



Collaboration vs. competition Unlocking the power of blockchain in insurance

The global rising trend of digitalization and the sharing economy have progressively put the heat on insurers to rethink their business strategy by leveraging more disruptive technologies, collaborations across the eco-system and more innovative partnership models. Across Asia, and particularly in China and Hong Kong, the insurance industry is experiencing an unprecedented degree of change. Insurers who can embrace emerging technology, such as blockchain, to enhance their company efficiency and develop new ways of doing business for better synergy and value maximization - while staying on top of all the compliance requirements - could be the future winners.

Blockchain, the technology underlying the cryptocurrency bitcoin, is a distributed ledger where multiple parties can see and add information transparently and securely. It is "distributed" in nature in that identical copies of the blockchain are kept on multiple computers owned by different entities. Data is exchanged, verified, and stored in fixed structures called blocks, and each copy of the blockchain independently validates new blocks before adding them to the chain. Also, blockchain has a unique function of independently verifying information.

Given its ambitious potential to drive simplicity and efficiency through the establishment of new financial services infrastructure and processes, blockchain technology, which is more properly called Distributed Ledger Technology (DLT), is rapidly gathering momentum within the insurance industry in the global marketplace today. Insurers, like banks and other financial institutions, are intermediaries and, at first glance, there is great potential for insurers to use blockchain technology to:

- improve customer experience;
- streamline payments of claims;
- reduce costs;
- manage risks by detecting, preventing and countering frauds; and
- bolster the bottom line.

In addition, blockchain technologies could support the significant digital transformation underway in the industry because much of this transformation relies on data.

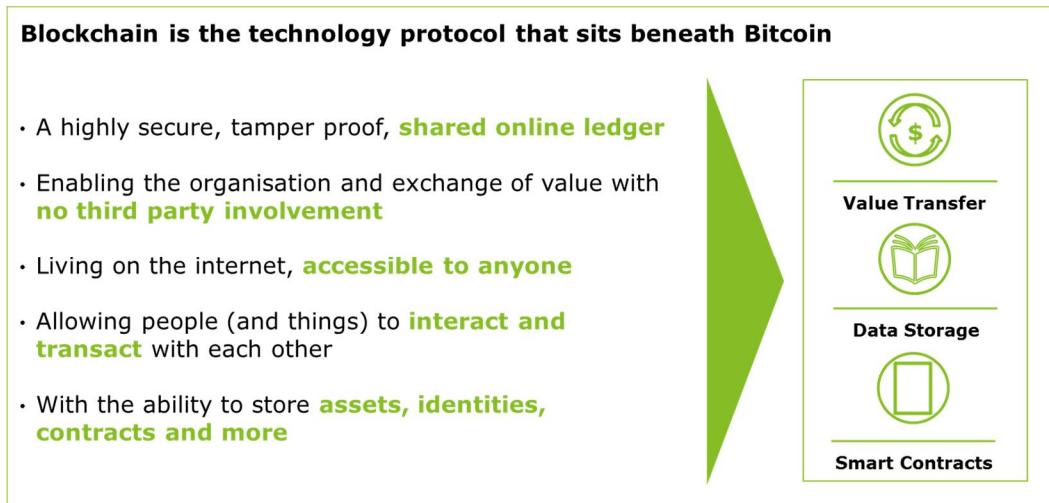
Smart contracts, another feature powered by blockchain, could provide customers and insurers with the means to manage claims in a transparent, responsive and irrefutable manner. Contracts and claims could be recorded onto a blockchain and validated by the network, ensuring only valid claims are paid. For example, the blockchain would reject multiple claims for one accident because the network would know that a claim had already been made. Also, smart contracts would enforce the claims – for instance, triggering payments automatically when certain conditions are met and validated.

Deloitte believes this is one of the most promising technologies to take the next step in creating the digital enterprise. For property and casualty insurance, underwriting and claims processing are the dominant functions and processes. With underwriting, we have seen that blockchain technology can help reduce costs, improve risk assessment, improve accuracy of pricing, and enhance client onboarding. Similarly, the technology can simplify and automate claims submission processes to reduce fraud loss, improve customer experience without manual inspection, and facilitate automated compliance.

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Deloitte Consulting

Figure 1: What is Blockchain?



Source: Deloitte China

Global market experience

Deloitte's Center for Health Solutions and Center for Financial Services recently partnered on a research project to look into how health and life insurers might leverage blockchain and related technologies to strengthen key elements of an insurer's value proposition in the next five to 10 years to improve current operating processes and systems while enhancing the customer experience and reducing costs. This covers a wide spectrum of the insurance value chain:

- from policy applications to policy servicing and administration;
- from underwriting to alternative payments models;
- from claims management to fraud mitigation; and
- from cyber security to data privacy.

