



## Driving to a new growth?

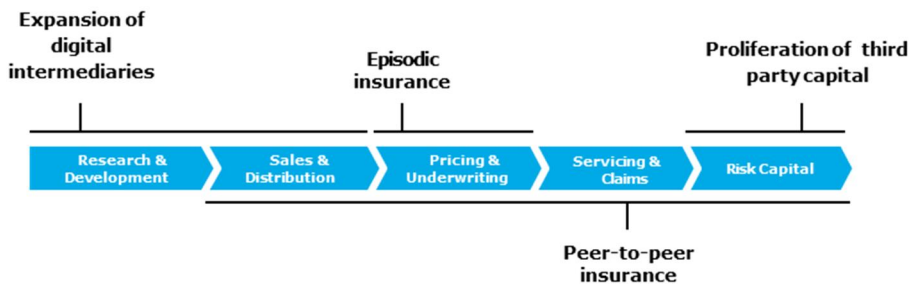
### How tech-led digital transformation is reshaping the auto insurance battlefield

Digital transformation riding on ecosystem partnerships, the Internet of Things (IoT) and big data analytics are joining hands to reshape the global auto insurance landscape. With driving forces arising from inside and outside the industry, general insurers who can rapidly and flexibly incorporate emerging technology in their operational strategies, will win in a game-changing marketplace. Meanwhile, insurance regulators are taking action to support this rising market trend by fostering a favorable regulatory environment for InsurTech, while enhancing collaboration with market participants to promote Hong Kong as an InsurTech hub in Asia.

Insurers view transformational forces pushed by innovative technology - InsurTech in particular - as continuously disrupting their traditional business models. The impact of these transformational forces is being felt along the value chain, bringing price transparency and innovative products to the market. Within the insurance sector, many new entrants powered by InsurTech have emerged, from next-generation distribution intermediaries to peer-to-peer insurers, and to reinsurance platforms. Outside the industry, transformative forces, like self-driving cars and the sharing economy, have made significant progress in recent years.

Both inside and outside forces will change the way property is owned and used, offering new ways for insurers to transcend their operations through the enabling of innovations driven by big data, machine learning, and distributed ledger technologies (e.g. Blockchain). This will result in step-changes to how insurance is structured, consumed, and provisioned in the future.

**Figure 1: New entrants are testing the boundaries of general insurance**



Source: Deloitte Consulting

From Deloitte's point of view, to tackle these new challenges and re-gain market share and profitability, auto insurers will need to take transformational steps. Additionally, they will have to establish a strong relationship with the innovation ecosystem to sense changes and lock in key alliances through co-innovation initiatives with business partners. These initiatives include the introduction of auto safety technology, the ride-sharing economy and autonomous vehicles, with an aim to place winning bets against the market evolution.

There are a multitude of strategic choices that can be made but potential considerations for insurers could include:

- developing new products to meet emerging coverage needs in a sharing, connected economy;
- expanding digital distribution and virtual service to cut costs and gain competitive advantage;
- driving IoT strategies beyond auto insurance for personalized pricing and risk-management incentives;
- facilitating InsurTech innovations by launching pilot tests and perhaps financing startups; and
- deepening client engagement beyond renewals and claims while differentiating with ancillary services.

#### Six implications driven by emerging transformative forces

Deloitte has conducted in-depth studies on how these emerging forces may transform the future insurance market landscape, revealing six potential impacts:

1. commercial ownership of policies;
2. shorter policy periods;
3. unbundling of perils;
4. commoditization of risk;
5. unpooling of risk; and
6. separation of origination from underwriting.

### 1. Commercial ownership of policies

In the future, commercial entities may represent a substantial share of liabilities associated with personal assets. We have seen many sharing economy platforms already aggregate and represent individual customers' insurance demands, so that premiums are included in the per-usage fees consumers pay. Where users do not own specific properties, it can be difficult to attach insurance policies to specific customers. These companies will then tend to use commercial fleet insurance, or self-insure and reinsure the risks, and include the cost of insurance in per-usage fees. Incompatibly, sharing economy platforms, where users offer their own assets to other users, also tend to purchase coverages to support such unique commercial activities, to provide ease of use.

Meanwhile, peer-to-peer insurance provides a number of individual risks and represents them to traditional insurers. Because they create a pool for only part of the insurance premiums such as deductibles, peer-to-peer insurers are expected to work with traditional insurers to assume the remainder of risks.

