Insurance

Data machine: the insurers using AI to reshape the industry

Groups are building detailed customer profiles to inform pricing and try to influence behaviour

AI allows insurers such as Ping An to produce highly individualised profiles of customer risk that evolve in real time © FT montage; Alamy, Dreamstime

Ian Smith in London AUGUST 16 2021

Take your medicine when the app tells you, do your exercise and eat well. As long as you "show good compliance" and share the data, you will reduce your health risks — and your insurance premium.

This is how Xie Guotong — the chief healthcare scientist at Chinese insurer Ping An — describes its combined insurance and digital "disease management" service for people with type-2 diabetes. Powered by artificial intelligence, it is just one example of a big shift going on in the industry.

AI, which sifts data and aims to learn like humans, is allowing insurers to produce highly individualised profiles of customer risk that evolve in real time. In parts of the market, it is being used to refine or replace the traditional model of an annual premium, creating contracts that are informed by factors including customer behaviour.

In some cases, insurers are using it to decide whether they want to take a customer on in the first place.

New York-listed car insurer Root offers potential customers a <u>test drive</u>, tracks them using an app, and then chooses whether it wants to insure them. Driving behaviour is also the number one factor in the price of policy, it said.

UK start-up Zego, which specialises in vehicle insurance for gig-economy workers such as Uber drivers, offers a product that monitors customers after they have bought cover and promises a lower renewal price for safer drivers.

The theory with such policies is that customers end up paying a fairer price for their individual risk, and insurers are better able to predict losses. Some insurers say it also gives them more opportunity to influence behaviour and even prevent claims from happening.

New York-listed car insurer Root offers potential customers a test drive, tracks them using an app, and then chooses whether it wants to insure them © Root insurance

"Insurance is strongly moving from payment after claim to prevention," said Cristiano Borean, chief financial officer at Generali, Italy's largest insurer.

For a decade, Generali has offered pay-how-you-drive policies that reward safer drivers with lower premiums. In its home market, it also offers AI-enabled driver feedback in an app, and plans to pilot this in other countries. "Everything which can allow you to interact and reduce your risk, is in our interest as an insurer."

But the rise of AI-powered insurance worries researchers that this new way of doing things creates unfairness and could even undermine the risk-pooling model that is key to the industry, making it impossible for some people to find cover.

"Yes, you won't pay for the claims of your accident-prone neighbour, but then again, no one else will then pay for your claims — just you," said Duncan Minty, an independent consultant on ethics in the sector. There is a danger, he added, of "social sorting", where groups of people perceived as riskier cannot buy insurance.

Behaviour-driven cover

Ping An's type-2 diabetes insurance product is powered by AskBob, its AI-powered "clinical decision support system" used by doctors across China.

For diabetes sufferers, the AI is trained on data showing incidence of complications such as strokes. It then analyses the individual customer's health via an app to develop a care plan, which is reviewed and tweaked by a doctor together with the patient.

The AI monitors the patient — through an app and a blood-glucose monitor — fine-tuning its predictions of the likelihood of complications as it goes. Patients that buy the linked insurance are promised a lower premium at renewal if they follow the plan.

