



First on the block

Learn from early blockchain business networks

From concept to commercialization

Blockchain technology has the potential to redefine enterprises, ecosystems and economies. 2017 has seen an abundance of blockchain network pilots across industries, demonstrating that the value of blockchain can be realized only when it spans ecosystems.

Sixty-six percent of organizations already active on blockchain are experimenting with a business model that connects people, resources and organizations in an ecosystem.¹ However, as many organizations are learning, connecting multiple entities across multiple processes is as much a business challenge as it is a test of the technology implementation.

Design to simplify

Leading organizations that have taken the plunge and moved beyond proofs of concept to real world proofs of business value can provide the best guidance. As executives from these organizations scope their first blockchain projects, they often express surprise at the complexities and time involved to get to maturity. IBM has set up over 20 active networks.

Our experience shows it's important to start small, identify the objectives for the network and take regulatory challenges into account. Organizations should consider taking an iterative approach grounded in design thinking that focuses on user needs and encourages collaboration across diverse teams with both business and technology expertise.

Before starting the blockchain network project, identify areas of business that include multiple parties and consider how they can better work together for greater mutual benefit.

It's best if you can start with an agreed objective, such as driving efficiency by removing costs, reducing risks or improving speed. Organizations participating in the network will then be on equal footing. Together, they can learn what blockchain can make possible and perhaps discover new revenue opportunities.

Once potential projects are identified, evaluate them. Leaders need to balance the degree of business impact with the degree of difficulty. Challenges that may be too difficult to take on at first include areas where internal stakeholders are especially resistant to change, or where integration with existing technology systems creates too much risk. Sometimes even these difficulties can be ameliorated, however. Instead of ripping out and replacing existing systems, blockchain can augment the system of record. These "shadow ledgers" can exist side by side with older systems, and replace them only after they've proved their enduring value.

Regulated processes can represent both a challenge and an opportunity. If a process must span multiple jurisdictions, understanding relevant issues can be challenging. In IBM's "Fast Forward" study, half of over 1,000 organizations surveyed with the Economist Intelligence Unit across five industries cited regulatory constraints as one of their top three barriers to blockchain implementation.² But regulated processes also come with established standards, which can make it easier for multiple parties to agree on project parameters.

New rules, new roles

Founders need to define the social model — the roles and relationships between participants in the network. They also must:

- Define the business and economic models
- Invite core network members
- Establish governance rules for network operations
- Form business development committees to get legal and regulatory input to smart contracts

Once a project is selected, choose your partners wisely. Some organizations pursue too many partners in the early phases of development, but it's better to work with a trusted circle, and identify roles and responsibilities in the network.

When you have too many partners, it's more difficult to agree on critical decisions that may range from security to business standards and collaborative governance. For the first pilot, our experience suggests that three business partners are optimal. In later phases, the network can more easily accommodate and benefit from the participation of up to seven organizations.

In choosing early partners, consider what value each brings. Does the prospective partner have an important source of data? Do they have a means of resolving friction? Or, conversely, are they a significant source of friction? Also consider what value they gain from joining the network. The more they have to gain, the more motivated they will be to work through any challenges that arise.

Although it's tempting to turn to your most trusted partnerships, it may not be necessary. Increasing the level of trust between organizations is precisely what blockchain is designed to do. Six in 10 organizations that are already active in blockchains expect the technology to increase transparency and trust in data and transactions.³ Depending on the solution, requiring a deep level of trust at the outset may not be necessary or even desirable. Instead, partners should be evaluated based on their willingness to explore and learn together.

When selecting partners, don't leave out an organization that could be a barrier in the future if they're not included. Projects have been derailed or abandoned by partners that were excluded from the development stage. Incentives to join in later stages should also be considered. Many organizations have found that they need to create a sales force to recruit new members.