Finally, and most profoundly, self-driving cars, and advanced driver assisted systems (ADAS) – sensors that help drivers know what they cannot see, such as backup cameras and blind spot alerts – could change who owns insurance policies. Furthermore, this next generation of vehicle will create new types of risks, such as cyber, that have not been associated with auto policies traditionally. As a result, these risks may naturally be represented by auto manufacturers, reducing the amount of risk insurable, replacing the demand from individual customers. Since the risks associated with manufacturing algorithms are more complex, insurers will then be required to have more bespoke, specialized underwriting capabilities.

The sharing economy could boost this shift toward commercial ownership of insurance policies as ridesharing platforms adopt fleets of commercially-owned self-driving vehicles. In Europe, a motor manufacturer will shortly introduce a plan to fully assume the liability for associated accidents caused by its self-driving cars, even though the regulatory framework is not yet in place.

#### Potential results for commercial ownership of policies:

| Impact to incumbents   | Necessary conditions   |
|--|--|
| Portfolio shift from personal to commercial policies   | Widespread adoption of self-driving technologies and sharing economy models  |
| Market erosion in the insurance industry as non-insurers develop the capacity to estimate and insure their own risks | Regulatory acceptance of policies being owned by partners other than the asset owner                                   |
| Expansion of reinsurers' role as commercial owners directly partner with reinsurers to assume risk for individuals   | Sufficient and fair coverage provided by commercial institutions and the resolution of potential conflicts of interest |

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## 2. Shorter policy periods

From the customer's perspective, it has always been relatively more costly to buy annual coverage for part-time as against full-time activity. For example, the driver who works from home most days might not necessarily pay less than someone with a daily commute, all other things being equal. But the rise of the sharing economy, along with online ordering applications (apps), is leading customers to question why they cannot get coverage based on their property use. It seems wasteful to buy a year's worth of auto body protection for a vehicle sitting in a garage.

We expect mobile applications to enable consumers to buy micro-coverage on the spot with a few swipes on their phones. Since telematics sensors transmit activity, underwriters, therefore, can adjust premiums based on a customer's specific habits or situation. All of these procedures combined with powerful analytics, can extract insights and trends from massive data volumes.

In short, market demand, not actuaries, are beginning to drive and define product development. As a result, we are beginning to see modular products that are specific to the time and use of an asset or a customer's behavior. People might turn coverage on or off at will – opting for insurance when their property is in use or when they deem their risks are greater. Billing will change in turn, as premiums become variable and irregular rather than fixed, and billed on an annual or semi-annual basis.

That said, shorter policy periods are likely to have a higher base unit premium. If people buy insurance only when their risks are higher, they will lose the cross-subsidization of premiums across inactive and active periods during the policy term. Customers then might save less than they expect.

### Potential results for shorter policy periods:

| Impact to incumbents   | Necessary conditions  |
|--|---|
| Reduced ability to pool risks across customer lifecycles as customer frequently turn policies on and off       | Insurer capabilities to understand and monitor asset usage              |
| More unpredictable cash flow from annual premiums, potentially leading to new ways of calculating risk capital | Mobile, user-friendly channels for customers to buy insurance on demand |
| Virtual insurance distribution as customers consume policies just in time                                      | Educated customers who know how much coverage to buy and when           |

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### 3. Unbundling of perils

Although general insurance is typically sold as an all-risk, comprehensive policy today, it is really a bundle of perils (specific risks or causes of loss). For example, an auto policy could have liability for bodily injury, property damage, auto collision, and more. Insurers can cover these perils under one policy, so long as the owner is the primary user.

In the situation of the sharing economy and self-driving vehicles, however, we could see fewer all-risk policies. Instead, it might become more common to consume insurance in smaller units that address single perils. For example, a car is supposed to have many part-time drivers, but property liability in this case might belong to the users, while other perils – such as protection against theft during which the car is idle – remains with the owner. Similarly, a driver from a car transportation company might hold accident liability, but passengers might want to purchase bodily injury protection in case of a no-fault accident.

Finally, auto manufacturers might retain liability associated with self-driving algorithms or accident prevention technologies, while auto owners may secure protection against theft, fire, and non-driving damage.

#### Potential results for unbundling of perils:

| Impact to incumbents  | Necessary conditions   |
|---|--|
| Diversified distribution channels to serve individual and commercial customers as comprehensive policies unbundle | Regulations to close the gaps between traditional policies and new property consumption models |
| More connectivity and sophisticated underwriting capabilities to understand and track the causes of risk          | Sufficient demand for coverage against specific perils   |
| Less customer turnover as insurance connects multiple parties with specific properties                            |  |

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#### 4. Commoditization of risk

Digital intermediaries are making it easier for customers to compare prices across carriers, which has led to products looking increasingly alike in markets like the United Kingdom. This trend is likely to continue as sharing economy platforms and peer-to-peer insurers homogenize the customer base and their risks. In other words, more of the market may look like that of rental car insurance where carriers, unable to differentiate across drivers, charge a uniform rate.

