

BLOCKCHAIN FOR BUSINESS

DISCOVER THE MANY WAYS YOUR BUSINESS COULD
BENEFIT FROM THE POWER OF BLOCKCHAIN

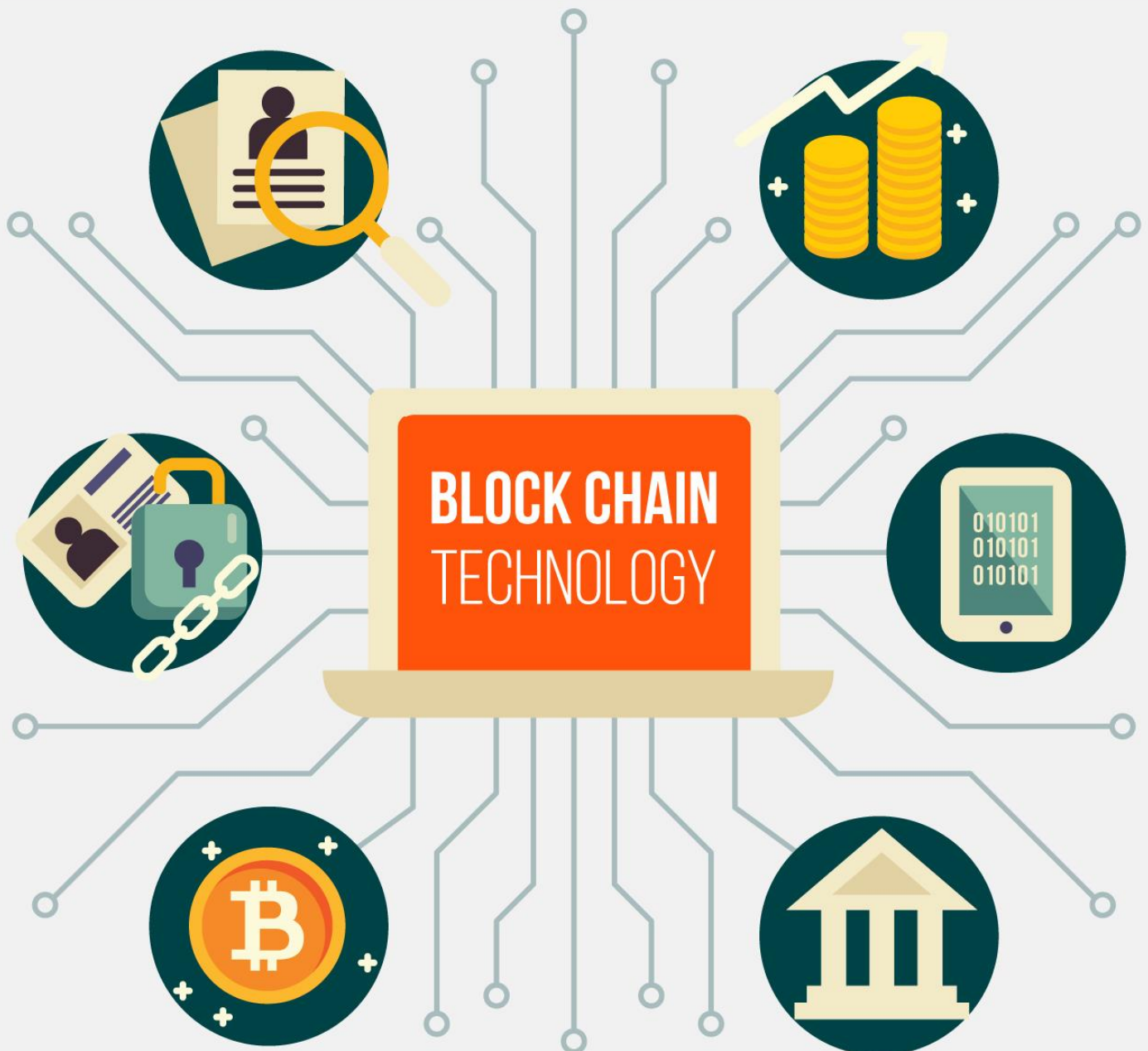


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Introduction

The technology behind cryptocurrencies like Bitcoin could revolutionize the way business is conducted.

This technology is called blockchain—and it's the backbone technology of Bitcoin and other cryptocurrencies.

Blockchains have mostly been used to underpin cryptocurrencies, but there are many other possible uses emerging.

In fact, this powerful technology can add new layers of speed, security and can even lower costs associated with payment processing, but that's only scratching the surface.

In this special report, we'll take a closer look at some of the ways blockchain could be integrated into your current business, or help you launch a new one.

Let's begin!

Blockchain 101

Before we consider the different ways blockchain can help your business, it's important you understand exactly what blockchain really is.

