

Bitcoin, Ethereum & Blockchain

– Implications for P&C Insurance



Grant Patten
Digital Media & UX Specialist, CSIO

2017 was the year that blockchain finally seemed to break into the mainstream, with crypto currencies (increasingly referred to as crypto assets) such as Bitcoin making near-daily headlines. Ethereum – a somewhat less publicized competitor – also had a solid year, with major organizations including J.P. Morgan Chase, Microsoft and Intel forming the Enterprise Ethereum Alliance to build software on the platform. The blockchain technology upon which both of these and other crypto assets rest is already having an impact on the P&C insurance industry, regardless of which asset ultimately survives in the coming decades.

What exactly is blockchain technology, then? Essentially, blockchain is a decentralized and distributed digital ledger that is used to record transactions across many computers so the record cannot be altered or forged by targeting a single computer system. A blockchain allows for secure, direct (i.e., no need for an intermediary) digital transfers of value and assets (e.g., money, insurance contracts). The data are guaranteed to remain intact and authoritative, and infrastructure concerns such as timestamping, confirmation of receipt, secure delivery, etc. are incorporated into the base technology.

Applications in P&C insurance

How, then, can blockchain technology be used in the P&C industry? Having a portable, secure, globally available store of personal data in a blockchain immediately presents insurance possibilities. For example, consumers could have all of their driving history available

to share with trusted third parties at any time. They might share their driving history at an airport counter for a car rental insurance discount. The primary challenge lies in finding the right insurance market segment for blockchain tech; experimentation here is more likely to start with common and well-known risks (e.g., car accidents) and related insurance products (e.g., car insurance) or extensions to such risks.

Perhaps the most obvious P&C industry implication of blockchain tech is that the industry will need new insurance products to handle risks arising from the usage of this technology – as illustrated by the now-defunct Bitcoin exchange Mt. Gox, which was based in Japan. By 2014, Mt. Gox had grown to handle over 70% of all Bitcoin transactions worldwide as the world's leading Bitcoin exchange. That February, the exchange filed for bankruptcy after disclosing that approximately 800,000 Bitcoins belonging to its customers and the company were missing and likely stolen, an amount valued at more than \$450 million at the time. The users of Mt. Gox were not protected by any kind of insurance policy. Disasters like this leave plenty of room for innovative companies to develop insurance products catering specifically to crypto exchanges and their users.

Ethereum is an open platform which can host distributed applications, called “dapps” or “smart contracts”. These dapps are software programs running on top of the decentralized Ethereum blockchain. Some of these dapps could support the automation of insurance products, such as one currently available for crop insurance (Etherisc.com). With the Crop Insurance dapp, the consumer (likely a farmer) can select their crop product and the location of their field and apply for a policy by sending ether (the currency of Ethereum) to this dapp. Should an insured risk occur, the consumer gets an automated, instant payout.

Blockchain technology has multiple technical advantages over traditional database technology. As UK think tank Z/Yen describes in a 2014 white paper, “every personal insurer’s core computer system is, at heart, a big, centralised transaction ledger.” Insurance companies could benefit from efficiency gains by transitioning to blockchains for at least some aspects of their business. Using a shared ledger eliminates the need for multiple databases and the errors that inevitably arise from maintaining and transferring data between them.

New models of insurance?

Blockchain adoption has the power to move new and existing models of insurance, including microinsurance, into the digital age. Microinsurance is tailored specifically to lower-valued assets, providing protection to consumers who live in remote parts of the world and have little in the way of savings. Blockchains could contribute positively to financial inclusion, with some products becoming available where they were previously not; e.g., in places where there is not sufficiently strong market demand for insurers to do business. Using blockchain, stakeholders can contract with each other around the globe.

The adoption of blockchain technology could eventually lead to the emergence of alternative risk management models, shifting away from insurer-governed risk pooling, the predominant model in insurance. Smart contracts, for example, could be enabled to manage risk pools, underwriting and claims payments automatically. IT firm Cognizant speculates in a 2017 white paper that such an automated blockchain solution “could slash the complexity and cost of claims processing, and reduce turnaround time to three or four days (or less), from the current 45 days to six months.” A blockchain platform could potentially aggregate a pool of insured individuals using a common digital wallet to store their pooled money as a crypto asset. The funds in the wallet would only be spent if the insured and a majority of members in the risk pool vote for it.

Blockchain technology could eventually contribute to changing the role and function of insurers in society. As people become more and more educated about blockchains, this could empower them to manage certain risks directly, without intermediaries. Should this materialize at scale, there will likely be a gradual shift in the primary role of the insurer from “risk handler” to “expert advice and knowledge provider.” When a technology reduces operating costs rapidly, as blockchain promises to do (e.g., the printing press in book manufacturing), production generally flourishes. Similarly, there will likely be a proliferation of blockchain applications in the P&C industry over the coming years, and these applications have the potential to make insurance work better for consumers and society. ■

Grant may be contacted at (416) 360-1773 ext. 2324 or via email at, gpatten@csio.com.