In addition, self-driving cars, ADAS, and the IoT will have a commoditizing effect. The motor manufacturing industry has expected that self-driving technology will eliminate 80 percent of car crashes by 2035. Meanwhile, the risk of remote monitoring and incident prevention will likely reduce what property risks remain in both personal and commercial insurance. As risk levels decline, so might variability among customer risk profiles, further reducing insurers' ability to differentiate based on pricing sophistication.

Generally, around 90 percent of crashes globally are due to driver error. If self-driving cars can significantly reduce human error, other insurable risks may become marginal, with smaller variances among non-human factors. As a result, general insurance policies may become a pure commodity.

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#### Potential results for commoditization of risk:

| Impact to incumbents   | Necessary conditions  |
|--|---|
| Reduced ability to differentiate as underlying products and their pricing become commoditized              | Mass adoption of preventative technologies to effectively remove the human factor                           |
| Margin pressure as price-based competition proliferates, increasing the importance of scale and efficiency | Little perceived differentiation among carriers and their brands  |
| Erosion of premiums as risks decline   | Limited ability of insurers to track individual risk profiles on sharing economy and peer-to-peer platforms |

### 5. Unpooling of risk

Since its inception, the general insurance industry has pooled risks from large groups of customers to help cover losses. However, insurers have begun to explore the IoT, social data, and big data for more behavioral and contextual detail about their customers' risk. Meanwhile, thanks to increased transparency from digital distribution and connected devices such as wearables and cars, customers are gaining more insight about their own risk.

The upshot is that insurers are getting better at measuring and pricing individual risks, while customers are getting better at understanding their own risk levels. This means the old risk pools may go away – and, along with them, insurers' ability to subsidize high risk customers with premiums from low risk customers.

In the end, customers may provide their own cross-subsidies by "borrowing" from their past and future premiums to cover losses. For insurers, long-term customer retention will become a key driver of profitability. Unpooling of risks may also motivate customers to self-insure via monthly savings and a line of credit, especially if they know the exact likelihood and magnitude of expected losses.

In the global marketplace, startups are connecting personal vehicles to the internet to allow people to get insight into their driving habits, vehicle maintenance and fuel efficiency. This appeals to drivers who would rather not obtain this information through an insurance company. Given a new level of awareness about their risk levels, it's likely that drivers will begin to expect premiums that reflect this individualization. And, with customers willing to pay only for their exact level of risk, it may become harder for insurers to pool risks across customers.

#### Potential results for unpooling of risk:

| Impact to incumbents   | Necessary conditions   |
|--|--|
| Erosion of prediction premium as more accurate risk profiles and individual pricing become a competitive necessity | Regulatory allowance of individual pricing based on behavioral data instead of demographic factors, including resolution of privacy issues   |
| Replacement of analytical investments with business intelligence as digital channels allow for price transparency  | Market consensus on the right price for an individual customer's risk profile  |
| Growing importance of expense ratios to combat compressions on loss ratios, making scale and efficiency critical   | Universal data availability for a sufficient number of insurers to price risks accurately; otherwise, insurers with exclusive access to data will dominate the market by securing profitable customers |

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## 6. Separation of origination from underwriting

General insurers, traditionally, have owned most of the insurance value chain, except for distribution (mostly owned by brokers) and a small portion of risk capital (ceded to reinsurers). Over the past decade, large scale brokers and managing general agents have been assuming a greater role in underwriting policies that are originated by insurers. In the future, we expect two trends may accelerate this shift and reconfigure how the insurance value chain is structured.

The first is the emergence of digital intermediaries that offer services beyond mere distribution, such as risk analysis and innovative product packaging. These players will rely on their partner carriers to assume the risks associated with the policies themselves but, like managing general agents fully own the underwriting authority – from pricing to binding.

The second trend is in the market for risk capital. Thanks to new analysis platforms, reinsurers can select the policies they assume from insurers faster and with more accuracy and sophistication. Meanwhile, alternative capital such as hedge funds securitize insurance risks, with end customers directly funding some portion. Their widening participation may further separate underwriting from originating or funding. As these models develop and technologies like distributed ledger technology (e.g. blockchain) are used to automate claims adjudication, we may see a new insurance marketplace for retail and institutional investors.

Over time, the separation of underwriting and origination activities will proliferate the entry of new, innovative players with alternative value propositions in the general insurance industry, while changing the market dynamic between traditional insurers.