Within the study, Deloitte proposes operational and consumer use cases to examine how blockchain could directly and indirectly improve an insurer's basic processes and business models.

With the mutual concern of both the health and life insurance industries around sharing sensitive medical information and medical history, personal characteristics, and ongoing wellness of policyholders, the added security and ability to establish trust between entities are two reasons why blockchain technology, which provides a more secure environment to store and access data, can help solve the interoperability problem better than today's existing technologies. This is expected to move the industry towards enabling comprehensive health records by consolidating fragmented patient health care records across a multitude of organizations.

Information is an insurance company's lifeblood. Properly acquiring, processing, sharing, securing, and using that information to make decisions in a timely manner is crucial, but some of today's transactions may take days, or weeks, to locate and process. Many insurers are using claims systems that were originally built more than 30 years ago. Maintaining

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these outdated technologies increases costs for insurers and may hamper their efforts to adopt new value-based payment strategies that will change the way insurers approach network development, provider contacting, and payments. Also, the imperative for insurers to cost-effectively maintain their administrative infrastructure is becoming more public and important.

The many millions of transactions and data exchanges between an insurance company and its customers, providers, vendors, employers, auditors, and regulators should become much easier to access and view securely with blockchain, saving time and resources. Blockchain could automatically collect records or agreements, transactions, and other valuable information sets, then link together the information and act on the data using smart contracts.

According to the global insurance market experience, both health and life insurance are heavily regulated industries and would benefit from the increased transparency into organizational transactions and other activities. Pulling data together quickly from disparate sources could improve regulatory reporting efforts such as the Medical Loss Ratio (MLR), and the accessibility of blockchain's distributed ledger could make that kind of reporting much faster and easier.

In a value-based environment, developing a network of quality providers is also imperative. Shared information on the blockchain could help insurers determine which providers to seek out and contract with, as well as verify that contracted providers are meeting their obligations. Drafting complex, value-based contracts is a manual, time-intensive process, as is determining payment, which may require retrospective reconciliation. Smart contracts could automate these processes and decrease the time and resources needed to execute the terms and conditions. They are also decentralized and cannot be changed, thus all parties can be confident that terms will be consistently executed, while blockchain could make the full payment record available to all to see and review.

To effectively incorporate blockchain technology into an insurer's back-office operations, ongoing training of the users, accurate and properly formatted information, and data migration among health care providers, financial institutions and policyholders, are significant. The cost of start-up, integration, and migration should be considered, along with resources to hire and train staff to manage the systems. As blockchain technology becomes more sophisticated, insurers would see the benefits of streamlined processes, increased security, and cost reduction worth the effort.

Another feature of blockchain is to help insurers detect fraud more effectively. In the global marketplace, the United States, for example, it is estimated the total cost of non-health insurance fraud is more than USD40 billion annually, while the estimated total cost of health insurance fraud, both private and public, is approximately USD77 billion to USD259 billion, according to the Federal Bureau of Investigation (FBI). When fraudulent information is submitted to a life or health insurer through false claims, falsified applications, or other channels, blockchain's smart contracts, however, can help determine if the submission is indeed valid.

For example, a health insurer could link a claim submission to a patient's interoperable health record on the blockchain to verify that the patient was actually seen for the appropriate condition. A life insurer could compare elements of an applicant's health record – whether the person had been treated for cancer, or whether the person is a smoker – to public or

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employment records to verify that the information the applicant provided is correct. Once confirmed, the claim would be paid. If not confirmed, the claim either would not be paid or would at least trigger further investigation.

Additionally, blockchain's ability to easily and securely pull together different data sources at any point in a transaction and enable data analysis increases insurers' ability to detect, identify, and mitigate fraudulent activity. In health insurance, for instance, certain providers may have internationally billed multiple insurance companies incorrectly; however, each insurer may have had only limited instances of the activity and, therefore, not enough data to understand if the bills were honest mistakes or actual fraud. Once all the payer's information is combined, trends are easier to detect and fraud is exposed. To verify these transactions, health insurers, however, would require close collaboration with different organizations including government agencies, other financial institutions, and health care providers, by linking to external blockchains, which could take time and resources to develop and maintain.

