

Blockchains & Nonprofits: A Primer

08.07.19 | Linda J. Rosenthal, JD



According to BDO's most recent *Nonprofit Standards* benchmarking survey, almost 75% of CEO respondents expect to invest in more technology in the coming year. A corollary finding is that many of them find the vast scope and array of these new products “bewildering.”

In this sphere, some of the loudest chatter has been about cryptocurrency – and a particular form of it: Bitcoin. It has been around for a decade, but in the past few years has exploded in popularity. We've covered the basics of this intriguing – but controversial – phenomenon that has attracted the interest of many uber-rich philanthropists as a new way to make charitable donations.

A primer on cryptocurrency – which we've posted previously; see [here](#) – is not adequate, though, without explaining in terms as easy as possible to understand, the technology that is one step *before* Bitcoin and similar cryptocurrencies. That building-block concept is “blockchain.”

What, Exactly, Is Blockchain?

It's often said that if you want to make sure you understand a new concept, try to explain it in your own words to a five-year-old. (Without expecting any actual kindergartners to click onto this post), that's what we'll do here. We're helped along in that task by the experts at [Nonprofit Tech For Good](#). Part of that group's mission is to introduce and explain, in simple lay language, the newest technology ideas and products.

Their recent article, [Blockchain Technology: What Is It and How Is It Relevant for Nonprofits?](#) (May 30, 2019), is spot-on for this purpose. So we'll largely eliminate the middle-person (that's us) and rely on NTEG's excellent primer on blockchain for nonprofits.

Author Paul Lamb, from [Man On A Mission Consulting](#), explains that, “at its core blockchain is a [database technology](#).” So far, so good: We know about and rely on databases and understand that it is technology that makes us able to use it.

But blockchain is not just new technology; it's different. Blockchain has a unique nature; it's "distributed." Its software is decentralized; it "sits on a network of separate computers" that are called **nodes**. Also, each node acts independently of the others; each one has to "verify transactions and store" those records on that node's own database. In its 10-year history, the Bitcoin blockchain – with about 10,000 nodes – has never been hacked, even though it has database software that is freely downloadable.

By contrast, most businesses and nonprofits have been using databases that are "**centralized** on in-house or cloud-based servers." That's the problem, though; they are "easier to hack and alter." The decentralized nature of blockchain makes it harder to mess with because a majority of those distributed nodes would have to be compromised at the same time in order for the intrusion to work.

Why is this technology platform called blockchain? It's because "transactions or the recording of information **occurs in batches or blocks**, with each block cryptographically tied to the next in a linear fashion."

Why is the blockchain technology that is the basis of bitcoin and other cryptocurrencies so useful? There's no one (like a payment processor) in the middle: It can be "sent directly from you to me or vice versa **in minutes for a very low transaction fee** using an online wallet." Conceptually, it's just like "moving cash or a document directly from one safe to another." And each node/host has the only combination or key to its own "safe."

The NTEG article has additional detail and explanation, including about "miners" doing things that are like "panning for gold," and how the whole thing operates, but this is enough for our basic, explaining to a 5-year-old, version.

What are Other Applications of Blockchain?

Bitcoin and other cryptocurrencies have dominated the headlines and our imaginations, but "as a database platform, a blockchain **can support a range of [additional] applications**." There are public and private blockchain types, for instance, that include "faster and more private recording of data."

Others "enable 'smart contracts,'; that is, "essentially a piece of code" inside a blockchain that triggers a designated action when certain conditions have happened. (Contracts quite often include express conditions, concurrent or consecutive.) An example of a smart contract in the nonprofit field is one that allows a charity to get funds instantly when a donor receives proof of some action, like partial-construction milestones for a building.

Conclusion

"Much more interesting than blockchain technology itself are the ways in which nonprofits and other social sector organizations can benefit from it" concludes Mr. Lamb in his helpful NTEG article. Giving examples, he emphasizes that "blockchain is still very much **a nascent technology**." It's exciting and developing rapidly, but "blockchain will take time to become truly user friendly and to fully find its nonprofit legs."