In the global insurance market, we have seen several global reinsurers form a partnership with startups with an aim to introduce a full peer-to-peer insurance network. They operate as an insurance carrier instead of a broker, and focus on underwriting capabilities, while relying on reinsurers and individual investors to provide risk capital for policy origination.

Following the ripple effects of insurance-linked securities in the reinsurance market, alternative capital by 2015 composed around USD 68 billion of the global reinsurance capital, compared with the traditional capital of USD 497 billion. Deloitte estimates that 12 percent market share will double by 2018.

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**Potential results for separation of origination from underwriting:**

| Impact to incumbents  | Necessary conditions   |
|---|--|
| <b>New value propositions</b> as intermediaries and underwriters gain freedom to experiment without putting the entire book at risk | <b>Trust and transparency</b> offered by underwriting parties to originating parties                             |
| <b>Competitive shakeup</b> due to greater access to capital and tumbling barriers to entry  | <b>Regulatory acceptance</b> of increased complexity to the industry structure                                   |
| <b>More commercial insurers and reinsurers</b> in the personal insurance market via innovative partnerships                         | <b>Continued appetite</b> of alternative capital sources to invest in insurance, even in a high rate environment |

When all of these six transformative forces come together, the risk nature of auto insurance will also change. We expect four scenarios to appear in the future, covering individualization of insurance, insurance as portfolio, off-the-shelf insurance, and insurance as utilities. Insurers must make their core strategic decisions based on which direction they believe their market will move.

**Figure 2: How do transformative force map to potential implications?**

|              |   | Within insurance       |                    |                     |              | Outside of insurance |                   |     |                     |                  |                    |
|--------------|---|------------------------|--------------------|---------------------|--------------|----------------------|-------------------|-----|---------------------|------------------|--------------------|
|              |   | Digital intermediaries | Episodic insurance | Alternative capital | Peer-to-peer | Sharing economy      | Self-driving cars | IoT | Social and big data | Machine learning | Distributed ledger |
| Distribution | Commercial ownership of policies            |                        |                    |                     | ●            | ●                    | ●                 |     |                     |                  |                    |
| Product      | Shorter policy periods                      | ●                      | ●                  |                     |              | ●                    |                   | ●   |                     |                  | ●                  |
|              | Unbundling of perils                        |                        | ●                  |                     |              |                      | ●                 | ●   |                     |                  |                    |
| Pricing      | Commoditization of risk                     |                        |                    |                     | ●            | ●                    | ●                 |     |                     | ●                |                    |
|              | Unpooling of risk                           | ●                      |                    |                     |              |                      |                   | ●   | ●                   | ●                |                    |
| Structure    | Separation of origination from underwriting | ●                      |                    | ●                   | ●            |                      |                   |     |                     |                  |                    |

Source: Deloitte Consulting

### Asian trends

In Asia, we have seen some of these disruptive forces currently at play, with rapidly growing potential, in the auto insurance sector. Typical cases are found in China, India and Southeast Asia where insurance companies are using technological advancements, big data and IoT, as well as partnerships, to transform auto insurance for customers and in the operations of their business models. Whilst these advancements are not yet fundamentally transforming the industry, they demonstrate insurers' willingness and ambition to change how they engage with customers, price their products and deliver a vastly different experience for their customers. For example, in China, an auto insurance startup offers innovative quasi-insurance products like "car wash subsidy" and "traffic jam subsidy" to local customers, in addition to traditional auto insurance products and services. This insurer is able to use a "dongle-free" approach to obtain the real-time location of its customers by tapping into smartphone sensors when enabling its trip management function. Within this function, the insurer can promote its additional service "traffic jam subsidy", and offer users gas coupons if the app detects that users are indeed caught in traffic jams. Meanwhile, customers can participate in a daily "oil price guessing" by betting on the oil price movement the following day, with coupons of differing sizes as prizes for participants who guess correctly. The insurer has already gained over two million users in China with these specific products.

In India, technology advancements, the increasingly connected world and the ability to collect and process data are transforming the local motor insurance industry, and improving customer experience drastically. Currently, new auto insurance is already integrated with a new car purchase, and is included in the "on road" price in India. Once on-boarded, insurers will closely engage with customers, or the car owners, to ensure safe driving and to prevent future accidents. It is expected that fewer accidents could also help car owners and insurers achieve lower claims, which account for 70-80 percent of the premium.

Meanwhile, an insurance app powered by telematics sensors and GPS tracking will give customers tips on safe driving based on their driving patterns. Such technological sophistication will also allow insurers in India to offer bite-sized "pay-as-you-drive" (PSYD) products, or products that cover only specific geographies, drivers or timings with an attractive price. Innovation, on the other hand, will make renewals more convenient to customers.

