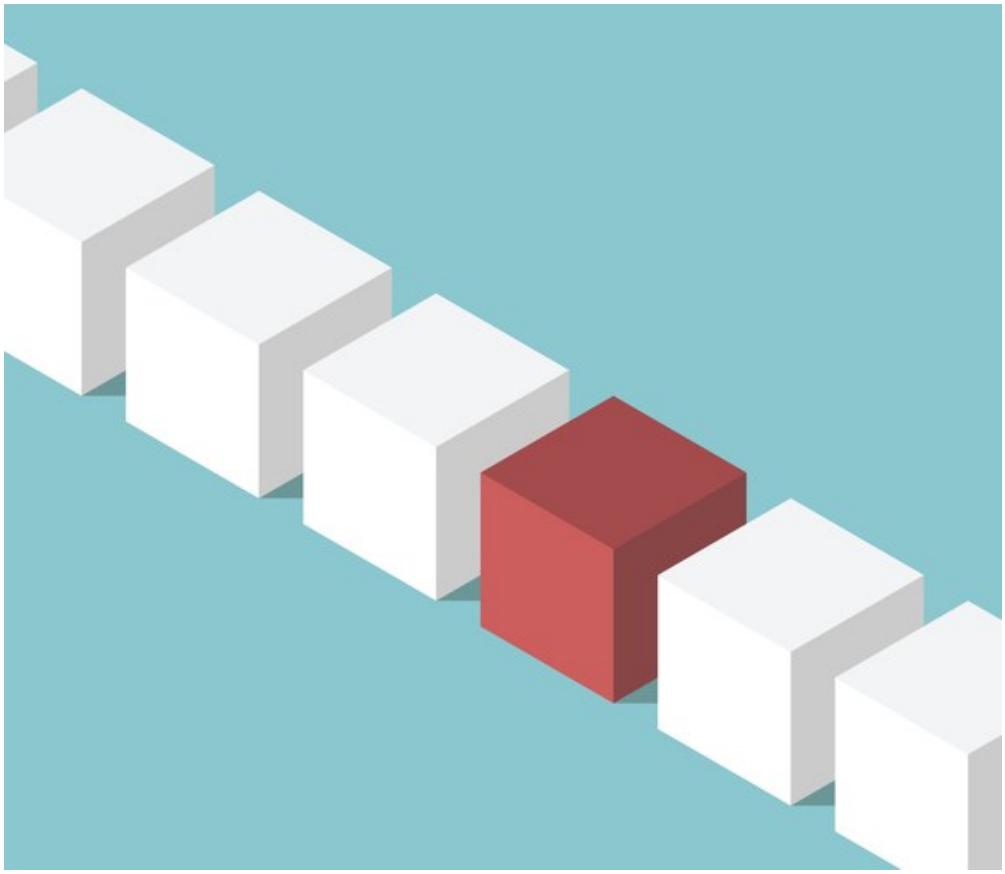
RACHEL BOTSMAN BACKCHANNEL 12.27.17 07:00 AM

HOW THE BLOCKCHAIN IS REDEFINING TRUST



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__Around the time when bitcoin__ and blockchains were starting to catch the attention of the mainstream investment world, a New York-based startup called Digital Asset Holdings (DAH) was launched. Blythe Masters was at its helm. The Wall Street veteran is knowledgeable about a common problem many banks face: Getting incompatible financial databases to talk to each other. It's costly, complex, and takes time. While it might seem that traders work at Red Bull speed in lightning-paced environments, the technology used to execute trades is remarkably old- Fashioned and slow.

Lots of phone calls are made, emails traded and even the occasional fax is still sent. It can take up to three days—T3—for stock trades to change hands via clearing houses such as the National Securities Clearing Corporation (NSCC). It's a process known as 'settlement lag.' Every hour before settlement happens, when a trade precariously hangs between sale and purchase, increases the risk that the trade won't go through. Obviously, it's in the banks' interest to close that lag time as much as possible.

