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Blockchain innovation:

How, when and where

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Blockchain innovation:

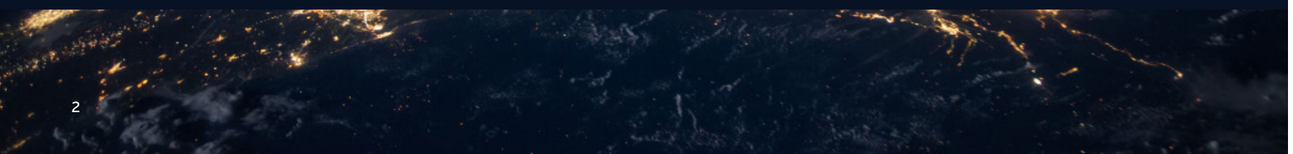
How, when and where?

Innovation in the insurance industry has historically been driven by market disruptions within the market's pricing cycles. Today, insurance market pricing cycles are muted and are not a driving force for innovation. Instead, the insurance market is faced with a digital disruption that is changing the business world, and those who seek to insure it, at an unprecedented rate. Many of the disruptive business changes are driven by a hyperconnected economy that is dependent on global supply chains and funds transfer or payments systems. For example, as reported by *TechCrunch* in 2018, Walmart and Carrefour have implemented innovative blockchain technology for monitoring food from the farm to their shelves.

These client-driven blockchain innovations can provide insurers with enhanced underwriting and claims management insights, yielding innovative risk management and product services with business interruption and extra expense risk and product liability, recall and contamination risk. On the fund's transfer or payments side, blockchain allows for transfer of funds anywhere in the world with or without the use of a traditional bank — a potential major savings for insureds and insurers. These major supply chain and payment blockchain innovations have led market forecasters, such as the International Data Corporation (IDC), to predict that blockchain spending will reach $11.7 billion in 2022. Even so, some argue that blockchain's tie to crypto assets, which have been subject to great price volatility, market hype and some operational deficiencies, such as the recent QuadrigaCX exchange matter, leaves blockchain technology and its users vulnerable to unknown unknowns. Yes, blockchain innovations and spending may be tempered by the 2018 crypto-asset devaluation and potential unknown issues, but for those who see the potential of the underlying blockchain technology, the insurance journey with blockchain is just starting.

Recognizing blockchain's potential, the insurance industry has not been timid with its blockchain investments. In 2017, the insurance industry created the blockchain consortia B3i and RiskBlock. Also, as the *Insurance Journal* reported in 2017, major insurance industry pain points with payment transactions were addressed in captive blockchain proofs of concept by Allianz and AIG. As *Cointelegraph* pointedly advised in 2018, certificates of insurance pain points were addressed by Marsh and IBM. In 2018, EY and Guardtime deployed the first full-production marine insurance blockchain — Insurwave. Not to be caught playing catch-up, insurance captive regulators, such as Vermont, have recently announced their own blockchain use-case initiatives.

Blockchain technology provides the opportunity to truly change insurance industry workflows and create new revenue from areas such as security services. The industry's next steps with blockchain are less clear. In part, the insurance industry's future steps with blockchain have less to do with the technology and more to do with finding that "killer app" or use case that can truly change the insurance industry.



It should come as no surprise to those in the insurance industry that captives are a common thread in many of these blockchain innovations. Captives grew exponentially from insurance market disruption caused by the liability crisis of the mid-1980s, and captives in their various forms are now well-positioned at all levels to grow from the disruption that may arise from blockchain. Let's examine some captive blockchain opportunities.

Accounting and premium audits:

Blockchain's ledger-based technology can simplify the accounting and premium audit process because it gives visibility to all transactions for approved users. This may reduce auditors' work sampling and validating transactions, allowing auditors more time to focus on controls and investigating anomalies.

Legal:

Sensitive transactional documents can be verified by posting to an open-source digital ledger, validating document details, such as canonization, approval, status, filing and other relevant document information. Verified documents retain a blockchain ID, providing accuracy through a distributed digital trust network that includes blockchain certification of content stored in the cloud as well as in local storage devices.

Operations:

Captives must collect, maintain and distribute myriad insurance exposure data to a variety of stakeholders. On a blockchain, the stakeholders may be permissioned to access the data and to act on it. The blockchain can possess internal applications (e.g., Dapps) that can automatically route the data from verifier to approver without any external interaction or waiting for emails — saving time and money.

Payment and claim transactions:

Captives often issue global international insurance policies that require local policies to be issued and premiums paid in the local foreign jurisdiction, even though the costs were already paid for under a global policy. The collection and reconciliation of these local premiums against an international policy premium have caused many liabilities for the insured and insurer alike. As seen with the Allianz-EY and AIG international payment blockchain proof of concepts, these collection and reconciliation issues can be eliminated.

Security:

Captive insurers could offer their owners enhanced cyber defense through a blockchain platform that can prevent fraudulent activities via consensus mechanisms and detect data tampering. The platform depends on its underlying characteristics of operational resilience, data encryption, auditability, transparency and immutability. Owing to their distributed nature, blockchains provide no "hackable" entrance or a central point of failure, thereby providing more security when compared with current database-driven transactional structures.

Tax:

As insurance premium tax is a transactional tax, blockchain is perfectly suited for the capture and calculation of insurance premium tax via blockchain's smart contracts. At the 2016 World Economic Forum in Davos, more than 800 observers and technology executives were questioned about when they thought governments would begin to collect taxes using blockchain. The average responses pointed to 2023, with 73% of responses mentioning 2025. At the same time, blockchain could assist with the calculation of transfer pricing by codifying the judgments made when establishing how profits are attributed to different parts of a business. Last, but not least, blockchain can provide details on transactions that will aid income tax calculations.

Trust:

Fundamental to every single insurance interaction is trust; one trusts one's insurer to maintain the confidentiality of its data, but it is a very challenging issue for group captives that expose them to liability, such as with Europe's General Data Protection Regulation and the California Consumer Privacy Act of 2018. This desire for confidentiality is one reason that insurers have focused on private or permissioned blockchains, such as those referenced previously. However, these private blockchains inhibit the true innovation of blockchain — decentralized, connected, trusted and secure sharing of sensitive data that enables network-level insights. For example, claim patterns in an industry group captive, such as a commercial transportation one, is very sensitive and private data. In many cases, the insured might not want to reveal such private data even to its group captive for anonymized computation of network-level insights. Within a blockchain utilizing zero-knowledge proofs, network insights can be provided in a trusted and verifiable manner without revealing the private information of the individual insured. This allows the individual to maintain their very sensitive private data while enabling the group captive network insights to better price risks for the entire group.