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FINANCIAL SERVICES

The age of innovation

Insurers have a choice: be disrupted or be the disruptor with new products, services, and business models.

Digital technology is disrupting industry after industry—and quickly separating winners from losers. The spoils are going to the boldest innovators. A McKinsey survey of more than 2,000 executives in industries affected by digital disruption shows that the companies with the highest revenue and earnings growth led the disruption or were fast followers, making big bets across their businesses on innovative products, digital processes, and even entirely new business models.

Most insurers, though, do not have innovation in their DNA. Regulation has curbed incumbents' ability to experiment, while limited competition has given them no particular need to do so—the size of their in-force books makes it hard for new entrants to build market share, and start-ups seldom want to take risk on to their balance sheets because of the capital required to offset it. But innovate they must. Although there is significant opportunity to capture value in the short term by digitizing their current business, they will get left behind if they fail simultaneously to use digital technology to innovate and build new business.

Exhibit 1 shows where insurtechs are concentrating their innovation efforts. To help companies think through where innovation lies, we look at three broad areas—new kinds of risk, new approaches to underwriting, and new value propositions. And we discuss how companies are organizing themselves to develop ideas and accelerate innovation.

New risks

Insurers have an immediate opportunity to write cover for new types of risk that are emerging in a digital age.

Cybercrime

Companies today run on data, which makes cyber insecurity a major concern. An intrusion can not only disrupt business but also cause great harm to a company's

“It’s hard for big carriers to innovate as they have so much to contend with already—industry headwinds, legacy issues. But they need to be in the game, right now.”

— Caribou Honig, cofounder of QED investors

reputation, particularly if customer information such as credit card data is compromised. Consumers too are at risk, from identity theft, loss of financial assets, and unauthorized credit card use. Opportunities for carriers include prevention services and insurance integrated into the offerings of software providers (see box, “The cybersecurity opportunity—that few are seizing”).

Global supply chains

Digitization and ubiquitous data communications have enabled companies to build global supply

Leading trends among insurtechs



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Innovations as % of database total¹

1	Big data/machine learning	20
2	Software as a service/cloud	21
3	Usage-based insurance	13
4	IoT	12
5	Digital/Roboadvisory	10
6	Gamification	9
7	Peer-to-peer insurance	4
8	Blockchain	4
9	Micro-insurance	3

¹ -500 commercially best-known cases registered on database. Innovations focusing purely on insurance
Source: McKinsey Panorama Insurtech database



chains. These complex networks make it possible for companies to source supplies, manufacture goods, and sell their wares anywhere in the world. But the rising complexity of supply chains also multiplies risk. There are more points of vulnerability, and disruption in any part of the chain can quickly affect the entire business. There is thus growing demand for equally sophisticated supply chain cover.

Digital technology not only creates the risk, it also provides many of the solutions. Using the connected sensors and monitors that comprise the Internet of Things (IoT), it is possible to track the location of inventory and finished goods as they travel on trucks, ships, and planes. Predictive analytics can then be applied to data on claims, weather, and other factors to enable insurers to underwrite the supply chain risk more precisely.

The cybersecurity opportunity—that few are seizing

Cybercrime presents rapidly multiplying risks for businesses and consumers. Having almost quadrupled between 2012 and 2015, from \$112 billion to more than \$400 billion,¹ the estimated cost of cyber breaches is projected to reach \$2 trillion in 2019, or almost as much as India's GDP for 2015.²

Yet the insurance industry has not leaped at the opportunity to sell protection against this new risk. The global insurance pool in 2015, according to Lloyds, was just \$2.5 billion.

Part of the problem is demand; awareness of the risk remains limited. There are also supply-side issues. Insurers are unsure how to model cybersecurity risk and still have not decided what they can cover economically. Few have written “full” cyber cover to compensate customers for all possible losses, including data theft, business disruption, property damage, and personal injury, and a lack of reliable information on historical breaches makes pricing difficult. Moreover, there are few standards for cover and the law differs according to jurisdiction. Perhaps most important, technology and the capabilities of hackers continue to evolve more rapidly than cybersecurity protection methods.