Leaders in AI adoptions also intend to invest more in the near future
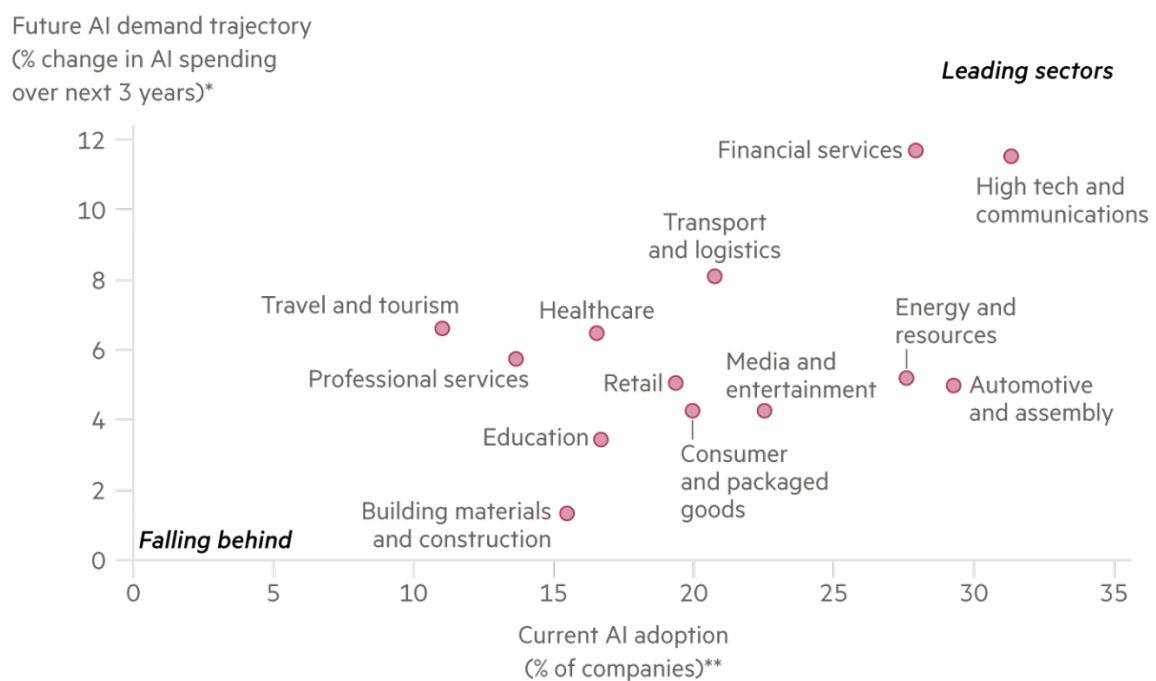
*Estimated average, weighted by company size

But AI experts worry about the consequences of using health data to calculate insurance premiums.

Such an approach "entrenches a view of health not as human wellbeing and flourishing, but as something that is target-based and cost-driven," said Mavis Machirori, senior researcher at the Ada Lovelace Institute.

It might favour those who are digitally connected and live near open spaces, while "the lack of clear rules around what counts as health data leaves the door open to misuse", she added.

Zego's "intelligent cover", as the company calls it, offers a discount to drivers that sign up for monitoring. Its pricing model uses a mix of inputs, including information such as age, together with machine-learning models that analyse real-time data such as fast braking and cornering. Safer driving should push down the cost of renewal, Zego said. It also plans to provide feedback to customers through its app to help them manage their risk.

"If you're on a monthly renewing policy with us, we'd be looking at tracking that over time with you and showing you what you can do to bring down your monthly cost," said Vicky Wills, the start-up's chief technology officer.

She added: "I think this is a trend we are actually going to see more and more — insurance becoming more of a proactive risk management tool rather than the safety net that it has been before."

Monitoring bias

Campaigners warn, however, that data can be taken out of context — there are often good reasons to brake heavily. And some fear longer-term consequences from collecting so much data.

"Will your insurer use that Instagram picture of a powerful car you're about to post as a sign that you're a risky driver? They might," said Nicolas Kayser-Bril, a reporter at AlgorithmWatch, a non-profit group that researches "automated decision-making".

Regulators are clearly worried about the potential for AI systems to embed discrimination. A working paper in May from Eiopa, the top EU insurance regulator, said companies should "make reasonable efforts to monitor and mitigate biases from data and AI systems".

Problems can creep in, experts say, when AI replicates a human decision-making process that is itself biased, or uses unrepresentative data.

