Cassels

The One Where Insurance Meets Blockchain and Parametrics

Jacob Robinson, Gordon Goodman

April 14, 2022

With increasing frequency, our team is being asked to assist clients with matters involving insurance and blockchain technology. The opportunities to harness the power of blockchain and adapt it to insurance solutions seem endless. With each such engagement, we cannot help but feel that – and we literally say this to each other often – “this is what it must have been like to help clients with Internet-related matters in the mid-1990s.”

Oh, The Possibilities

In the early years of the Internet, the efficient exchange of digital information led many to appreciate the myriad of potential use cases for peer-to-peer *information* exchange. With blockchain, the combination of cryptography and consensus leads many to contemplate the myriad of potential use cases for peer-to-peer *value* exchange. In this regard, the similarities between the internet and blockchain are as great as their potential.

Blockchains are decentralized, immutable, transparent, and cryptographically-enhanced digital ledgers. Put simply, blockchains are a list of records (blocks) linked together using a cryptographic hash function (for example, “SHA-256”) to form a chronological chain that is secured by “consensus.” Consensus is achieved when the participants in the blockchain network evaluate and agree on inputs before they are permanently incorporated into the blockchain. These participants (or “miners”) are incentivized with a digital token native to the blockchain, called cryptocurrency, which is given to them as a reward for their contributions to achieving consensus. Cryptocurrency allows participants and smart contracts (explained below) to make on-chain (digital) payments without invoking off-chain (physical world) controls.

Skeptics are quick to point out that a blockchain is not a magic solution for every business problem. They are correct; however, blockchain technology offers a chance to improve efficiencies almost everywhere – insurance included. Moreover, the areas of concern cited by skeptics – insufficient decentralization, lack of real-world bridges, etc.– are being addressed in real time. This means that laying a blockchain-enhanced foundation today can place a company ahead of its competitors and in a position to capitalize on the rapidly expanding acceptance and adoption of this new technology.

So, how can blockchain be used in the insurance industry? Two potential use cases are (a) an insurance policy stored on the blockchain and (b) parametric insurance policies using smart contracts to pay claims efficiently (almost instantly). Let’s discuss both briefly.

Blockchain Storage

Rather than issue the traditional paper-based insurance policy to document the insurer's indemnification obligations to the insured and store this policy in the traditional way (sometimes, in various folders and on different digital devices), an insurer can store the contract on an immutable blockchain ledger. The insurer and insured agree to upload, sign, store, secure, and allow equal access to one copy of the policy (including the application and any endorsements) with the comfort of knowing that one party cannot unilaterally change any terms. Furthermore, there will be no disagreement over which version of the contract governs as the parties are all privy to and have signed the blockchain-stored policy. No more scrambling to put together all the documents that make up the policy to interpret it – just view the contract on the blockchain.

If the policy needs to be amended, an endorsement can be added. If the policy needs to be renewed, that can be done too. It's all there at one secure place for those with access to see, including auditors, regulators, and courts as needed.

The Smart Contract and Parametrics

Smart contracts are programs stored on a blockchain that can be coded to run when predetermined conditions are met. They can automate the execution of an agreement so that all participants are certain of the outcome, without any intermediary's involvement. Smart contracts are a blockchain-based innovation that offer a great opportunity for insurers to offer their customers efficient parametric insurance solutions.

Parametric insurance is coverage that pays the insured a pre-determined amount on the occurrence of a pre-defined event, as measured or declared by a neutral third party on whom the insurer and insured agree.

Now, let's see how smart contracts and parametrics can work together to create efficiencies. We will use the example of a parametrics policy under which the insurer will pay the insured if there is a certain amount of rainfall within a period of time on the insured's crop farm. With a smart contract, the insurer creates a program that automatically pulls rainfall data from oracles (trusted third parties, such as Environment Canada) with a predetermined trigger point – say, 50cm of rain within a 12 hour period – so that if the threshold for rainfall is met (for example, 51cm of rainfall on the GPS coordinates of the insured's farm within a 10 hour period) an automatic claim payment is made. Both parties to the contract benefit – the insured is not required to demonstrate they sustained a loss under the policy to receive a payout, and the insurer does not have to take the time to investigate the claim to determine the amount of loss before paying out. Perhaps most importantly, the insured gets paid almost instantaneously, providing them the funds necessary to respond to the triggering event quickly.

Regulatory Considerations

When assessing whether to use a smart contract to distribute a parametrics policy, legal counsel should be consulted to help ensure the policy meets the regulatory requirements in the applicable jurisdiction (including record-keeping requirements) and that the parametric offering will be regarded by applicable regulatory authorities as an insurance product that can be properly underwritten and issued by the insurer.

Conclusion

The potential for blockchain's use in the insurance industry is very exciting. This, coupled with the use of blockchain to enhance and make available parametric policies to insureds in Canada, represents a time of innovation and possibilities not seen since the time of the *Macarena*, AOL floppy discs providing 15 hours of free Internet access, and the show *Friends* first appearing on our television sets.