Nonetheless, a risk this large should be the basis for a successful line of business for companies that are able to innovate. They would need to invest in understanding the drivers of cyber risk, which would require them to hire experts who understand the technical issues as well as the underwriting process, or enter partnerships with organizations that have those capabilities. They would also need to develop comprehensive histories of cybersecurity breaches and create compliance frameworks to measure enterprise risk. Given the magnitude of the risks involved, though, incumbents with strong balance sheets could have an advantage in cybercrime insurance.

¹ State of Security Survey, Symantec (2013); Lloyds of London; World Economic Forum.

² Juniper Research.

The sharing economy

New kinds of risk are emerging from the sharing economy that has grown from digital technology's capacity to match supply and demand. Online platforms such as Uber and Airbnb

enable consumers to “share” unused capacity (a car ride, the use of a spare room) for a fee. This turns a car owner into a cab driver and a homeowner into a hotelier, and alters the nature of the insurance cover that the driver and homeowner require.

New solutions are emerging. For car rides, Uber supplies drivers with limited liability cover when its app is turned on and a driver is available. Its commercial cover kicks in when a fare enters the car. For drivers of BlaBlaCars (a service that operates in France and the United Kingdom), Axa offers a combined personal and commercial package.

Various forms of cover are emerging for homeowners participating in Airbnb and other short-term home rental platforms such as Alterkeys and 9Flats.com. The platforms offer protection for damage by tenants that cannot be resolved by the owner, but with significant exclusions. Carriers such as US-based Proper, which have long offered insurance to owners of vacation rental properties, are adding cover for short-term rentals. Still, most traditional homeowner policies do not cover commercial uses of properties. As the sharing economy grows, there will surely be more opportunities to innovate and provide relevant insurance products.

New underwriting approaches

Digital technologies enable new ways to provide traditional cover and underwrite traditional risks, often by using individual rather than group data. They are also being used to reach new customers.

Microinsurance

Traditional, loss-based insurance can be prohibitively expensive to provide for small amounts of cover. New data streams and data analytics address this

“We ... create communities of individuals, on whose behalf we negotiate with the insurance industry to bring them a better deal than they could get on their own.”

– Steven Mendel, founder and CEO of Bought By Many

problem. For example, they are enabling a form of low-cost, micro-crop insurance for farmers in emerging economies that does not require claims adjusters to trek to remote locations to settle claims. Instead, insurers use data analytics to determine if severe weather, low rainfall, or other factors would have damaged crops, and pay claims based on their analysis. This vastly reduces settlement costs, making it possible for insurers to offer affordable policies to farmers in the developing world.

On-demand insurance

In addition to facilitating the underwriting of small amounts of cover, real-time data can enable the provision of “episodic” or

on-demand cover for short periods. Sure, for example, is a mobile app for episodic travel accident insurance bought on the spot. Travelers look up their flights, enter their personal data, and purchase cover for the duration of the flight.

European telecom operator Tele2 offers travel insurance in partnership with Gjensidige, a Nordic insurer, for motorists whose insurance extends only to domestic travel. When a driver crosses a border—from Poland to Germany, say—the insurer issues a text message offering episodic cover while the vehicle is out of Poland. Another start-up, San Francisco-based Trov, has an app that enables consumers to buy short-term insurance on demand against loss or damage for items such as sports equipment and computers. If they are about to take a ride on an expensive bike or take a laptop on a vacation, the app can be used to switch the cover on and off. Another emerging form of on-demand insurance is usage-based or pay-as-you-go cover—auto insurance by the mile, for example.

Peer-to-peer insurance

Several start-ups have created peer-to-peer insurance services that aggregate customers for a group purchase. Lemonade, a New York-based start-up that has recruited veteran insurance industry executives, organizes peer groups around charitable and social causes. Consumers who purchase homeowner or renter insurance on Lemonade's online platform designate a cause to which unspent premium money

will be donated. The idea is that peer group members who share an interest in maximizing contributions to their causes will not attempt to inflate claims. One of the company's executives is behavioral scientist Dan Ariely, who says the Lemonade approach removes the conflict between carrier and the insured that is inherent in traditional insurance. As a result, he says that the company, which began offering policies in September 2016, will be able to pay claims quickly because it has less need to hold back payment until they can be verified.

