

# Blockchain Technological Transformation Management Ecosystem: Your First Venture Companion

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***Abstract**--The blockchain technology has been parenting Bitcoins and many other cryptocurrencies that have strived to be traded on the global markets. It has been only within the last 2 decades that eventually the concept of blockchain technology was flourished through evolution of IoT, or Internet of Things, and the first well defined cryptocurrency, namely Bitcoin, as a main biproduct of it was evolved to what we know as blockchain technology. Unlike what most people recognize cryptocurrency, as a main concept of its parenting blockchain technology, the cryptos are not just the main or everything about blockchain. Blockchain technology, is rather much more powerfully designed to interconnect and facilitate trade among many businesses in commerce, including insurance, banking, healthcare industry, etc., through an amazing cryptocurrency, a non-fiat currency and medium of exchange. Bitcoin's extension into the 21<sup>st</sup> century's monetary system was - and will continue to be - registered as a historical turning point of the medium of exchange, store of value, and unit of account, among other desirable properties of money. We dare to have concluded that the blockchain technology is another revolution inside the capitalistic ecosystem for enforcing its powerful potential in the conversion of centralized businesses into somewhat more decentralized, where competition and efficiency would be more practically fostered than ever before. There will be more reliable and verifiable information, permanently stored on electronic ledgers, connected to enormous other nodes merged with those already accessible through the blockchain platform, operated by entrepreneurs, such as "Your First Venture Companion," just as a tentative example.*

***Key Words:** Blockchain, cryptocurrency, centralization, decentralization*

## 1. Introduction

Blockchain technology, more than anything else, is a talented business design that would, in its ideal and potential role, facilitate the exploration of resolution to a big business and economic dilemma of the century. The dilemma of economic efficiency of competition versus the loss of social welfare has been a historical challenge. The biproduct of that competitive efficiency, has been for long, the outgrowth of bigger and more successful businesses into heavily concentrated market power in the hands of very few oligopolists or even a single monopolist in various industries at the cost of smaller business organizations, and a consequential continual loss of economic status of the middle class.

## 2. Entrepreneur and Blockchain

The main problem that most failing entrepreneurs have been damaged by, often fatally, has been ignoring the necessity of a strategy and a well-calculated strategic planning. One of the prominent MIT experts in entrepreneurship research, Scott Stern (April 4, 2021), suggests that in uncertain environments, thinking about new ideas is mandatory. On using or launching a blockchain technology, you must first understand it quite thoroughly. Then you need to identify several dimensions, in which your entrepreneurial project, such as using a blockchain platform, is supposed to be evaluated and eventually functioning into a successful business. One is supposed to identify most meticulously which dimensions should really matter and which one or ones could be set aside for further and later considerations.

### 2.1. Learning what and how

For an innovative entrepreneur, the needed Breadth, depth, and application of the blockchain technology knowledge are essential to acquire and understand within the path of a long-run strategic success.

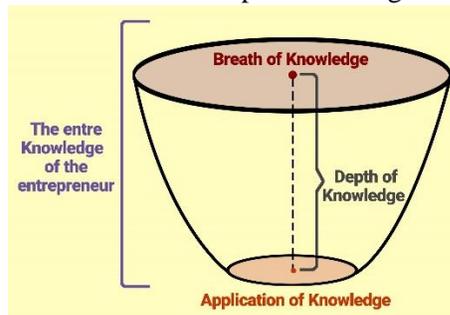


Fig. 1. Well-rounded knowledge

All that, accompanied by the many lobbyists' targeted influences on the economic and sociopolitical laws and regulations, have almost permanently created very rich and very poor classes, while those in the middle class have struggled for maintaining a minimal acquisition of a modest living standard.

### 2.2. The deep impact of blockchain technology

Blockchain technology is not just Bitcoin or any other cryptocurrencies that have been emerging in many countries in the world at a rapidly growing rate. Cryptos are surely parented by the more amazing & phenomenal integration of economic and business activities, electronic technology, human brains, and a flourishing entrepreneurial strategic planning and plan implementations.

The authors, in another piece, published earlier this year (Hamzaee and Salimi, April 2022), concluded that the blockchain technology is another revolution inside the capitalistic ecosystem for imposing its powerful forces in the conversion of centralized businesses into somewhat more decentralized, where competition and efficiency would be more established than otherwise. There will be more reliable information, permanently stored on electronic ledgers inside the super-fast computers with gigantic memory capacities, connected to enormous number of entrepreneurs' nodes merged with those already pegged and accessible through the blockchain platform, operated by other entrepreneurs.