Blockchain could also improve health care provider directory accuracy. Unique provider directories could leverage the technology's decentralized consensus protocols to allow providers and insurers to update listings more quickly and easily. If a provider changes networks or someone finds a mistake, they can initiate a correction, which can be automatically accepted or rejected by smart contracts based on other information in the blockchain, such as a recently rejected claim. Health plans will be able to keep track of all provider updates and will know which information is more current. Providers, who currently have to maintain multiple directories, would only have to update their information in one place, such as government-sponsored blockchain.

On consumer considerations, we would expect the blockchain technology to help insurers simplify the application process by making it more client-centric with enhanced policy value. Currently, insurers have found that the life insurance application process can be difficult and time consuming when it comes to gathering past health information and requiring new medical tests for underwriting and pricing. These kinds of customer experience challenges, according to experience in the global insurance market, have been stunting life insurance sales growth, resulting in a large segment of the global population being under- and/or uninsured. Meanwhile, shopping for health insurance can also be complicated and challenging for consumers, as one survey of organizations assisting individuals looking to buy coverage reported that 74 percent of those they worked with needed help understanding basic health insurance concepts.

Providing an easier-to-access, more comprehensive set of medical records on a blockchain, however, could infuse comfort and peace of mind into what, for many, is now an intrusive and often discouraging application process. Beyond the benefits of operational efficiency and cost savings cited earlier, a blockchain-facilitated, interoperable health data repository can potentially become a lynchpin for insurers to enhance customer experience and strengthen relationships. Such a transformation could help grow the overall pie of insured consumers by convincing a higher percentage of prospects to start and complete a faster, more user-friendly application process, ultimately increasing the ranks of those with life insurance and improving the experience of those shopping for health insurance.

With the entirety of a consumer's medical and wellness records consolidated in a series of blockchains, the life insurance underwriting and application process could be whittled down from an average 45 days to near-real-time. Health insurers could obtain secured, verified patient information far more easily, making the addition of new policyholder information to the ranks of an insurer's records much faster and easier, while lessening the burden on the consumer to collect and provide detailed sensitive information.

This could then help lower the uninsured population. Deloitte's work on life insurance underwriting – tapping existing sources of electronic data – suggests that the likelihood of prospects buying a policy once they apply increases from about 70 percent to nearly 90 percent as the underwriting and application process gets closer to real time. In addition, moving to a blockchain-based system may allow more insurers to directly own the client relationship while supporting a wider variety of consumer-driven purchase options. Indeed, blockchain's ability to validate and execute transactions without an institutional intermediary may make consumers more likely to seek emerging arrangements to buy individual life insurance, such as online insurance markets, and peer-to-peer (P2P) or crowdfunding insurance exchanges, which are newly formed alternative risk transfer vehicles that blockchain could support.

The use of blockchain could also facilitate a dynamic insurer/client relationship. This is because electronic health records securely stored on a smart contract could also store near-real-time data about the policyholder's lifestyle and fitness via telematics devices monitoring their everyday activities. In this way, life insurers could continuously reassess a person's risk profile and adjust the cost of coverage accordingly with incentives such as premium adjustments, discounts for exercise or diet achievements, or even gamification-driven competition. Health insurers could use such telematics data to support wellness programs and trigger discounts on premiums, and provide value-added health care services to remind policyholders to take medication and schedule checkups. In return, insurers could benefit from developing a healthier, more risk-averse book of business, and encourage more individuals to purchase coverage and stick with them for a better customer engagement.

Hong Kong insurance industry outlook

In Asia, Hong Kong in particular, the insurance industry is undergoing an unprecedented degree of change. The operating environment is getting more challenging with insurers all trying to deliver products and services more efficiently with better customer experience, yet transforming themselves to face the rapid and significant changes of the regulatory environment and accounting regime. The blockchain technology, however, offers potential use cases for insurers to have new business development opportunities in a mature market with limited growth and cost reduction pressures. It is expected blockchain technology will lead to annual savings of about USD15-20 billion in IT infrastructure costs by 2022.