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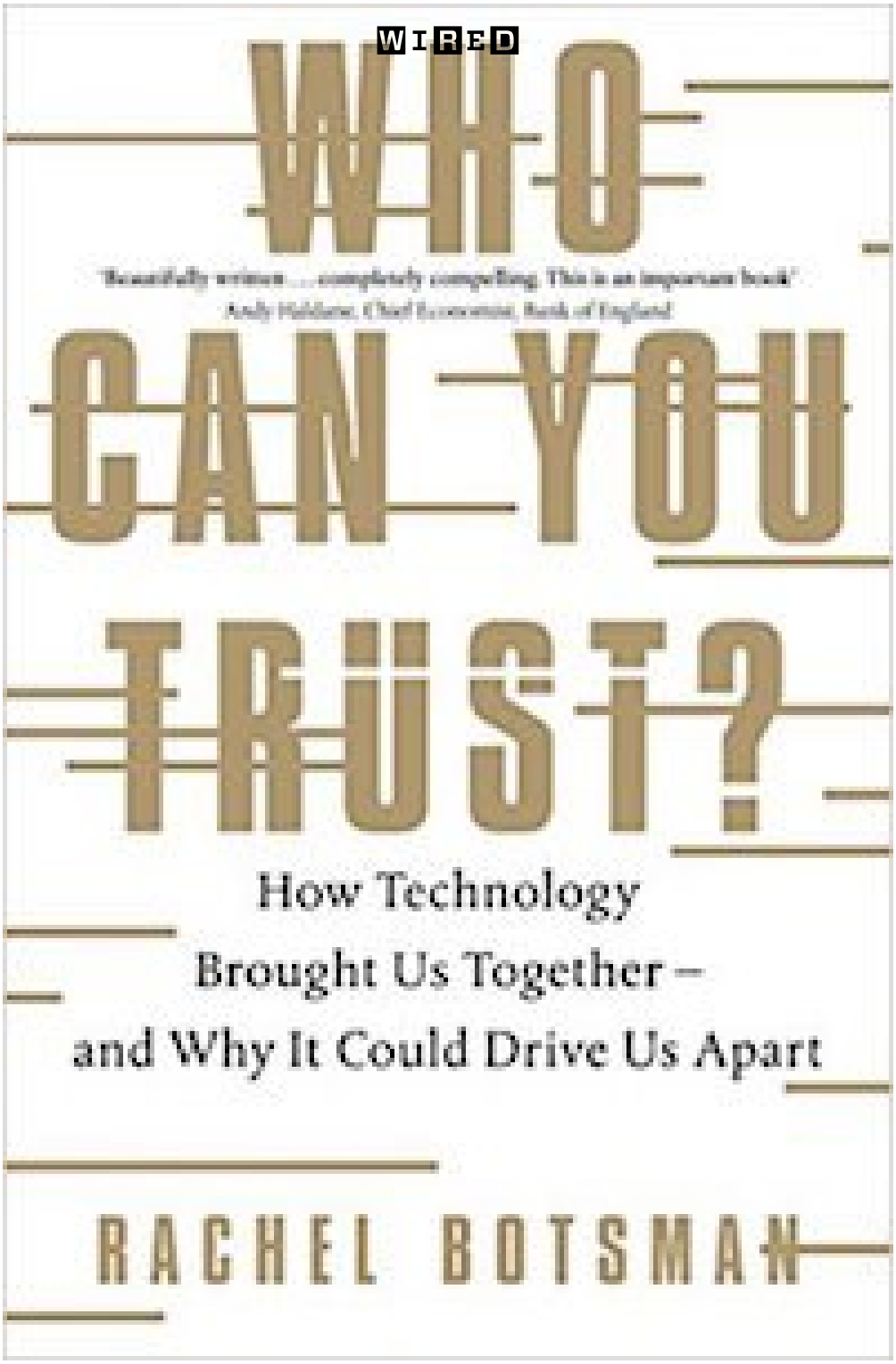
From *WHO CAN YOU TRUST? How Technology Brought Us Together and Why It Might Drive Us Apart* by Rachel Botsman. Published in November 2017 by PublicAffairs, an imprint of the Hachette Book Group



Blockchains could help reduce the gap of the entire lifecycle of a trade from days to minutes, even to zero. According to a report by Santander InnoVentures, the Spanish bank's fintech investment fund, by 2022 ledger technologies could save banks $15–20 billion a year by reducing regulatory, settlement and cross-border costs.

Digital Asset Holdings wants to be the distributed database handling these speedy transactions. And the who's who of the world's biggest financial

names, including Goldman Sachs, Citibank and Blythe Masters's old employer, JP Morgan, have ploughed more than $60 million of investment into DAH. Speed and efficiency are not the only qualities that make distributed ledgers attractive to banks. 'Regulators will like that blockchain-based transactions can achieve greater transparency and traceability– an "immutable audit trail",' Masters says. In other words, it could help eliminate the kinds of fraud that come from cooking the books. It's rather ironic that these words come from a woman who spent several months being investigated by the Federal Energy Regulatory Commission for a cover-up of energy-trading strategies. Masters was not cited for any wrongdoing and no action was brought individually against her. JP Morgan paid $410 million to settle and close the case, without denying or admitting wrongdoing.