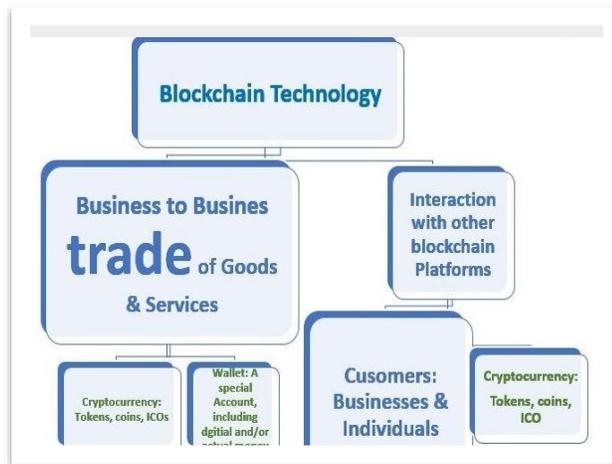


Fig. 2. Trade expansion is blockchain’s main attribute  
 Source: Hamzaee, R.; Salimi M (July 22, 2022)

In Fig. 2, the main economic and technological contributions of blockchain technology are shown to be in its facilitation of the most efficient expansion of trade and active business interactions, all of which would facilitate the decentralization of the industries, in which blockchain platforms are adopted. Ultimately, there would be more reduction in the market power and concentration, depending on how extensively and intensively that technology has been adopted and implemented.

Most basically, a blockchain is a crowded list of many transactions that anyone can visit and examine to feel confident. The pioneering Bitcoin blockchain, e.g., transpires a record of every time exchange of bitcoin. Through cryptocurrencies and the parenting blockchain technology, it is made possible to transfer value online with no middleman, or intermediaries, or credit card company involved. This is a real contribution by blockchain technology.

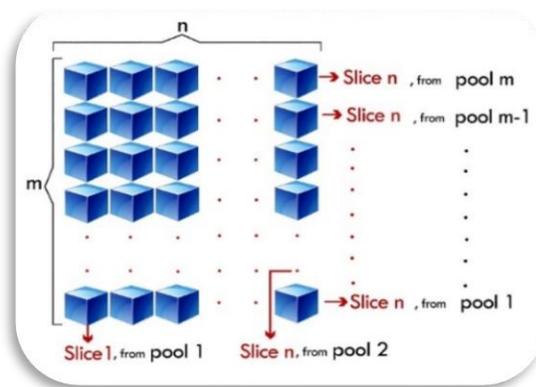


Fig. 3. How blockchains are built up and pegged in clusters

### 3. Capitalization

There are a variety of methods of financing the necessary investment in a new blockchain technology, including selling equity (pieces of the company) to the interested investors, who would also be entitled to claims on the future profits.

#### 3.1. Debt Financial Structure

Investor may purchase debt instruments, like stocks, which would entail additional potential benefits in selling in the 2ndary capital markets. Also, they may buy bonds. Blockchain investors’ debt instrument sold to

the holders could also include IPOs (selling equity in the market in advance of the corresponding public sale of the stocks).

Other methods include Angel funding (selling equity in the market), crowdfunding, which entails resorting to the internet to attract and access the widespread crowdfunding for financing the blockchain technology project or product development. As an example, Kickstarter allows entrepreneurs to presell products to finance their initial development & manufacturing project. There is no promise of repayment or equity in the company is involved.

Tokens are yet quite common in launching of new blockchain platforms, which are sold, for crowdsourcing the resources, and attracting talent, and engaging everybody within the same ecosystem.

Paralleled to the concept of IPOs, ICOs, or Initial Coin Offerings, are also put on sale for initial capitalization, through which TGE, or Token Generation Events, are implemented, all of which are fundamentally serving the same purpose.

In creation and establishing a new blockchain technology platform, People are taking the model of Bitcoin, Ethereum, and make some feasible alterations and tweaking it in such a way to adapt it to their particular needs, ideas, and to different modes of business vertical interactions and marketplaces.

### **3.2. Understanding Tokens**

Tokens have value due to the prior knowledge on credibility of the corresponding blockchain platform derived from its white paper. Also, it would be used, while expecting some prospective expected value enhancement. Yet, one has to be careful with the fact that too many new tokens are launched to raise funding, and not all of them are of the same future prospects.

Furthermore, the subsequent activities after introducing and selling tokens, have been hardly of an explosive type. They are argued to be mainly like angel & venture capital financing: By resorting to selling tokens, the blockchain investors are asking people to trust them. In reality, a digital ecosystem is being established that is increasingly valuable over time.