"Simply put," says BDC senior economist Gillian Ellas, "blockchain is a continuously updated digital record of who holds what."

Records of each transaction—the date and time, dollar value of the transaction, and the participants involved—are all encrypted into a "block" that is linked to other blocks, forming that blockchain.

So, you first have information, like a deal between people, which is then added to other records to make a block. The final product is all the blocks linked together in one long "chain."

Let's look at it more simply, with examples.

Suppose Mr. A is selling three coins to Mrs. B for \$75. The computer record will list all these details, including digital signatures from both Mr. A and Mrs. B. The record is then checked by the computer network.

The computers in that network (called “nodes”) check the details of the transaction record to ensure that it’s valid.

Records that are accepted by the nodes are added to a block. Each block also contains a unique code called a hash, as well as the hash of the previous block in the chain.

These hash codes allow the blocks to be linked together in order on the chain.

This hash code is created by a mathematical function that takes digital information and creates a string of letters and numbers from it.

No matter what size the original file may be, a hash function will always generate a code that is the same length as all the other codes.

For example, a tweet message is far shorter than a novel like *The Lord of the Rings*, yet they both would have a hash code of the same length.

A blockchain database is shared across a network of computers, so no one computer contains the information. That network is constantly checking the information to ensure that all the copies of the database are correct.

Once a record has been added to the blockchain, it's very hard to change it. Any changes to the record will generate a new hash code.

So, if someone decided to edit *The Lord of the Rings* and removed a single comma, the resulting edit would have a whole new hash code.

This is why it's so hard to hack a blockchain. The blockchain will still have the original hash code embedded in it, so for a hacker to restore the chain, he or she would have to recalculate that—and the next hash code, and the next, and so on.

Recalculating all those hash codes would take a hacker an enormous amount of computing power (not to mention the time).

One of the reasons cryptocurrencies are so fascinating is that there's no central authority controlling the blockchain. Each person in a blockchain has the capability to access the same information. This provides transparency and continual reconciliation.

And, since the blockchain exists on many different computers without a centralized version of the information, there's no central database a hacker can attack.

This means you no longer need a trusted third party to verify your information and process your transactions. You do, however, need some way to trust the other parties.

Members of a blockchain are anonymous and there's no real way to tell if they're trustworthy or not. To resolve this issue, blockchains set tests for the computers who try to join the network. These tests are called *consensus models*.

The consensus model tests require a computer to "prove" themselves in one of two ways.

Proof of work requires a computer to “work” an increasingly difficult computational puzzle in order to add a block to the chain.

This process, which is called mining, takes a lot of computer power. In return for this work, members may receive rewards like tokens or bitcoins.

With proof of stake, on the other hand, participants buy tokens that allow them to join the network. The more tokens they have, the more they can mine.

Real-World Examples

The financial services industry is one of the areas beginning to utilize blockchain technology to save on cost and develop new services.

Financial institutions have been investing in blockchains to simplify their record-keeping for payments and other transactions.

One recent example is the Australian stock market, which announced they'd be using blockchain to settle transactions. "This technology," says Gillian Ellas, "will be used to record shareholdings and manage the clearing and settlement of equity transactions."

Another financial example is a company called Abra, a money transfer platform that lets people working abroad send money home in 54 different currencies.

The money transfers are fast and cheaper than a traditional service like Western Union, which charges an average of 7% of the amount of money sent, according to the World Bank.

A third blockchain project involves the World Wildlife Fund and three other companies that are working together to sustainably source tuna in the Pacific Ocean.

These companies are ConsenSys, a blockchain company, TraSeable, an information technology firm, and SeaQuest Fiji, a tuna fishing and processing company. The four together are utilizing blockchain to track where, when, and how the tuna are caught and sold.

Blockchains are also the basis for cryptocurrencies like Bitcoin and Ethereum, which can be bought and traded like traditional assets. And recording trades on a blockchain offers a way to check the history of a product.

An additional example would be jewelry companies, which hope to assure customers that their diamonds are not from a place where their purchase might finance war.

“Several major companies are investing in blockchain,” says Ellas, “including Microsoft, IBM (with more than 400 blockchain projects around the world), Unilever, and Toyota.”

Blockchain could also be useful in property records. Storing land records on a blockchain might cut way down on costly title research and insurance, and in politically unstable areas, it could prove ownership.

The healthcare field is another area where blockchain records would prove useful. Your medical history could be securely stored and controlled by you rather than by your doctor.

Finally, blockchain technology could create tamper-proof election returns. The advantages of this should be fairly obvious, especially in the United States.

How Blockchain Can Benefit Your Business

As small businesses seek better and more efficient ways to serve their clients, blockchain can be especially useful as a way to conduct transactions and even to raise capital.

The cost to incorporate this technology is far less than you might assume.

Many small business owners think that only large companies have the money to afford expensive designers to develop such advanced technology.

