back. When these employees are returning the next morning to the job, they are a bit more experienced, but the data itself is gone. I like to call this 'fluid data' as one minute it is there and the other minute it is gone.

1. Tracking cookies: Facebook tracks its users across the web by using tracking cookies. If a user is logged into Facebook and simultaneously browses other websites, Facebook can track the sites they are visiting.

2. Facial recognition: One of Facebook's latest investments has been in facial recognition and image processing capabilities. Facebook can track its users across the internet and other Facebook profiles with image data provided through user sharing.

3. Tag suggestions: Facebook suggests who to tag in user photos through image processing and facial recognition.

4. Analyzing the Likes: A recent study conducted showed that is viable to predict data accurately on a range of personal attributes that are highly sensitive just by analyzing a user's Facebook Likes. Work conducted by researchers at Cambridge University and Microsoft Research show how the patterns of Facebook Likes can very accurately predict your sexual orientation, satisfaction with life, intelligence, emotional stability, religion, alcohol use and drug use, relationship status, age, gender, race, and political views—among many others.

From data to AI

Maybe you start wondering why I elaborate on this example of fluid data? Well, thanks to the boost in technology the successful deployment of artificial intelligence is becoming more and more reality. Artificial intelligence itself already exists for many years. There was however never enough computational power to run through all the algorithms and data at a reasonable time. Now this is feasible and hence the exploration of all kinds of artificial intelligence is flourishing. So, imagine you would have captured all data about decisions made in the past, what new possibilities could that give you now to create competitive advantages?

And when AI will be at more mature levels, will insurance still be needed?
Axa launched a block chain based parametric insurance against delayed flights (Fizzy). Google however rolled out a few new features to its Google flights search engine to help travelers tackle some of the more frustrating aspects of air travel – delays. With the regard to delays, Google Flights won't just be pulling in information from the airlines directly, however – it will take advantage of its understanding of historical data and its machine learning algorithms to predict delays that haven't yet been flagged by airlines themselves. Likely these kinds of evolutions will cause insurance to evolve as well.

Dealing with data is not going to be a hype. It is here to last and further evolve. Turning data into value has been part of the insurance business model since the start. However due to the faster and faster progress in technology as well the exponential growth in available data, the way data will be turned into value will be different from what we have been doing so far. The sooner insurance companies will acknowledge this, the sooner they will start transforming themselves and become future proof.