“The big difference in insurance in the future is going to be service.”

— Eldes Mattiuzzo, CEO of Youse Seguros

Bought By Many, a UK-based insurance distribution company, groups those with similar insurance needs—diabetics, for example, who often have trouble getting travel insurance, or owners of particular breeds of pet. “We use a combination of search engines and social media to create communities of individuals, on whose behalf we negotiate with the insurance industry to bring them a better deal than they could get on their own,” says the company's founder and CEO, Steven

Mendel (see “Playing to connectedness: An interview with Steven Mendel of Bought by Many”).

Personalized pricing

Digital technologies increasingly enable carriers to assess risk on the basis of data about specific consumers, rather than general population data. Telematics collect real-time information about an individual’s driving habits to inform the pricing of auto cover, while data from wearable devices such as fitness bands and apps that monitor adherence to medical treatment can inform life cover—services that Sureify, a tech start-up, uses to assist carriers underwriting personalized term life cover. Some carriers have experimented with using social media data as a basis for underwriting and pricing decisions—but have met opposition from platform owners.

New value propositions

In the digital era, traditional insurance models are threatened by the availability of reams of data, much of it real-time, that help mitigate risk. One of the biggest challenges on the horizon is the development of autonomous vehicles and advanced driver assistance systems (ADAS). These technologies will put passenger cars and other vehicles fully or partially under computer control, reducing premiums as driving becomes safer, and ultimately shifting liability from the driver to the car manufacturer or its software vendor. ADAS systems, ranging from adaptive cruise control to traffic sign recognition, are already becoming common on passenger cars (Exhibit 2).

Stefan Heck, CEO of Nauto, a US-based start-up that provides autonomous vehicle technology, believes that as a result, some 70 percent of loss events will disappear in the course of ten years (see “Once in four-generation change: An interview with Stefan Heck of Nauto”).

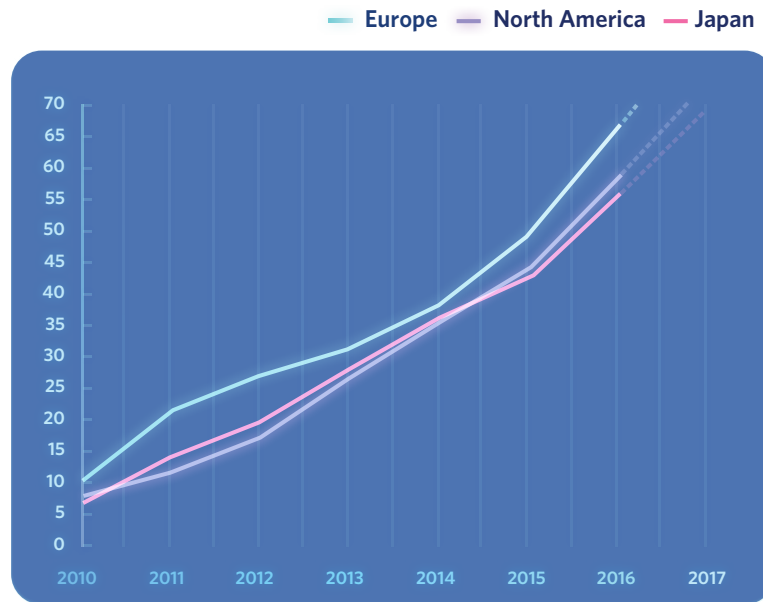
The same shift toward risk prevention exists in other business lines. Sensors in the home and devices that monitor our health reduce the likelihood of accidents or sickness. Accordingly, insurers are beginning to offer new services, often in conjunction with partners, in the ecosystems that are growing around new data. “The big difference in insurance in the future is going to be service,” says Eldes Mattiuzzo, CEO of Youse Seguros, the online insurance sales platform of Brazilian carrier Caixa Seguradora.

“There isn’t one size fits all. Depending on our situation, we will partner, we will invest, we’ll build ourselves. And that gives us three ways to play.”

— Andrew Brem, chief digital officer of Aviva

Installation rates of ADAS¹ technology

Passenger cars



¹ Includes installation of any of the following technologies: adaptive cruise control, collision mitigation, lane departure warning, blind spot detection, intelligent lighting, night vision, traffic sign recognition.