Insurers to boost AI and data spend

% of US insurers surveyed that planned to increase spending in area

- July/August 2020
- May 2021

(Data analysis, Artificial intelligence — values from 0 to 70)
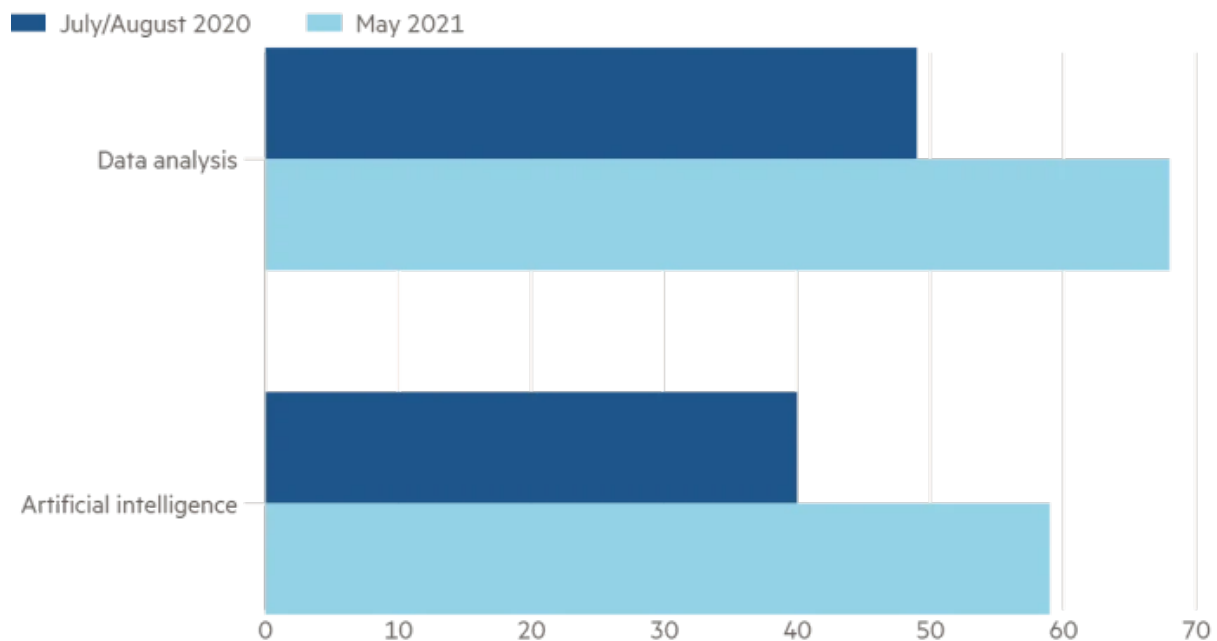
Source: Deloitte
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Shameek Kundu, head of financial services at TruEra, a firm that analyses AI models, proposes four checks for insurers: that data is being interpreted correctly and in context; that the model works well for different segments of the population; that permission is sought from a customer in transparent communication; and that customers have a recourse if they think they have been mistreated.

Detecting fraud

Insurers such as Root are also using AI to identify false claims, for example to try to spot discrepancies between when and where an accident took place, and information contained in the claim.

Third-party providers such as France's Shift Technology, meanwhile, offer insurers a service that can identify if the same photo, for example of a damaged car, has been used in multiple claims.

US-listed Lemonade is also a big user of AI. Insurance is "a business of using past data to predict future events," said the company's co-founder, Daniel Schreiber. "The more predictive data an insurer has . . . the better." It uses AI to speed up the process and cut the cost of claims processing.

But it caused a social-media furore earlier this year when it tweeted about how its AI scours claims videos for indications of fraud, picking up on "non-verbal cues".

Lemonade later clarified that it used facial recognition software to try to spot if the same person made multiple claims under different identities. It added that it did not let AI automatically reject claims and that it had never used "phrenology" or "physiognomy" — assessing someone's character based on their facial features or expression.

But the episode encapsulated worries about the industry building up an ever more detailed picture of its customers.

"People often ask how ethical a firm's AI is," Minty said. "What they should be asking about is how far ethics is taken into account by the people who design the AI, feed it data and put it to use making decisions."