The truth is, Entrepreneur writer Drew Giventer says, vendors have emerged who “provide blockchain-based technology, not only for Wall Street, but for Main Street as well.”

And blockchain technology isn’t just for digital-first or online-only businesses. Bakeries, gyms, nail salons, restaurants, and other small

businesses that rely on a physical space in the real world can get started using blockchain today.

Let's take a look at some of the ways blockchain technology can benefit entrepreneurs who want to take their business to the next level.

The first thing your business can do to adopt blockchain is simply to begin accepting cryptocurrency as a method of payment.

“What signals more of a commitment to blockchain,” asks Giventer, “than allowing customers to pay with bitcoin or other cryptocurrencies?”

Some larger e-commerce companies like Expedia and Overstock accept bitcoin. And this option is also open to online stores through platforms like Shopify, too.

This platform offers several advantages to small businesses, as the transaction fees are low and fast, and there are no chargebacks.

Of course, traditional merchants just aren't set up to accept cryptocurrencies, so rolling out this plan will require a lot of planning and testing.

You'll need to evaluate and spend money on a digital wallet, a merchant gateway, or a combination of services needed to accept cryptocurrency from your customers.

However, the benefits of accepting cryptocurrencies will outweigh these costs in the long run.

First, your customers can see that you're willing to expand your services, and that's something that will bring in new business.

Cryptocurrencies also allow you to directly deal with your customers. That will reduce transaction costs as you won't be paying a third party for those any longer.

Another big advantage is that payments will be permanent and irreversible.

This will leave your customers with no choice but to contact your business directly if they want a refund—and that will end the problem of chargebacks, where customers purchase services or goods, then cancel the payment on their credit card, leaving the business in the hole.

Blockchain technology is particularly recognized for its applications and platforms which aid money transfers and payment transactions. Your business can utilize this to transfer funds securely without heavy costs.

For example, you could transfer money to employees anywhere in the world without worrying about using an expensive intermediary.

What about a situation where you want to properly document transactions with several parties involved?

You might be able to use some of the new business applications for Distributed Ledger Technology (DLT) that are being investigated currently.

You could have an accounts audit trail, ties in a supply chain, or steps to the execution of a deal. Ethereum, created in 2015, is an easy way to make special “distributed applications” or Dapps.

Another variation, called permission ledgers, blends the advantages of a blockchain with business security. You might not realize when an underlying device begins using DLT, but you can see certain changes:

Reduced instability in supply chains:

With many small businesses, shipping and logistics activities can be a resource-eating, admin-heavy mechanism.

And with each supply chain partner, the work is multiplied. DLTs can make some of these activities easier and far more secure.

Unbreakable agreements:

Businesses deal with contracts of all sorts on a daily basis, and signing those contracts means placing your confidence in a piece of paper.

The difference with a blockchain is that it’s digital and cannot be changed or tampered with.

Smart contracts also don't require a lawyer to negotiate the agreement, saving you time and money. So long as the conditions of the contract are met, the value transfer will happen without fail.

Safer data storage at a reasonable price:

Blockchain allows users to store data in a safer digital form for a fair price. The stored data can be encrypted so that only those with a crypto key can access it.

And how about data storage? "Blockchain storage applications," says Giventer, "allow users, including small businesses, to store data in a safe way, and at a reasonable price, without compromising data security or overspending."

Businesses and personal users spend more than \$20 billion every year on cloud storage. Imagine saving that money instead of throwing it into the cloud.

Businesses can also use blockchain for smart contracts, which are self-verifying and self-enforcing contracts between the business and the client.

The contract is stored within a blockchain ledger and is recorded in a way that cannot be changed or manipulated.

Some examples of smart contracts include commercial leases, agreements with suppliers or vendors, and employee contracts.

A smart contract offers your small business a level of protection it would otherwise not be able to afford. You'll be eliminating the middleman (usually an attorney) with a smart contract, and that will save you a ton of money.

“Global blockchain platform Ethereum,” Giventer notes, “was the first to introduce smart contracts to the cryptocommunity, and is considered one of the more advanced platforms for coding and processing of smart contracts.”

Blockchain technology can give your small business an alternative method of raising capital through Initial Token Offerings (ITOs) or Initial Coin Offerings (ICOs). These are a virtual form of investment created with blockchain technology.

Your company can “issue” tokens or coins by using a platform like Ethereum to create and record the distribution of these tokens as a form of investment in your company.

As an alternative to banks, lenders, private equity clubs, and even crowdfunding, ITOs are available for exchange where they can be freely traded. ITOs are comparable to equity or revenue share in a typical company.

Interested investors can buy into your offering and receive new blockchain-based tokens from your company. These may have some use with the product or service your company offers, or it may simply represent a stake in your project.

“The growing loyalty of token investors,” says Giventer, “has made ITOs much more popular over the years, and a viable capital-raising alternative for businesses of all sizes.”