Source: McKinsey estimates; press

Liberty Mutual, for example, is collaborating with Nest, a manufacturer of smoke detectors and other connected home products, to reduce homeowner risk. The insurer provides Nest smoke detectors to policyholders who agree to let the company check every month via wifi whether the batteries are working. The homeowner gets discounted cover in return. Linus Lundberg, head of enterprise partnerships at Nest, foresees a wealth of opportunities to build insurance products around the many connected products that

are emerging—a “one-plus-one-is-three proposition” is how he describes it.

“There are products that we can provide, and a set of insurance products, so the value goes beyond reacting when something bad is happening, to helping customers prevent it from happening in the first place.”

In time, an auto insurer might be part of an ecosystem that includes not just telematics providers and car manufacturers, but also roadside

assistance services, car repair workshops, rental car services and more—all of which can be instantly accessed via a mobile app (Exhibit 3). Home insurers might become part of an ecosystem centered on an app that helps home buyers take out insurance, and also values the property, predicts utility costs, offers smart-home devices to monitor fire or flood risks, sends storm alerts, and, if a problem is detected while the homeowner is away, offers to send out an inspector or repair person.

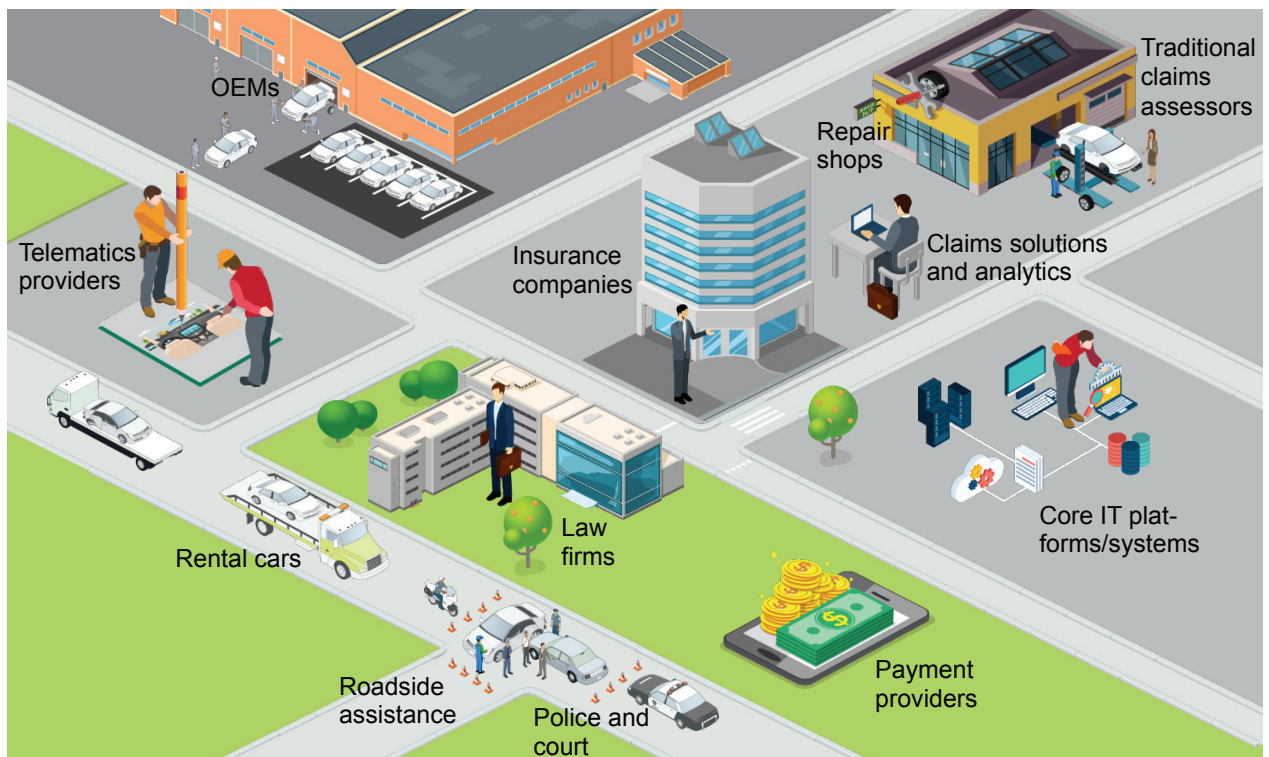
How insurers can develop ideas for innovations

To seize the opportunities and overcome the threats implicit in digital disruption, incumbents have no choice but to innovate. Innovation must become a core capability.

