Blockchain Technology And Market Overview

Blockchain-based networks offer the opportunity to develop new business and trust models; that's why the phrase "revolutionary potential" for once isn't out of place. Their ability to support multiparty collaboration around shared, trusted data and process automation across organizational boundaries brings benefits at many levels, starting with efficiency gains and culminating in reinventing how entire industry ecosystems operate. Blockchain initiatives fall into two main categories:

- **New business and service models.** Most of these haven't been invented yet, but we can see emerging enterprise blockchain networks which open up new markets (e.g., affordable trade finance for smaller businesses), or allow us to rethink the way in which individuals, public authorities, and business interact without compromising data privacy and commercial confidentiality, while also minimizing fraud risk.
- **Improving existing process flows.** Good use-case candidates include: any scenario that involves multiple parties wasting time and resources reconciling data when all should be viewing the same data; situations where fraud arises from lack of timely information; and processes where efficiency gains and other benefits can be achieved if all participants have visibility across an entire supply or value chain.

This won't happen overnight. Like all digital transformation initiatives, blockchain projects need a long-term, strategic approach, and the business aspects are often a greater challenge than those posed by technology, even one as early-stage as blockchain. The industry is at the point, though, where Forrester is seeing projects transition beyond the pilot stage.

In terms of adoption, the financial services sector was the trailblazer for investigating enterprise use cases that leverage the concepts and architectural principles underpinning cryptocurrency and public blockchain networks. Other industries have caught up fast, though, and Forrester is seeing projects in all industry segments.

Whether it's opening up completely new opportunities or addressing existing pain points, these initiatives all have one aspect in common: blockchains aim to transform entire ecosystems, where participants agree that either a pain point needs to be addressed or a new opportunity can be exploited; and most importantly, they agree that blockchain is a viable step toward a solution.

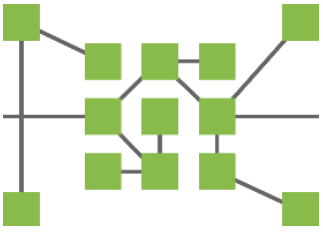
The majority of enterprise projects today focus on processes that are broken – those that have friction due to cumbersome data reconciliation processes, or those that waste time (often involving perishable goods) due to a lack of visibility along the value chain. Critics point out that for many of these projects, the immediate benefits come from digitization and process redesign, not blockchain. While that may be true, it misses the fact that putting in place a blockchain-based solution lays the foundation for strategic reinvention of processes as well as new business models that would otherwise not be possible.

Getting Started With Blockchain

To determine whether a blockchain-based solution presents an opportunity to your business, start with answering several qualifying questions.

For discussion of specific features for IBM's offerings, please refer to the IBM Blockchain: Overview section located at the end of this report.

Blockchain is an emerging technology.

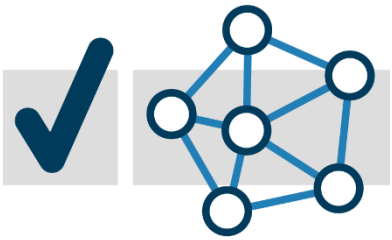


Success of a blockchain solution depends on agreement within the ecosystem.

When to consider a blockchain solution:

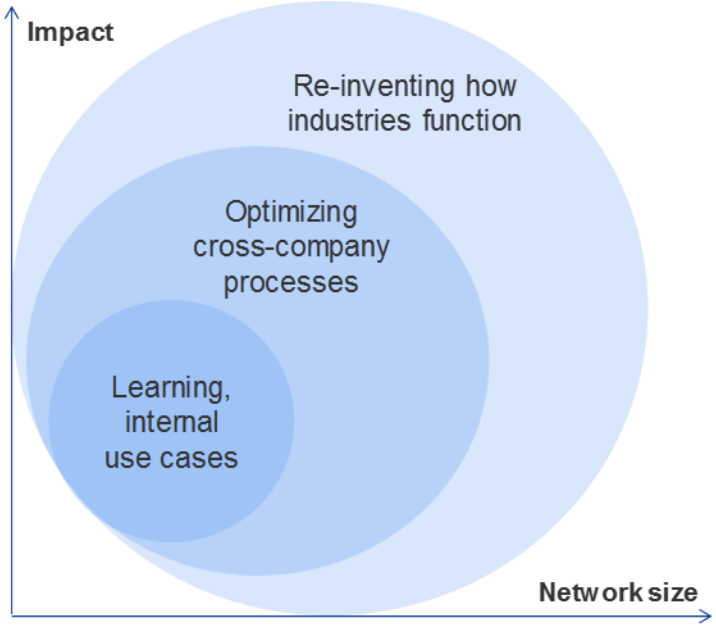
- ☐ Do multiple parties need to access the same data or write to the data store?
- ☐ Do all the parties need assurance that the data is valid and hasn't been tampered with?
- ☐ Do you rely on an intermediary that adds no value? Or do you rely on a complex unreliable process to reconcile the transactions of multiple parties — when all should have the same data? Or is there no system available today that does what you require?
- ☐ Are there good reasons not to have a centralized system?

Source: Martha Bennett "Forrester Flash: Blockchain," Forrester Research, Inc., February 14, 2018.



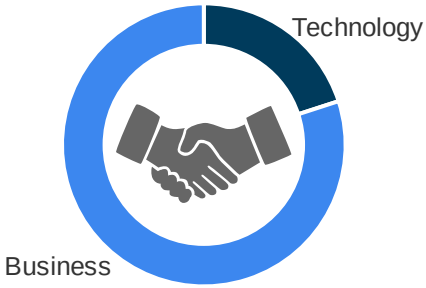
If the answer to all of these questions is "yes," it is worth considering a blockchain-based solution — provided that the pain point you've identified is shared by other ecosystem players, or you have identified partners that are interested in exploring a new opportunity with you. Now comes the hard part: laying down your requirements in detail — both in technology terms (e.g., scalability and confidentiality) and non-technology terms (e.g., regulatory compliance, rights and responsibilities of network participants). Those requirements will determine your governance model as well as your technology choice. Many projects fail at this hurdle, and others are held up at the last minute due to lack of, for example, regulatory approval or appropriate legal frameworks.

Last, but by no means least, your organization will need to think big but start small. Realizing the full potential of blockchain-based networks will take time — the winners will be those who start working with the technology today and, through first-hand experience, learn to make the most of blockchain-based networks.



Over the next several sections of this case study, we'll be looking at organizations that have decided to partner with IBM to develop a blockchain solution and quantify the potential impact blockchain products may have for an organization.

Business challenges of blockchain are often greater than those posed by technology.



To realize the true potential of blockchain technology, organizations need to **think big but start small**.

FORRESTER®