In Singapore, we have seen a local auto insurer partnering with a telematics company for analytic products development, and better price prediction via measurable risk assessment of drivers, so as to support its usage-based insurance scheme for the private car policyholders. Through the partnership, the insurer has found an average of 37 percent decrease in claim frequency, and seven percent margin growth, due to decreased fraud risk among its customers.

Another insurer in Singapore, which adopts a PSYD model utilizing telematics app technology to measure the driver's travelled distance while providing driving tips via a rating mechanism, is expected to promote potential premium savings of up to 50 percent, or close to USD 368 annually. This customer-centric program, according to the insurer, starts with a low base motor insurance rate, provides savings from the start with a transparent plan and payment model, aiming to

reward drivers who drive less with upfront premium savings, without compromising on coverage.

### Regulatory support

Although auto insurance is a mature general insurance (GI) business line in Asia, market developments and degree of maturity varies. Despite this, auto insurance is certainly one of the first batches of the general insurance business experiencing the disruptive forces driven by innovative technologies. This significant ecosystem change has also motivated insurance regulators in the region to develop favorable business environments locally and internationally, with the intention of supporting insurers and startups in capturing new opportunities brought about by digital transformation and big data analytics. Amongst them, the Hong Kong Insurance Authority (IA) has already initiated steps to promote the city as an InsurTech hub in Asia.

With a population of around seven million, Hong Kong is one of the more mature markets in the region, with motor insurance regulations in place for over three decades. According to the IA, in 2016 Hong Kong's motor vehicle business recorded an increase in gross premiums of 3.6 percent to HKD 5.5 billion (USD 704 million), from HKD 5.3 billion in 2015; while the direct motor vehicle business reported an underwriting loss of HKD 199 million, widening from HKD 152 million in the previous year.

During the year, total gross premiums of Hong Kong's insurance industry grew by 20.7 percent to HKD 451.7 billion. Among which, the general insurance business recorded a drop in gross and net premiums by 1 percent and 1.9 percent, to HKD 45.5 billion and HKD 31.5 billion respectively, comparing with 2015.

In order to promote the development and the application of new technologies in the insurance sector in Hong Kong, the IA has recently introduced two pilot initiatives – Insurtech Sandbox and Fast Track – supporting close collaboration between the industry and the FinTech community with a goal to promote Hong Kong as an InsurTech hub in Asia.

Insurtech Sandbox helps authorized insurers experiment with new InsurTech and other technology applications without the need to achieve full compliance with the IA's usual regulatory requirements. Under this initiative, pilot trials of InsurTech applications will be conducted in a controlled environment with sufficient safeguards for policyholders. Insurers can gain real market data and collect user feedback before their formal launch in the market.

Meanwhile, insurers that apply under Fast Track must have an innovative and robust model using digital distribution to provide benefits to policyholders in product development, delivery, customer service and cost efficiency. This scheme will also expedite the authorization process by giving the IA an opportunity to review proposed digital distribution channels at an early stage.

The IA has said that it is committed to building a regulatory environment conducive to the use of new technologies in the insurance sector while introducing flexibility to the existing supervisory requirements. It will also closely monitor the operation of both pilot

initiatives and may refine the arrangements in light of implementation experience and industry developments. Furthermore, the IA's Insurtech Facilitation Team will help insurers, FinTech companies and startups to gain a better understanding of the current regulatory landscape and provide a platform for the exchange of ideas related to InsurTech initiatives.

On global regulatory co-operation, the IA has recently entered into a co-operation agreement with the UK Financial Conduct Authority (FCA) to enhance collaboration in supporting global FinTech innovation via information sharing on innovation and referrals of innovative firms seeking to enter the counterpart's market. The regulators aim to jointly promote innovation and enhance synergy for both markets, in order to benefit consumers and the overall financial industry.

In China, the local regulator, the China Insurance Regulatory Commission, is supporting InsurTech market growth with an encouraging regulatory environment. Currently, there are three main InsurTech segments in the country – 1. Online distribution of traditional insurance products; 2. Technology enabled upgrades of existing insurance products; and 3. Ecosystem oriented innovation of new insurance products. Auto insurance is foreseen to take up a key role in the first two segments. China is expected to see a rapid InsurTech development in the next three years, with the market size expanding to approximately CNY 1.1 trillion (USD 169.6 billion) in 2020.

In this era of digital transformation powering with big data analytics that is shifting the global auto insurance landscape, general insurers who want to stay on top and win the race, are advised to quickly adopt new technologies in their operation strategies to respond to the game-changing market trends.



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