We see three ways for insurers to develop new ideas and accelerate innovation: by forming strategic partnerships, by investing in start-ups that have digital expertise, and by creating in-house

Exhibit 3

An auto insurance ecosystem



expertise. They can use all three approaches, but are likely to emphasize one or another for strategic reasons. Andrew Brem, Aviva's chief digital officer, explains it thus: "There are some things we want to do ourselves from scratch, and we have the capabilities, but sometimes we take equity investments. There isn't one size fits all. Depending on our situation, we will partner, we will invest, we'll build ourselves. And that gives us three ways to play."

“We’ll see a dramatic reduction in accidents as real-time collision warning and increasing automation come into vehicles—by 70 or 80 percent in the long term.”

— Stefan Heck, CEO of Nauto

Strategic partnerships

For most insurers it would be unrealistic to pursue innovation entirely under their own steam. Partnerships can help them rapidly provide new types of policies or ways of selling them, gain expertise, and play in ecosystems beyond the insurance industry (see “Partnerships, scale, and

speed: The hallmarks of a successful IoT strategy”).

Allianz, for example, has set up a joint venture with Chinese internet giant Baidu that enables it to use data on consumers' online behavior to create customized offers. If an individual orders a plane ticket, for instance, the system will automatically send an offer for flight insurance. This not only gives Allianz a new way to sell insurance, it also grants the company access to the vast Chinese market, which it had trouble cracking on its own. The Baidu partnership will, says Allianz CEO Oliver Bäte, enable the insurer to “jump the S-curve” in China.

AIG, meanwhile, has formed strategic partnerships with IBM and other technology vendors to boost its expertise in risk analytics and cybersecurity. Insurers' need for technology capabilities is likely to be a prime reason for embarking on partnerships.

Investing in start-ups

Whether through direct or venture investment, carriers can buy into new companies to learn more about emerging technology and its applications. AIG, for example, has invested in Human Condition Safety, a provider of wearable devices aimed at maintaining workplace safety. Munich Re's equipment insurance subsidiary Hartford Steam Boiler (which already uses drones for site inspections) has invested in Augury, which uses sensors and analytics to monitor heating, ventilation, and air conditioning systems, improving maintenance and helping to prevent breakdowns.

Some insurers are funding technology incubators. Swiss Re, for instance, has set up an insurtech accelerator in Bangalore, India, to help start-ups develop products and services. Technology under development ranges from data analytics for predicting health outcomes to artificial intelligence for customer engagement.

Insurers not only learn about new technologies from these investments, they also gain exposure to more agile ways of working. In other words, working with start-ups helps older companies build a digital culture. Caribou Honig, founding partner of QED investors, which supports high-growth, data-led businesses, believes working with start-ups is essential to “be in the game.”

In-house innovation factories

Our view is that innovation is too important to be outsourced entirely. Accordingly, companies need to get very good at taking ideas themselves and figuring out how to commercialize them, roll them out on a large scale, and integrate them with existing processes, functions, and lines of business.

One way to improve in-house innovation is to build dedicated labs. These units are set up with a mandate to coordinate the development of ideas and support the scaling-up of the most promising ones. AXA, MetLife, and Aviva have all launched labs in Singapore, where the government has backed the development of an insurtech industry and companies have access to the growing Asian market. AXA is looking at innovation in data storage and analysis, while MetLife’s LumenLab focuses on innovations for healthy living.



This is the age of digital disruption. Across industries, insurgents with digitally enabled business models are challenging incumbents and their established business models. The incumbents have a choice: be disrupted or be the disruptors. Those that prosper in the digital future will be those that choose to be disruptors and invest in innovation today. □

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