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# Blockchain: It's not all about cryptocurrencies

30 Apr 2019

*From promoting renewable energy to internet security, the technology is not just about bitcoins and making a fast buck*

2019 marks the 10th anniversary of the Bitcoin, a decade after Satoshi Nakamoto released the first Bitcoin software. Ten years on, there are thousands of cryptocurrencies other than Bitcoin in circulation: Ethereum, XRP, Litecoin to name but a few.

As cryptocurrencies gained mainstream prominence, so has the underlying technology that made it possible – blockchain. But while the general public can increasingly identify cryptocurrencies beyond Bitcoin, most cannot think of a use of blockchain that does not involve a cryptocurrency.

“Blockchain basically is a transformational technology – it’s almost as transformational as the internet,” explains **Paul Griffin**, Associate Professor of Information Systems (Practice) and Director of the MITB Financial Technology and Analytics programme at Singapore Management University. “Blockchain allows data to be shared between different organisations. Instead of your money being owned by the bank and you having to ask them how much you’ve got, you can own your money.

“Same for your health record. You can own your health records. You can share that with who you want to and when you want to. That’s all possible with blockchain.”

He adds: “And then there’s the immutability, the trust factor. In a blockchain, every single record is stored and it can’t be changed. When someone tries to change it, it’s really obvious that they are trying to change it.”

## USES OF BLOCKCHAIN

Griffin made those remarks as panel members for a discussion titled “*Innovate first, regulate later: Can we truly build blockchains for a better world?*” for Singapore-based station CNA’s Perspectives programme. Fellow panel member **Tay Bee Kheng**, Managing Director for Singapore and Brunei at Cisco Systems, highlights blockchain’s quality of immutability as key to a major, important use of blockchain: internet security.

“We are experimenting having the internet network and the blockchain network in parallel with each other,” says Tay. “Right now, whatever we’re doing on the network itself, whenever we throw it out to syslog and it’s still in text form. But for a lot of the attacks that we have right now, the hackers can actually go in and they can wipe out the information. We have no traceability.

“So if we could have the blockchain network to carry the information, the history of information of all the adds and the changes, and whatever you do to the network, then it could become something which we can fall back to for traceability.”

**Chua Hock Lai**, President of the Singapore Fintech Association, describes a startup he is working on that utilises blockchain technology to promote renewable energy.

“Basically what we are inventing is a smart meter that can capture and record all the renewable energy generated from the solar farm and the wind farm,” explains Chua. “The record is immutable, and because of that, we are able to store all the renewable energy certificates on the blockchain into a trading platform whereby buyers, who could be companies like Apple, Facebook, will then come to the platform and buy the renewable energy.

“Eventually, we want individuals to also be able to buy this renewable energy certificates to offset their carbon that they might consume. For example, you could be buying a bottle of water. Then, the screen will indicate the amount of carbon this bottle of water generates. Would you want to buy this to offset it? That’s our vision.”

Chua also mentioned advising a Fintech company that was trying to tokenise – the process of converting rights to a real world asset into a digital token on a blockchain – livestock, and bring about financial inclusion as a result.

“To the many unbanked, their only livelihood is a cow that produces the milk,” elaborates, who also serves as Chairman of the Token Economy Association. “So what the company is trying to do is to give the cow a digital identity through a tamper proof tag, an IOT (internet of things) tag. So with that, it can lower the insurance cost.

“There’s a lot of insurance fraud for livestock insurance. But now with that unique tag that is tampered-proof and because the information is recorded on the blockchain, fraud can’t happen. The other good thing is with the digital identity, now the cow can be collateralised, which allows farmers to have access to low interest loans for their daily working capital.”

## A BETTER TOMORROW

Given blockchain’s potential to solve some of the most pressing problems, is enough being done to educate tomorrow’s leaders how best to use it?

“I think one of the few key problems for humankind would be closing the inequality gap, and solving environmental problems,” muses **Zann Kwan**, Co-founder and CEO of Bitcoin exchange. “I think education will be very important now to know what is blockchain all about and what its broad base of skillset is going to be, in business or even technology, such as learning how to code, and finding out what are the problems and the social side of it? What are the problems that blockchain and the technology can solve?”

“I think it’s starting so we getting there,” Griffin offers. “I mean we now teach undergraduates about blockchain so that the younger people and they are getting an understanding about the blockchain at an earlier age. And over the course I give projects to the teams and what they come out with is very innovative.

“At the moment, the money for blockchain technology is going to [finance], and it’s growing. But last year, there were hundreds of projects on social good and that’s going to the technology as well, so I think in 10 years’ time, when we talk about blockchain, we’ll just be using applications and life would get better and better.”

*Paul Griffin, Zann Kwan, Tay Bee Kheng and Chua Hock Lai were part of a discussion panel, “Innovate first, regulate later: Can we truly build blockchains for a better world?” for the SMU-CNA programme Perspectives that was recorded at the Singapore Management University School of Law.*

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