

Blockchain

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Event summary by Vered Zimmerman, Investment Writer, Copylab

When did you last come across an article about Facebook that started with an explanation of the TCP/IP protocol? Or, perhaps, a piece on Amazon that first explained how online encryption works?

The answer is, probably never. Yes, internet businesses rely on technical infrastructure, but this isn't what makes Facebook or Amazon interesting. These companies are interesting because they change what people do and how they buy. And the technical stuff? It's all hidden under the bonnet.

It seems we are nearing this point with blockchain.

At a recent event discussing the technology, held by trade association the Financial Services Forum, there was little emphasis on technicalities. This was not because of an underlying assumption that attendees already knew it all; rather, because the technical aspects were not the point. The discussion has begun to shift towards what people do and how they buy.

1. Ignoring specifics, blockchain is actually very simple

Paul Gordon, CEO of [Quantave](#) (a company providing infrastructure for greater liquidity in digital currency trading), began the presentation with a baseline definition of a blockchain (or a distributed ledger): It's a "spreadsheet in the sky". Lots of people independently store a copy of a spreadsheet, which they can all read and update.

End of technical introduction.

That the rest of the event's discussion was carried out through various types of similes is a strong message for marketers: To talk to clients about blockchain, liken to something simple they already understand.

This hasn't been done as much until now, because technology takes time to mature. Just consider the telephone, invented in 1876. The ads below, from 1917 (left) and from the 1930s (right), were still explaining to people **the use** of this new technology, and the **tangible benefits** it delivers.



Gordon illustrated this point with a timeline depicting milestones in the development of the internet: the TCP/IP protocol, enabling communication between computers, was developed in 1983. The HTTP protocol, the foundation of data communication in the World Wide Web, was developed in 1989. But it wasn't until Hotmail emerged in 1995, followed by the wide-scale adoption of the email *application*, that the internet became a household technology.

He then turned to blockchain's timeline, citing key developments such as blind signatures (1983) and the emergence of Bitcoin (2009). Gordon believes we have not yet seen a 'killer application' for blockchain.

He does, however, believe we are beginning to see the APPLICABLE BENEFITS of distributing authority over data.

2. Why blockchain matters, in six words

The panel's second participant was Anthony Macey, head of blockchain research and development at Barclays. And as he sees it, the one thing people need to know about blockchain is that it's a way for multiple parties to

AGREE ON THE STATE OF DATA

Macey suggests your passport serves as a good example: the passport is not your identity, only the means of *asserting* your identity. Everyone accepts that this can only be done by a single source of authority – the Home Office. For people to believe you are who you say you are, they seek the Home Office's endorsement. This reliance on a central authority poses risks, such as hacks to its systems, or fraudulent passports.

Whether calling them distributed ledgers, blockchains or spreadsheets in the sky, these systems offer a fundamentally different way of agreeing on the state of data:

When new data is presented, every participant has a way of validating whether the data is agreeable.

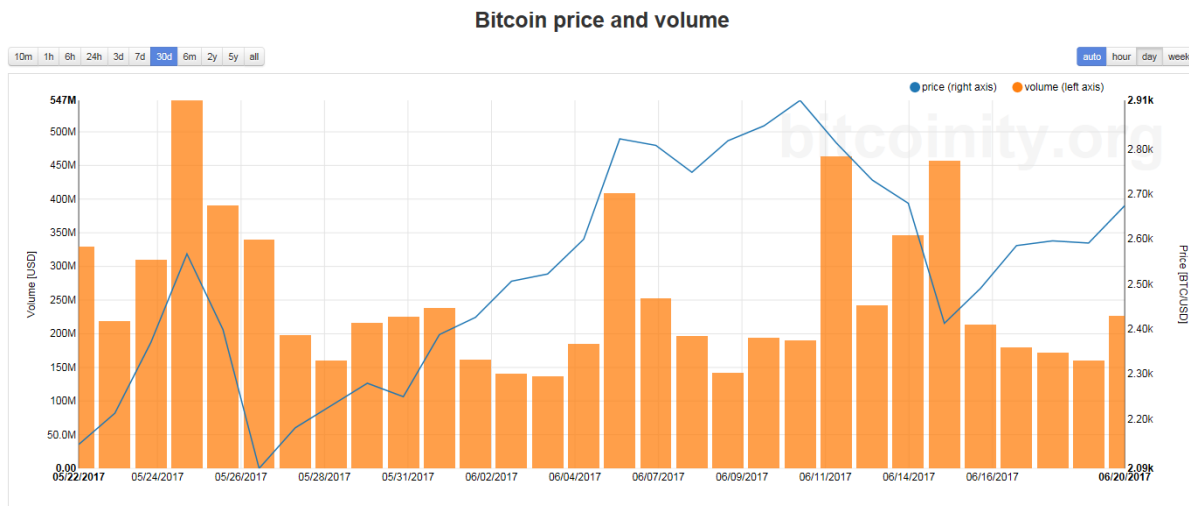
As new data is broadcast to participants and is validated, each participant updates their records.

