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Peter Lee | November 2015

Getting to grips with blockchain

Banks have suddenly cottoned on to the power of the blockchain technology beneath Bitcoin. Inside their own treasuries and innovation labs, and increasingly in collaboration, banks are testing uses for rebranded distributed ledgers to replace their costly, proprietary systems. Enthusiasts see banks creating a new fabric for payments transfer and financial markets, an internet of money. Doubters sense it's all hype. Big challenges remain, but markets from private equity and syndicated loans to corporate bonds and derivatives may go on private blockchains within months.

It's mid 2015 and Euromoney has been talking to the head of markets at one of the largest global banks about the changing structure of fixed income trading. As the meeting ends and we head to the lifts Euromoney asks what news from the OTC interest rate derivatives desks, now transitioning onto swap-execution facilities.

"The derivatives markets?

Oh, they're all going OBC," says the banker. Euromoney makes that quizzical face we all learn in journalist training school. They're doing what? "They're going on blockchain," the banker grins; the lift doors close and he ascends. In the days after, Euromoney tries to follow up but, unusually for him, the banker goes strangely silent.

A couple of months later and the blockchain is all you hear from the banks. It is as if the entire industry has decided that the whole of finance is going on blockchain and all that remains to be decided is just how and when.

Blockchain is the technological infrastructure underpinning bitcoin, and its association with the cryptocurrency has delayed appreciation among mainstream banks of the transformative power, elegance of design and genius of the mechanism for value exchange it embodies.

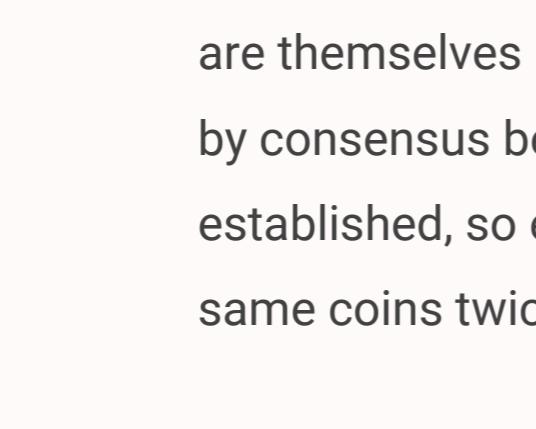
At its heart, the blockchain is a series of incentives and limits for the creation, validation and secure maintenance of an open, shared, transparent and immutable ledger of record for all transactions and shifts in ownership in an asset: in the original case, the asset being bitcoins.

Participants in the bitcoin marketplace can:

- Spend their bitcoins
- Transfer them to other parties in payment for goods or services
- Knowing that other participants in the network will recognize
- Validate that exchange or payment
- Record it in a system-wide ledger that no one central source owns or controls.

“Participants in the bitcoin marketplace can spend their bitcoins”

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The so-called miners that perform this validation must show proof of work – in electricity consumed and computing power used – and are themselves paid in new bitcoins. They confirm each other's work by consensus before a new page – or block – of the ledger is established, so ensuring that an owner of bitcoins cannot spend the same coins twice and that the receiver will not subsequently find his ownership of those transferred bitcoins challenged or his payment reneged on.

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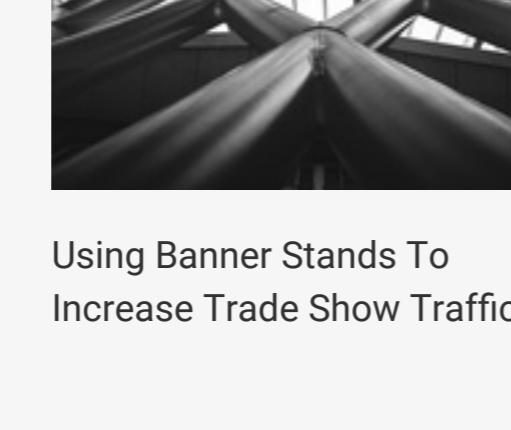
Lloyd Maxwell

Banks are used to sitting on vast databases of proprietary data protected at the perimeter by password access. Blockchains embed encryption into every transaction and interaction between users and the ledger. Users have their own encrypted keys.

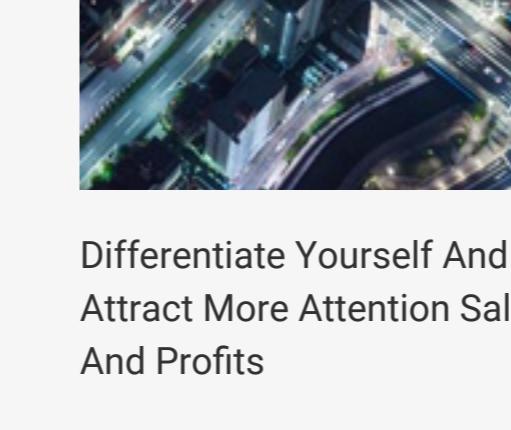
Blockchain technology uses encryption and a balance of incentives and checks such that the system as a whole can be trusted to work without any of the individual participants within it necessarily trusting each other – or even knowing each other beyond the lines-of-code pseudonyms that act as identifiers of individuals on the network.

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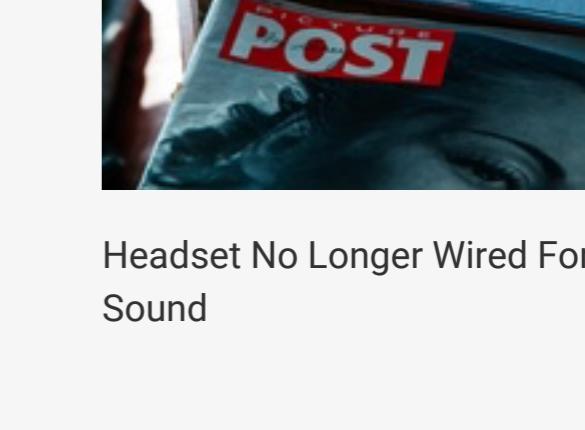
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