Blockchain for businesses

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The advent of blockchain technology means a new method of establishing trust in business transactions.

Although popularized by Bitcoin, blockchain has potential far beyond virtual currency.

Business and trade run best when there is trust, certainty, and transparency surrounding transactions. When humans traded in huntergatherer economies for small villages, trust was enforced by social constraints or reputation. You knew who you were dealing

When trade expanded outside villages and grew more complex, institutions developed. These institutions function as "neutral authorities" in which both parties to the transaction had some degree of confidence. In other words, you may not trust the person you were trading with, but you did trust that if they did not fulfil their obligation, a government, police, legal system or other "middle man" would step in and enforce the agreement.

Indeed, the late Nobel laureate economist Douglass C. North wrote that these "institutions" were specifically built "to create order and reduce uncertainty in exchange." Now, with the promise of blockchain technology, we have the potential to enforce trust in business—without the middle man.

At its core the blockchain is a peer-to-peer decentralized database that stores a registry of assets and transactions. Think of it like "triple-

entry accounting." In traditional double-entry accounting, the seller enters a debit in their accounting ledger for cash received, while the buyer books a credit for cash spent for the same transaction. Each party maintains separate books, but placed side by side, the bookkeeping entries of both parties should line

In a blockchain, rather than the parties generating entries in separate records, the details of each transaction get automatically coded into blocks of data that are cryptographically linked together with other transactions and secured over a network. The chain of data blocks forms an incorruptible record of all the transactions that can be replicated on every computer that uses the network. On the blockchain, you can store not only the debits and credits of the transaction, but other information such as history of ownership and location, title, contracts, real world objects and even personal information.

Perhaps the most widely used application of blockchain technology is the virtual currency Bitcoin. However, according to a 2016 research report from Credit Suisse, there is an "increasingly consensus view" that it is blockchain - not Bitcoin - which may disrupt institutions like law, banking, real estate, accounting, media, and intellectual property because of its three key properties: "disintermediation of trust, immutable record, and smart contracts."

Blockchain technology provides a more efficient and secure transaction not possible before the internet, hence the "disintermediation" of trust. Take the example of land title. Currently, county recorders and title companies are necessary to verify and record property data with brokers, escrow companies, appraisers, notaries and other middlemen involved in verifying a process that can be slow and tedious.

With a block chain protocol in place, instead of paper title, a digital title can be created – a cryptographically secure token than can be transferred as quickly and cheaply as an email. A unique and cryptographically secure digital ownership certificate could be created which would be virtually impossible to replicate or forge, making selling or advertising properties you don't own almost impossible.

If you think this is the stuff of the future, think again. A number of countries, including the Republic of Georgia, Ghana, and Honduras, are already experimenting with it.

Because the entries in a blockchain are distributed and cryptographically sealed, falsifying them, destroying them, altering them or concealing them is practically impossible, creating an immutable record. Instead, there is a detailed audit trail without the need of a third-party auditor.

Blockchains also allow programmers to write code creating binding "smart" contracts between individuals - contracts which are self-executing, without the need for third party enforcement. The classic example envisioned by cryptography expert Nick Szabo was a leased car, recorded as a smart contract on a

block chain. If the lease payment is missed, the contract could automatically revoke the digital right to use the car. Purchase contracts could be programmed to release funds only when the goods are received in a satisfactory condition. Smart cars could automatically release funds for parking meters or even parking violations. The possibilities are limited only by the coder's ability to translate legal principles into selfexecuting algorithms.

Perhaps, the most salient promise of blockchain technology is the potential to return humanity back to the trust and transparency of transactions based on reputation - not mediated by third parties whose interests may not be congruent with our own.

Currently, we purchase products - but not the story behind the products. We buy our clothes from chains where people work in conditions which might be abhorrent to our sensibilities if our purchase was not mediated and kept at a distance by an opaque scheme of middle men. With blockchain, we may someday be able to see the whole transaction and supply chain history of how a product came to be. If we drink a cup of coffee, we could trace its path from the farmer who actually harvested the coffee beans to the person who ground them. We could see the fully story behind everything we buy.

And likewise, they may be able to see us. ◆

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Where the Heart is...

Continuing his "on-the-side" income source, Rob and his wife Karen Wagner bought their first rental property together in 1996. Rob always knew he wanted to be a business owner, so once the couple acquired 50 rental units, Rob and Karen both switched careers to form Smart

Rob remembers, "When you don't have a track record, you are selling what you think you will be able to do. We needed somebody to help us get rolling, and Nancy did. We are very loyal to her now." Reflecting on their longstanding relationship, Karen adds, "I love Nancy! She's just warm

The Wagners came to First Bankers Trust with Nancy, and Rob says, "We've moved a lot of business over to them. First Bankers has been very