Tokens are resembled to equity in an early-stage start-up. If the corresponding platform, are perceived to be more useful to users and consumers across the world, the value of the token will increase. The challenging warning is due to the fact that when the blockchain owners are launching their tokens and asking for funding, the corresponding network, has often not been even deployed.

The real difference between tokens and equity is essentially misunderstood. Both entail a promise of future value, and the buyers of each, are hoping, again, that each will appreciate and skyrocket and reward investors. The main contrast is that tokens are really meant to fund the establishment and development of a shared blockchain technological infrastructure. Whereas equity is the buyer's current ownership of an already established infrastructure.

Despite the fact that a blockchain platform is owned by an entrepreneur or a group of them, the cost of networking and the new digital platforms that are built and added on top of a blockchain again and again, there's not a single central actor. It's a growing group of participants within an ecosystem with different players providing different resources, different talent, and everything you need for the marketplace to come into equilibrium, while transactions are executed.

All those players in that ecosystem, from users to investors, to people that provide maybe storage or wire rope, or whatever the resource is, all of them are coming together around a common goal. You're trying to coordinate economic activity, often on a global scale, using code, rules, and incentives. They're all using the same infrastructure, and so that becomes almost like a public good.

Imagine a global, open alternative to every financial service you use today, accessible with little more than a smartphone and internet connection. Almost all cryptocurrencies, including Bitcoin, Ethereum, Bitcoin Cash, and Litecoin, are secured via blockchain networks, which means their accuracy is constantly being verified by a huge amount of computing power.

Catalini, Christian (April 24, 2017) stresses the fact that the growing sophistication and interdependency among organizations, mixed with the growing specialization necessary to advance the extent of technology, have revealed:

“Human abilities a key bottleneck in the generation, processing and diffusion of real time information. To counterbalance this trend, we developed better technology, governance, and contracts to simplify decision making, and ultimately allow organizations to scale across different markets.” (p. 1)

Blockchains are increasingly being used in many fields of business, such as exploring medical research, improve the accuracy of healthcare records through non-changeable records pegged on the blockchain, the most focused streamline supply chains, etc. The extra attraction here is secured through the coded cryptographic requirements of the blockchain networks, where payments via standard debit/credit card transactions tend to appear inferior to blockchain-facilitated transactions, using cryptos.

### **3.3. Some Advantages Of Blockchains**

They're global: Cryptocurrencies can be sent quickly and cheaply from countries to countries. You won't necessarily need the fiat money transactions.

They increase privacy: One's personal information is not required to be included, which would protect one from being hacked or facing any stolen identity.

They're open: while all single transactions on cryptocurrency networks are published publicly in the form of the blockchain, anyone can scrutinize them. That leaves no room for manipulation of transactions, changing the money supply, or adjusting the rules mid-game. The software that constitutes the core of these currencies is free and open source so anyone can review the code. What's the main advantage blockchains have over the old financial system?

Think about how much of your financial life takes place online, from shopping to investing – and how every single one of those transactions requires a bank or a credit card company or payment processor like Paypal in the middle of it. Blockchains allow for those transactions to happen without a middleman, and without the added costs and complexity that come with them.

### **3.4. Bitcoin is not a Blockchain**

Bitcoin is a form of digital money, and the underlying technology that makes it possible is a blockchain. There are thousands of cryptocurrencies, from the ones that power Bitcoin, Litecoin, Tezos, and countless other digital currencies to an increasing number that have nothing to do with digital money.

## **4. How Does a Blockchain Work?**

Assume that there are 1000 layers of successful hashes, each winning a block for its ledger being registered and pegged forever. Every link on the block inside the computer is a chunk of information that contains transaction data. At the top of the chain, you'll find what happened last, and as you move down the chain you find older and older transactions. And if you go all the way down to the bottom of all the block chains, you'll have seen every single transaction registered in the history of that blockchain platform. That well-addressed data security and untouchability, which has given the blockchain powerful security advantages, comes from this permanent structure: it's a lifetime open and transparent records of a cryptocurrency's transactions.

Anyone's effort in manipulating a transaction, would cause the entire link to break down, which is impossible, and the entire network will see what happened!

Another way to explain the blockchain is that it's a ledger (sometimes you'll hear the terms 'distributed ledger' or 'immutable ledger'), that is similar to the balance sheet of a bank. Like a bank's ledger, the blockchain tracks all the money flowing into, out of, and through the network.