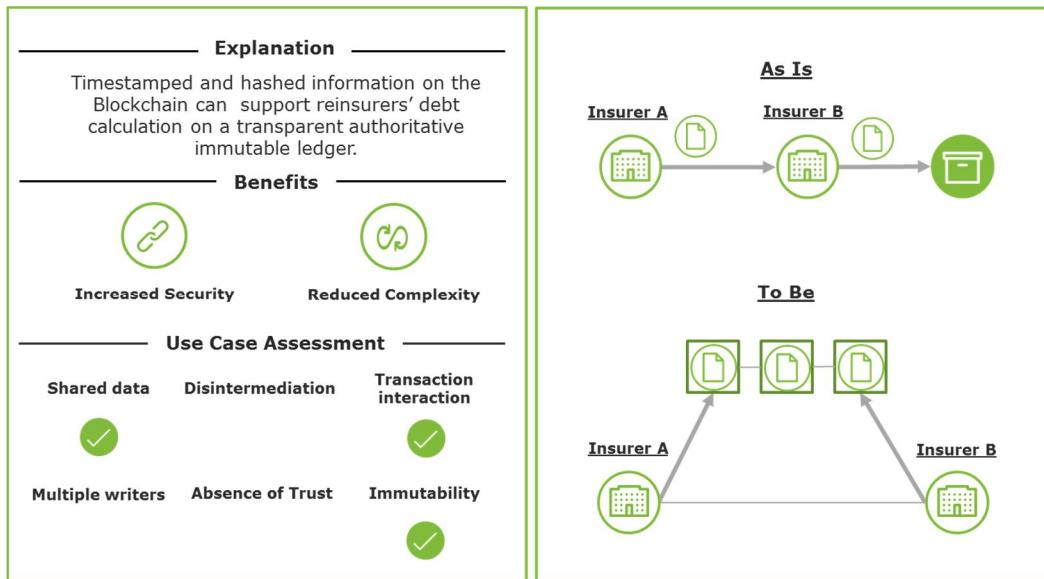
Dr. Paul Sin, Partner and FinTech Co-Leader at Deloitte China, believes that "with the new emerging technologies, financial institutions in general will have lots of new opportunities through industrial collaborations. Within the industry, technologies allow insurers to collaborate and detect duplicated and fraudulent claims together. Across industry, technologies allow insurance companies to collaborate with health care providers, car agencies, bancassurance channels, and so on. In our opinion, these technologies also known as FinTech or InsurTech are not disruptive but collaborative".

One example of such a collaboration in Hong Kong is bancassurance. Insurers are increasingly leveraging alternate distribution channels such as bancassurance. This engenders the need to share product, client, and commission information across organization boundaries. For instance, the customer service of the bank will need to enquire the latest status of the insurance policy, which resides in the policy administration system of the insurance company. In order to tackle these issues, banks and insurers need to spend a lot of effort and time in system integration. During the period, the servicing process tends to be manual and lengthy, resulting in poor customer satisfaction.

As noted by Dr. Sin, "there are always discrepancies on the commission calculation between the banks and the insurance companies due to the complexity of the incentive scheme as well. The implication of the blockchain technology, however, can help insurers and banks save around 50-55 percent manual effort through the platform in bancassurance, while discrepancies could be reduced by 18-25 percent".

Another blockchain use case is reinsurance, which leverages the event-driven execution capability of smart contracts to generate claims payments based on pre-agreed and mutually signed digital contracts. Reconciliation results will therefore be available real-time with disputes being resolved on the same day the claim is submitted. Complex collaboration can be facilitated among a large number of reinsurers and reinsurance companies without creating lots of manual overhead. It will be essential for a major reinsurance company to enter a new market, and a small insurer to access coverage provided by large multinational reinsurers.

Figure 2: Use Case of Blockchain in Reinsurance



Source: Deloitte China

With the collaboration with the local financial regulator and several major banks to drive the adoption of DLT within the trade finance eco-system, Deloitte has recently opened its first Asia Pacific regional Blockchain Lab led by Dr. Sin. The Lab is coordinated out of Hong Kong, as the city is known as a mature financial center and trading hub with a supportive regulatory

environment and talented workforce. The blockchain technology in Asia will be used to synchronize product and customer information between banks and insurers. Other potential uses include tracking goods that are covered by insurers and detecting duplicated claims.

From a regulatory perspective, it is expected that more stringent customer protection regulations would be in place in most Asian countries which would lead to improved transparency and more onerous sales process requirements. Although concerns about data privacy, network security, customer content, and data security and system availability, are automatically resolved due to the features embedded in the DLT design, other questions, such as business contingency planning, additional education regarding the new technology, and proper legal frameworks to deal with digital ownership of assets or disputes in smart contract executives, still need to be addressed.

Blockchain is one of the most promising technologies with which to take the next step in creating the digital enterprise. The additional cost reduction opportunities combined with a higher level of automated trust will revolutionize back and mid-office applications and processes. Insurers are suggested to strategize, experiment, and develop proofs of concept to leverage blockchain technology and create next-generation products and services that feature greater interaction with their policyholders. At the same time, they can future-proof against encroachment from other industry sectors and non-traditional competitors by driving growth through value-added features via cross-sector collaborations.

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