



# Blockchain Brings Exponential Disruption, Growth Potential to Accounting

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Technology is continuously changing the world of accounting. Over the years technological advancements have helped with work product efficiency, reducing margin of error, and identifying and making corrections. That being said, the role and function of the accountant has not changed significantly and continues to include high-level transaction reconciliation and processing of financial records for accuracy. So what's next?

**Enter blockchain.** Distributed blockchain was conceptualized and put into practice as a public and peer-to-peer autonomous ledger. As the core component of bitcoin, it immediately solved a digital currency double spending problem without a trusted authority or central administrator.

Bitcoin is a cryptocurrency that emerged as product of Satoshi Nakamoto, a pseudonym used by the unknown individual or individuals who developed the concept. While other coins (sometimes referred to as alt-coins) exist, bitcoin is still the most important cryptocurrency to date.

A 2008 paper attributed to Satoshi Nakamoto described a peer-to-peer electronic cash system. While other digital cash systems failed in the past due to central processing issues, Satoshi's

method subverts the need of a central server or authority who keeps a record of the balances. Satoshi addressed this via a fully decentralized and consensus transaction database model. Every peer system in the network needs to have a list with all transactions to check if future transactions are valid or an attempt to double spend, and then the system performs confirmations.

Blockchain may innovate intermediary arbiters in a manner that was unexpected and have a revolutionary impact

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Sally Davies, technology reporter

during its integration within a variety of industries and financial functions, including accounting and assurance.

The ways in which blockchain will change the accounting profession aren't completely clear yet, but it's imperative for financial professionals to understand the key concepts and learn where current visionaries see the application of this technology so you, your company, and your staff are prepared to take on the ensuing changes and opportunities.

## Blockchain Explained

“[Blockchain] is to bitcoin, what the internet is to email. A big electronic system, on top of which you can build applications. Currency is just one,” explained technology reporter Sally Davies.

A blockchain, when pared down to basics, is a transaction list of records that are leveraged and linked by cryptography (read: mathematics) so as to create inherently immutable records (a chain) that are resistant to modification. Think of this as a high-tech ledger that cannot be scrubbed of its transactional history and each successive record (block) on the ledger is tied back to the previous entry, thus creating a trusted chain of information.

Typically, a blockchain ledger is distributed openly (peer-to-peer). However, there are cases where a reduced set of distribution (a private ledger or perhaps a hybrid) also suits certain business, organization, or government operations. With the decentralization and replication of a ledger, no one person

or entity has control over the ledger records, minimizing manipulation risk. This decentralization, and the consensus verification of each record that is written, ensures accurate and verifiable blocks of information.

The technology can then be applied to work for almost every type of transaction involving something of value including money, goods, and property. The potential uses are almost limitless. Possibilities include collecting taxes; sending money through countries where banking is difficult; and recording titles, deeds, voting, audits, and contracts (particularly smart contracts).

Blockchain could also assist in fraud reduction and anti-money laundering because every transaction would be recorded and distributed on a public ledger for anyone to see.

### Applicability and Implementation

Many companies are investing millions in the review and applicability of blockchain. In fact, startups are beginning to offer fintech-related services built on

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blockchain, mainly due to the ability to exchange and verify value in a real-time, trusted, and secure way that is close to free.

A custom-built blockchain that was built with smart contracts in mind is Ethereum. Due to the decentralized nature of the blockchain, the Ethereum platform expanded on the use of tokens and can be leveraged to execute smart contracts that can be programmed to execute without downtime, censorship, or third-party interference. Developers leveraging this platform can move value across owners, store debts, or promises, and move ►



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funds in accordance with contract intelligence provided in the past such as a will or a futures contracts without any middleman arbiter or risk.

Ethereum projects are already starting to come into play in the space of voting, identity management and control, and supply chain, as well as the design of company-based digital tokens to represent a business share, membership, or asset ownership.

### Exponential, Disruptive Growth for the Accounting Profession

Blockchain technology may usher in exponential and disruptive growth with an ecosystem of private and public blockchains where firms, clients, companies, customers, and suppliers can collaborate in a secure, auditable, and virtual way. Blockchain fundamentally challenges the operating principles of banking transactions and therefore bookkeeping, making it arguably the greatest disrupter to the global financial system in a generation.

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For accounting specifically, the implications for payment and transfer of value for audit trails is quite profound. Blockchain-based accounting and invoicing could dramatically lower the costs of accounting and compliance by reducing the need for human resources in reviewing transactions. The payments being made on a distributed ledger could also provide increased transparency to trigger the execution of a transaction when certain conditions are met (such as the delivery of goods or services performed in real time, which would be time stamped and interlocked to ensure integrity).

With blockchain providing this reliable data on transactions, the possibility exists for the elimination of large in-house or outsourced accounting processes, but not necessarily staff. This means that accountants would be tasked with making the business more efficient through reporting and analysis, since there would be a substantial reduction in the need for reconciliation and verification of transactions.

Accountants may soon see the securing of records with the possible move to fully verifiable and mechanized audits. Cesar Bacani, the editor-in-chief of *CFO Innovation*, suggests that if current bookkeeping processes are no longer necessary due to automation, accountants and auditors will be able to shift their focus away from manual work to examination of very complex transactions, internal controls, forecasting, and other value-added activities. This means elevating, not substituting, human judgment.

What is clear about technologies like blockchain is that their use could be quite pervasive across industries and that disruption, in some form, will occur for accountants and auditors. As the increase in blockchain use occurs, the need for accountants to acquire additional skills around strategy and automation audit is highly likely.

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