On Wall Street, the race is on to embrace or control what could be either its biggest ally or its death knell. Where does the average Joe store their money? In a bank's current or savings account or a safety deposit. But the blockchain could become a new repository of value. How do typical loans work? A bank assesses the credit score of an individual or business and decides whether to lend money. The blockchain could become the source to check the creditworthiness of any potential borrower, thereby facilitating more and more peer-to-peer financing.

How do typical credit cards and money transfer services work? They currently flow through a bank, but the blockchain could handle this exchange of value directly from person to person.

Consider traditional accounting, a multi-billion industry largely dominated by the 'big four' audit firms, Deloitte, KPMG, Ernst & Young, and PwC. The digital distributed ledger could transparently report the financial transactions of an organization in real time, reducing the need for traditional accounting practices. And that is why most major players in the financial industry are busy investing significant resources into blockchain solutions. They have to embrace this new paradigm to ensure it works for, not against, them.

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A San Francisco-based venture called Chain is said to have raised more than $30 million in funding from big names such as Nasdaq, Visa, and Citi Ventures to develop open-source code for a distributed ledger. IBM, Wells Fargo, the London Stock Exchange, and others have joined forces with Digital Asset Holdings to develop blockchain software that is also open source, making the underlying recipe available to developers. Originally dubbed the Open Ledger Project (and later renamed Hyperledger), the joint efforts are being overseen by the widely respected Linux Foundation.

Goldman Sachs has recently filed a patent for its own cryptocurrency, its own version of bitcoin, called SETLcoin which processes foreign-exchange transactions. It is designed to run on the bank's own private blockchain. This means the replicated ledger of transactions still sits behind the closed walls of the bank, centralized and guarded. It seems to defeat the very purpose of the technology, which is to create a single indisputable version of the truth, freely accessible to all, that could eliminate the need for the bank entirely. In the patent, Goldman describes SETLcoin as having the potential to guarantee "nearly instantaneous execution and settlement" for trades. It would mean all the capital the bank is required to keep in reserve, to hedge against the risk of transactions if they don't settle, would be freed up.

More than forty banks have a stake in a consortium called R3CEV to come up with shared standards for blockchains. The technology will be pretty much worthless if there are multiple versions of the blockchain that can't work together. R3CEV wants to bring along all the banks and regulators so they can share just one—a ledger that is not controlled by any one person or organization but by many participants. Sure, it's collaboration, but perhaps not the kind Satoshi had in mind.

Notably, R3CEV has recruited a man by the name of Mike Hearn as its chief platform officer. The former Googler is a big deal in the blockchain world. Hearn spent more than five years working full-time alongside Gavin Andresen, as part of Bitcoin Core, the original group of developers that maintain the open-source code that runs the bitcoin peer-to-peer network.

Hearn admits he is a 'tell-it-like-I-see-it kinda guy'. In January 2016, he publicly denounced the future of bitcoin and said it was inherently doomed. "It has failed because the community has failed. What was meant to be a new, decentralized form of money...has become something even worse: a system completely controlled by just a handful of people," Hearn wrote. "The mechanisms that should have prevented this outcome have broken down, and as a result there's no longer much reason to think bitcoin can actually be better than the existing financial system."

Just days after he published the post, Hearn joined the R3CEV banking consortium. "The current Bitcoin system, I mean the system we actually use today with the blockchain, isn't going to change the world at all due to the 1mb limit [the maximum size of a bitcoin block]," he said in defence of his move. "So if I have a choice between helping the existing financial system build something better than what they have today that resembles Bitcoin, or helping the Bitcoin community build something worse than what they have today that resembles banking, then I may as well go where the users are and work with the banks."

