Benefits Abound for Blockchain. So Do Risks.

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Many observers are gaga over blockchain’s business potential. It’s time to take a deep breath and separate the reality from the hype.

Blockchain Has Been described by some as a revolutionary technology that will fundamentally change how business is done. Others have likened it to the Dutch tulip craze or an overhyped Ponzi scheme. The truth probably lies somewhere in between. Best known as the architecture underpinning digital currencies such as Bitcoin, blockchain may soon have an impact on a host of different forms of business record-keeping and data sets. So it’s a good idea to take stock of the technology and the potential benefits and risks it brings.

What Is Blockchain?
Conventional databases use a “hub and spoke” structure in which a central computer (“server”) stores data and provides access to individual users (“clients”). In contrast, blockchain is a distributed database without a centralized server. Data are stored by individual users who maintain copies of the blockchain, which are referred to as “nodes.” New data (“blocks”) are added to the shared ledger by consensus of the parties. Data can include such things as the record of an event, a document or executable code (sometimes referred to as a “smart contract,” even though they are not actually contracts). As a practical matter, blockchain records are difficult, if not impossible, to change without detection.

Bitcoin is the best-known blockchain technology. (Some technological purists argue that it is the only blockchain.) Bitcoin is essentially a kind of digital cash that does not rely on a governmental authority for issuance. It can also be thought of as a form of programmable money. It has a current market capitalization of more than $250 billion (this number fluctuates significantly). Bitcoin relies on Bitcoin blockchain. Ethereum and Ripple are other well-known blockchain implementations.

Blockchain technology can be subdivided into public and private blockchains. A public blockchain such as Bitcoin is not controlled by any central party and can be used by anyone. A private blockchain, such as those available through Hyperledger or Cardano, allow creators to control access and participation.

Potential Blockchain Benefits
From a business perspective, blockchain offers some significant potential benefits. Because data recorded on the blockchain are difficult to alter and not under the control of a single party, they can be useful in the preservation of records, evidence and institutional memory. For example, one can imagine a future in which disputes over lost insurance policies are unheard of. If a policy is written to the blockchain, coverage could later be verified without relying on an insurance company’s internal records. Insurance certificates could become a thing of the past as well, along with litigation that arises out of the certificate-issuance process.

Or imagine a blockchain-stored insurance policy that includes executable code that enables automatic payment of claims when certain events take place. Some companies have already put this idea into practice. For example, Etherisc is an Ethereum-based platform that automates insurance for flight delays. A customer who plans to travel by air registers his or her flight information with Etherisc, which sells an insurance policy underwritten by an insurance company. A “smart contract” script automatically pays the insured if their flight is delayed. Because of the way blockchain technology works, the payment is effectively guaranteed. Thus, once a policy is issued, claims are presumably much more difficult to deny.

Large insurance companies are currently
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evaluating the technology. For example, Aegon, Allianz, Munich Re, Swiss Re and Zurich recently announced a blockchain consortium, issuing a press release stating that “blockchain has the potential to provide a consistent, automatic contract execution environment ... thus reducing the administrative workload of multiple stakeholders to ensure contract consistency and execution.” Insurance companies want to receive their money immediately. It will be seen whether they also want to pay out to policyholders immediately.

Business relationships can benefit from blockchain in other ways. In supply chain logistics, for example, using blockchain to store information – along with an Internet of Things beacon to monitor movements – a product can be tracked from manufacture through delivery, with all parties to a transaction possessing the same data about the process. It becomes difficult to argue about delivery of a product if delivery information is stored in a shared record over which no party has privileged access.

Finally, blockchain has created great wealth for some market participants that have created their own tradable digital currencies and sold that currency for existing cryptocurrencies, which can in turn be traded for cash and used to finance business creation and software development. Using a fundraising mechanism called an initial coin offering (ICO) or token sale, companies with no revenue, no customers and, in some cases, little more than marketing materials have raised hundreds of millions of dollars in short periods of time.

Blockchain Risks

At present, the most publicized risks associated with blockchain technology involve blockchain-based cryptocurrencies, but that may change as new applications come online. For example, legacy insurance policies may not provide necessary protection for a business that keeps or maintains Bitcoin or other blockchain assets. Some policies may include explicit Bitcoin exclusions, or electronic-data or new digital currency exclusions. And like any valuable asset, Bitcoin and blockchain assets can be damaged, destroyed or stolen. The past year has provided examples of both damage and theft.

But other risks may emerge as new blockchain applications come online. With insurance, for example, how will value be determined, given the fact that Bitcoin’s value in fiat currency fluctuates? How about coverage for seemingly esoteric risks to a blockchain system, such as damage from sunspot activity or electromagnetic pulse? Where are digital assets actually located? Will coverage be available for losses that have an international nexus or exist in multiple places at the same time?

Companies also face risks associated with uncertain and untested governance procedures. One example arises in the context of software-code modification. Public blockchain technology utilizes open source software code that can be modified by third-party actors that are not under the control of any centralized authority.

Intellectual property faces potentially uncharted legal waters, as well. Because blockchains distribute data among participating nodes instead of using a single centralized server, each node contains a full copy of all stored data. Legal liability for infringing or transmitting potentially unlawful information is thus also distributed among nodes.

Regulatory risk must be considered. This is a complicated realm where new regulations are being written but old ones remain in force (and where not all countries share the same rules). Know your customer (KYC), anti-money laundering (AML), and tax and accounting obligations are areas of focus for legitimate businesses that want to benefit from the technology while remaining aboveboard. A recent IRS subpoena to the cryptocurrency exchange Coinbase illustrates how regulators continue to apply existing law to new technology.

Privacy, too, is a concern. Not all data belong on a public ledger, available for the world to see. While technical solutions (and private blockchain) may resolve this issue for some, a key question for any business considering blockchain technology is, who will have access to the data?

Finally, companies need to think about litigation risk. The year 2017 saw a number of class-action lawsuits filed against ICO promoters and suits by the U.S. Securities and Exchange Commission. Blockchain may be a truly disruptive technology, but disgruntled customers and concerned regulators retain the same legal rights and concerns that they had before blockchain technology was created.

Blockchain appears to be here to stay. As it moves into the mainstream, however, companies will need to separate reality from hype and actively manage the risks it may bring.