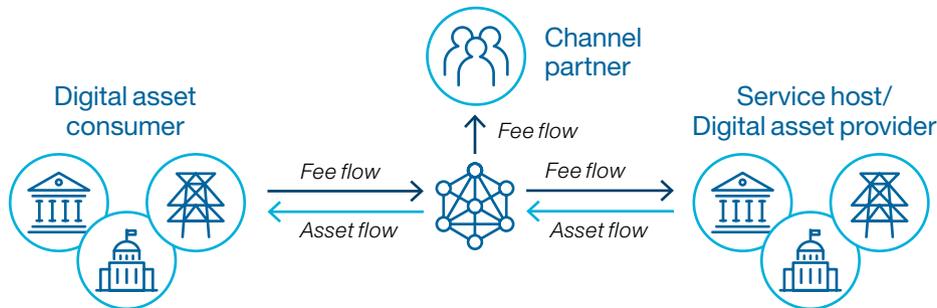
Collaborate to create new value

Blockchain network in action

Founded by SecureKey, the Digital Identity Network in Canada makes it easier for consumers to verify they are who they say they are, in a privacy-enhanced, security-rich and efficient way. Users can instantly verify their identity for services such as new bank accounts, driver's licenses or utilities. They use the Verified.Me app, which gives permission for the exchange of information between institutions. The Digital Asset Consumer (DAC), such as a real estate rental agent, receives verified information directly from Digital Asset Providers (DAPs), such as banks or other organizations that hold verified credentials

related to the end user's identity that are pertinent to the transaction. The Network Orchestrator, often one of the blockchain network Founders, facilitates the exchange of digital assets between a DAP and a DAC on a blockchain. Network Service Hosts enable trust on the network by maintaining the shared ledger and validate transactions onto the ledger through consensus. They may receive fees or other preferential treatment in exchange for the service they provide as hosts. Finally, Channel Partners help identify and onboard additional participants to grow the network.

Blockchain network roles



Source: SecureKey Technologies.

Govern for the future

The challenge of governing a blockchain business network is almost always underestimated. Organizations should start with some degree of centralization and build a strong governance model that can evolve with the network.

Initially, many pilots feature some centralization of control, such as founding members who determine the social structure of the network and how decisions are made. A strong governance model defines in detail the roles each participant will play, the economic model and legal structures. It covers innumerable decisions, including decision making itself. How many parties must agree for a decision to be binding? Is a majority good enough or must the decision be unanimous? Data questions also need to be answered. Who owns the data? What data can be shared? Who can access it? What happens to data if a member leaves the network?

Because a network is only as strong as its weakest member, privacy, security and data standards are especially critical. To be granted access to the network, everyone must adhere to some minimum level of security. Existing regulatory requirements make establishing this standard easier.

Decisions also must be made related to intellectual property (IP). Organizations that try to capture IP to their sole advantage create risks. The premise of mutual value, open innovation and collaboration is what attracts members to a blockchain business network. One sure way to shut down participation in a blockchain network is to treat IP as an asset that can be hoarded for exclusive advantage.

In some cases, organizations learn too late that their own organizations are an obstacle to progress. Senior executive buy-in is critical, as blockchain initiatives often constitute a significant cultural and organizational change. Data security and IP are two areas where an organization's key corporate stakeholders should be brought into decisions early on.

The explicit agreements created in the beginning are the roadmap for the network. But because the blockchain journey takes participants into unknown territory, they must continuously be evaluated. Governance, like value, evolves as the network scales.

Opportunity abounds

Every new venture is a step into uncertainty. Setting up a blockchain business network is no exception. Organizations will need to question their familiar business “rules” to get the most value from their blockchain projects. Although the specific projects may vary, the questions that need to be asked before embarking on blockchain are remarkably similar.

- To identify opportunities, organizations must ask: How can I introduce trust to transform my industry or value chain? How can I remove frictions, and reimagine transactions and processes?
- How organizations agree to incentivize other businesses to join in later stages must be considered from the outset. What value will latecomers realize? Will they receive the same transaction fees as early members?

- A strong governance model involves decisions on roles for each participant, the economic model and legal structures. For data alone, there are a number of factors to consider: Who owns the data; what data can be shared; who can access it; what happens to data if a member leaves the network?

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Notes and sources

- 1 "Forward Together: Three ways blockchain Explorers chart a new direction." IBM Institute for Business Value. May 2017. <https://www-935.ibm.com/services/studies/csuite/blockchain/>
- 2 Cuomo, Jerry, Shanker Ramamurthy, Veena Pureswaran, et al. "Fast forward: Rethinking enterprises, ecosystems and economies with blockchains." IBM Institute for Business Value. June 2016. <https://www-935.ibm.com/services/us/gbs/thoughtleadership/blockchain/>
- 3 "Forward Together: Three ways blockchain Explorers chart a new direction." IBM Institute for Business Value. May 2017. <https://www-935.ibm.com/services/studies/csuite/blockchain/>

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