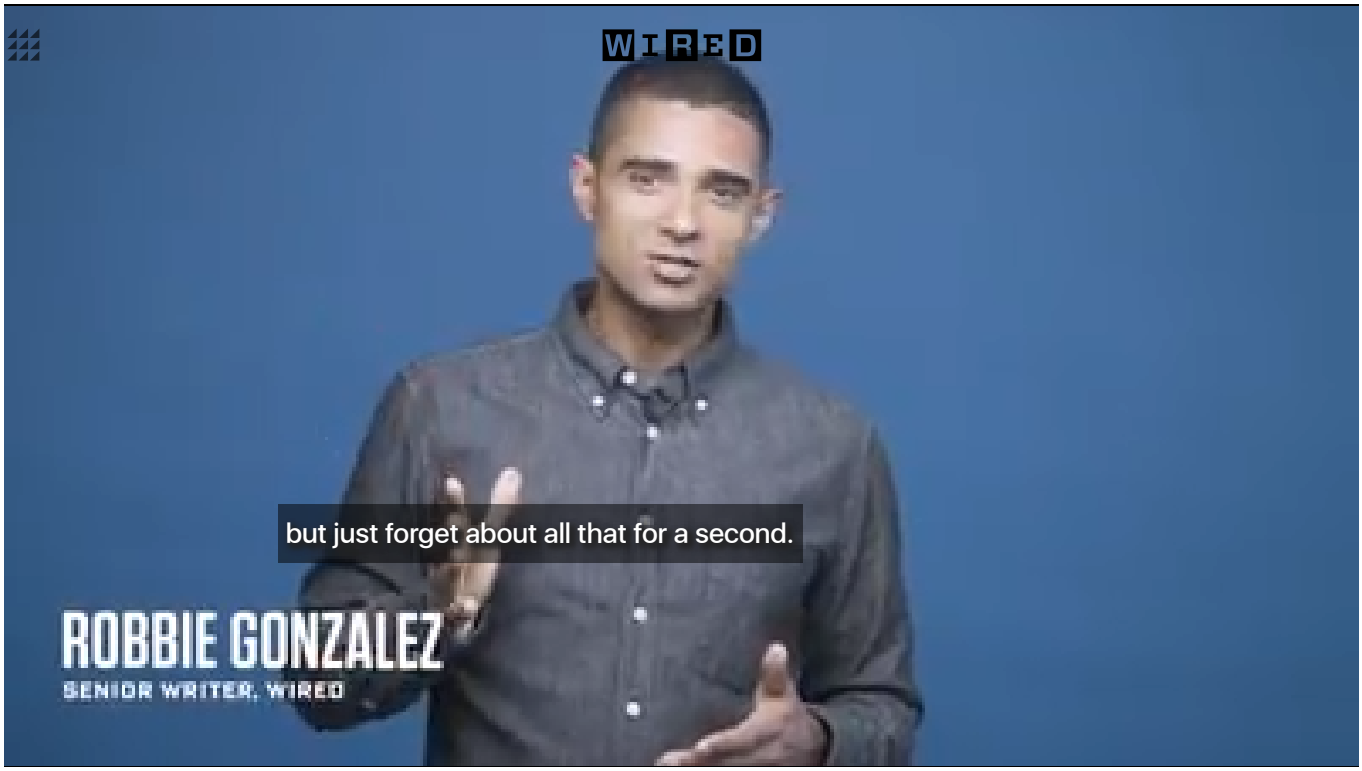
From Buterin to Hearn, it seems that everyone, however different their motives, is in a race to create something like the original Satoshi blockchain, only better. For many, it's the biggest game in town.

The blockchain raises a key human question: How much should we pay to trust one another? In the past year, I've paid my bank interest and fees, some hidden, to verify accounts and balances so that I could make payments to strangers. I've spent thousands of dollars on lawyers to draw up contracts because I am not quite sure how another person will behave (and to sort out a few incidents where trust broke down). I've paid my insurance company to oversee the risk around my health, car, home, and even life. I've paid an accountant to reconcile an auditing issue. I've paid an estate agent tens of

thousands of dollars essentially to stand between me, the prospective buyer, and the current owner to buy a house. It would seem we pay a lot for people to lord over our lives and double-check what's happening. All these 'trusted intermediaries' are part of the world of institutional trust that is now being deeply questioned.

Many of the ideas surrounding the blockchain sound ambitious, risky, and radical. Many are being over-hyped, overfunded and will likely fail. What's not in doubt is that, as the cost of trust plummets because of new technology, the third parties currently paid to facilitate our trust—be they agents, referees, watchdogs or custodians—will increasingly have to prove their value if they don't want to be supplanted by an 'immutable' ledger.

In 1993, enthusiasts such as Al Gore were telling the world about a coming "information superhighway" that would change the world. The internet was a novel concept few had grasped and people didn't really know what to make of it. John Allen, an early web aficionado, went on TV to try to explain how people would use it: "In this world, there's a table with a big sign on it that says 'Football' and there's 150 or 1,000 jocks all around the world who want to talk about football," he said on CBC. At that time, Mark Zuckerberg was nine years old. Google was three years from being born. All the other products and companies that would emerge to commercialize the internet and its future potential were not yet clear. Today, it is circa 1993 for blockchain technologies. Even though most people barely know what the blockchain is, a decade or so from now it will be like the internet: We'll wonder how society ever functioned without it. The internet transformed how we share information and connect; the blockchain will transform how we exchange value and whom we trust.



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