The ITOs can be bought and traded on the open market, where “a new realm of liquidity is made available to the general public.”

A small business can also grow its brand and product awareness by giving customers a small reward in cryptocurrency. This is known as a *bounty campaign*.

How it works is that your company issues blockchain-based tokens that have some utility. Perhaps they can be exchanged for some of your products or services in the future.

You then initiate a bounty program on a specialized forum or platform, and, as a result, anyone can join the bounty, promote your company, and get paid in tokens for doing simple online tasks.

If you're in the business of verifying any sort of transaction, investigate how blockchains could impact your company. Think about the threat of clearing and settling stock trades and you'll see that the disruption to many back-office functions and other services could be substantial.

If you belong to some sort of supply chain, your partners may want you to start digitally tracking your processes, especially if you supply a larger corporation.

Start thinking about where you fit into your customer's supply chain and how you might be asked to participate in a blockchain.

If you supply anything to consumers or other businesses, think how valuable it might be to be able to track your products back to their sources.

Imagine how much a fishmonger might be able to charge if he or she could reliably prove their products were harvested using sustainable methods.

“In supply chain logistics,” says Gillian Ellas, “the combination of blockchain, smart contracts, and the Internet of Things will allow companies to track shipments and make payments when certain conditions are met (i.e. a product is delivered).”

An example is Maersk, the world's largest shipping company. They began testing blockchain to track their cargo in conjunction with Dutch customs, the US Department of Homeland Security, and the companies sending the goods.

Smaller companies could easily utilize the same technology.

“Imagine a grocery store where inventories are getting low,” Ellas says. “Smart containers holding the goods could be programmed to inform a wholesaler that they need to be restocked.

The wholesaler would contact a trucking company to pick up the goods and deliver them to the retailer. Each step would be recorded and payments made via a blockchain because all would be verified.”

Here are some tips on making progress with blockchain technology:

Do your homework.

While blockchain has a lot of promise, there are also drawbacks you need to be aware of. Thus, you should know as much as possible before you jump on the bandwagon.

Blockchain for Dummies (which is a free pdf) and *The Business Blockchain* books are great places to get started.

Ask why.

Before you spend the time learning a new blockchain system, make sure you’re adding the tech for the right reasons.

In general, your reason should be to save time and money or otherwise make your business life easier and faster.

Start small.

Pick one app and get used to it before you go all in and sign up for everything out there. This will allow you to concentrate your efforts and get used to just one system instead of trying to do it all at once.

Final Words

Companies are always getting bombarded with “hot new tech” that’s going to change their game.

Some of this technology ends up being useful, but some of it ends up wasting a lot of time, energy, and resources. Deciding which tech will work with your business can feel like a full-time job.

Blockchain has been touted as one of those technologies that’s going to solve all your problems. You might even have heard it praised as a solution to any number of business problems, both large and small.

However, it’s also been vilified—and it remains a mystery to many business owners.

But in the end, there are some realistic practical applications for small to medium business owners. You just need to do your research and decide which ones will work best for your situation.

Despite all the potential, Ellas says we're still in the early days of blockchain technology. Three key issues need to be resolved before it goes mainstream:

Energy Use: verifying the transactions to add to a blockchain is energy-intensive because it takes a lot of computer power to perform all those calculations, solving equations by trial and error.

Some technology firms are working on ways to keep the security high but lower the energy cost.

Processing Speed: the massive number of computations also slows the processing speed. Researchers are now working on ways to simplify calculations and increase the number of transactions performed.

Interoperability Across Blockchains: the many blockchains (public and private) currently don't "talk" to one another much. The next generation of blockchain technology may correct this problem.

"Blockchain," says Tanvir Zafar of B2C, "is a fast-moving train that has bitcoin as its backbone."

Many businesses have already incorporated blockchain into their working scheme and are recording exponential growth.

From contracts and secure transactions to digital exchange and smart contracts, blockchain has a lot to offer the small business owner.

The main advantage of incorporating blockchain into your small or medium business is the savings of time and money it can afford you.

Although there are numerous benefits of incorporating blockchain, you should do your research and figure out which blockchain application best suits your business.

You're getting in on the ground floor here, and if you pick the right platform, you can only go up!

To your success,

Resources

Here are links to a few resources that I believe will help you:

Blockchain Explained:

>> <https://www.investopedia.com/terms/b/blockchain.asp>

Blockchain Companies Paving the Way:

>> <https://builtin.com/blockchain/blockchain-companies-roundup>

Ultimate Blockchain For Business Guide:

>> <https://searchcio.techtarget.com/Blockchain-for-businesses-The-ultimate-enterprise-guide>

Blockchain For Businesses:

>> <https://searchcio.techtarget.com/Blockchain-for-businesses-The-ultimate-enterprise-guide>