Introducing fraudulent data into the blockchain is possible, but demands the sustained agreement of over 50% of the blockchain's participants.

From here on, it's all just variations on a theme: what's the data and who are the parties holding data authority? This, for example, leads to the distinction between *private* blockchains and *public* blockchains. A private blockchain comprises an internal network of stakeholders sharing a common interest in jointly maintaining records.

On the other hand, public blockchains seek strength in wide-scale distribution of data. But to enlist people into playing a validating role, public blockchains need to offer an incentive. And herein lays the first and most famous application of blockchain to date – digital currencies.

Gordon noted that presently over 1,200 different digital currencies are traded, the most famous of which is Bitcoin. Despite its high value volatility, and the steady stream of articles in the media pronouncing “the death of Bitcoin”, the currency is alive and well: according to Gordon, in 2013, the daily volume of Bitcoin trading at one point reached \$50 million. This month it averaged five times that much:



3. How is blockchain useful for financial institutions?

The advent of digital currencies has enabled, for the first time, the easy movement of value internationally through channels that entirely excluded the regulated banking system. Understandably, banks, central banks and governments grew concerned.

That’s why financial institutions find it easier to centre the conversation on blockchain rather than on digital currency: whereas digital currency has the potential to kill off their business, blockchain offers ideas on how to enhance it.

Consequently, financial institutions have formed several blockchain research consortia, aiming to identify potential gains. Examples include the insurance industry’s B3i initiative and R3; B3i was launched in late 2016 by insurers Aegon, Allianz, Munich Re, Swiss Re and Zurich, and within less than a year [has grown](#) to 15 members. R3 is a commercial [alliance](#) comprising over 70 banks and financial institutions, including the Bank of America Merrill Lynch, HSBC, ING and Singapore’s national wealth fund Temasek.

And counter to a [recent FT article](#) arguing blockchain technology is overhyped but offers little use, the joint research efforts are beginning to deliver radically improved solutions.

Macey described one of the most successful research outcomes, concerning the fundamental problem in trade finance. International trade is cumbersome, with multiple parties involved in every transaction: sellers and buyers, but also shippers, banks (which provide letters of credit), port authorities and customs authorities. The different parties all want to successfully execute a transaction, but don’t necessarily trust one another.

This leads to a significant physical paper trail, and the time it takes to process a transaction is estimated at 20

business days. But Barclay's, working with Israeli start-up [Wave](#), successfully completed [blockchain-based trade finance transactions](#) which took just four HOURS to process.

4. What people do and how they buy, remember?

The two speakers said that the biggest issue for blockchain is the wrapping. The technology can easily record transactions, but the challenge lies in ensuring that the legal trail is in place, the customer experience is smooth, and the process is understood by all participants. This is partly why Barclay's considers the domain of smart contracts promising – the bank has recently [joined forces](#) with law firms Norton Rose and derivative contracts body ISDA to explore greater efficiencies in the field.

Macey believes the most crucial stage of development still lies ahead: computer networks existed before the internet, but the key transition took place when networks began communicating with one another. It's a similar situation with distributed ledgers. If one blockchain agrees on the state of one kind of data, and another agrees on a different type of data, a lot of value will be unlocked when the systems can agree on the exchange of data between them.

Both speakers also stressed it's important to not get caught up in hype. Human nature is such that when something goes wrong, we like having someone to blame. Clients want to place trust in solution providers, so for blockchain, Macey and Gordon believe this will result in a middle-grounds solution: trust will be placed with multiple parties who client are willing to accept as authorities.

For example, rather than relying on a single bank to maintain full control of your financial data, authority could be distributed among many banks, thus simplifying transactions.

Perhaps the most illuminating aspect of the discussion was when Macey said that Barclays' trade finance was ready to implement six months before it was finally deployed. What took the time, he added, was convincing the different stakeholders that the change was worth the effort.

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