But unlike a bank's books, a crypto blockchain isn't maintained or controlled by any individual or organization, including banks and governments. In fact, it isn't centralized at all. Instead, it is secured by a large peer-to-peer network of computers running open-source software. The network is constantly checking and securing the accuracy of the blockchain.

#### **4.1. Where does New Cryptocurrency Come From?**

Every so often – around every ten minutes in the case of Bitcoin – a new chunk of transaction information (or a new block) is added to the chain of existing information. In exchange for contributing their computing power to maintaining the blockchain, the network rewards participants with a small amount of digital currency.

A crypto blockchain is distributed across the digital currency's entire network. No company, country, or third party is in control of it; and anyone can participate. The network is constantly checking and securing the accuracy of the blockchain.

#### **4.2. How do you send and receive money over a blockchain?**

The cryptocurrency network assigns each user a unique 'address,' which is made up of a private key and a public key. Anyone can send you money via your public key, which is akin to an email address. When you want to spend your money, you use your private key, which is basically your password, to digitally 'sign' transactions. The easiest way to manage your cryptocurrency is via software called a wallet, which you can get via an exchange like Coinbase.

Nakamoto's Goal was to create digital money that would make online transactions between two strangers anywhere in the world possible without requiring a third party like a credit card company or a payment processor like PayPal in the middle.

This required a system that would eliminate a thorny issue called the 'double spending' problem, where a person might use the same money more than once. The solution is a network that is constantly verifying the movement of Bitcoin. That network is the blockchain. Every Bitcoin transaction is stored and verified by a global network of computers beyond the control of any person, company, or country.

Bitcoins are 'mined' via that huge, decentralized (also known as peer-to-peer) network of computers, which are also constantly verifying and securing the accuracy of the blockchain. In exchange for contributing their computing power to the blockchain, miners are rewarded with small amounts of cryptocurrency.

Every single bitcoin transaction is reflected on the ledger, with new information periodically gathered in a "block," which is added to all the blocks that were filled before.

The miners' collective computing power is used to ensure the accuracy of the ever-growing ledger. Bitcoin can't exist separately from the blockchain; each new bitcoin is recorded on it, as is each subsequent transaction with all existing coins.

#### **4.3. What's the future of blockchains?**

The blockchain idea has turned out to be a platform that a huge range of applications can be built on top of. It's still a new and rapidly developing technology, but many experts have described blockchain's potential to change the way we live and work as being like the potential public internet protocols like HTML, had in the early days of the World Wide Web, and IoT (Internet of Things).

The Bitcoin Cash and Litecoin blockchains work in a very similar way to the original Bitcoin blockchain. The Ethereum blockchain is a further evolution of the distributed ledger idea, because unlike the Bitcoin blockchain it's not solely designed to manage a digital money. (That said Ethereum is a cryptocurrency and certainly can be used to send value to another person). Think of the Ethereum blockchain more like a powerful and highly flexible computing platform that allows coders to easily build all kinds of applications leveraging the blockchain.

For example, imagine a charity that wants to send money to a thousand people every day for a year. With Ethereum, that would only take a few lines of code. Or maybe you're a video game developer wanting to create items like swords and armor that can be traded outside of the game itself? Ethereum is designed to do that, too.

What are MIT experts recommending on verification before trading through any blockchain Operator?

- Check its White Paper
- Check the profiles of the Team Members

- How do they mix and meet?
- What can you guess about their credibility?
- Do they appear to be principled professionals?
- Any codes of ethics within the operating company?
- Check published data: e.g., see top ten, recommended By Forbes Magazine or other well-known business expert media.

#### 4.4. Address

A blockchain public address is a unique alphanumeric string that is used to identify users in the blockchain. The public address can also be used to reference, send, or receive transactions (see definition), or where you'd like to receive, send, or record blockchain transactions. An example of a blockchain address is: 5TdA55HeLopzzwe3Lg7W335tGdCc623PoQ.

We are offering another check list to traders, which is more completed here, See Fig. 4, below.



Fig. 4. The 14 essential steps in trading cryptocurrencies  
Source: The authors

The MIT experts confirm & recommend that one must verify before any trade through any blockchain operator.

Check its White Paper; check the profiles of the Team Members, and how do they mix and meet? See what one can guess about their credibility? Do they appear to be principled professionals? Any codes of ethics are introduced and prevailing within the operating company? Check published data: e.g., see top ten, recommended by Forbes Magazine or other well-known business expert media

#### 5.1 Blockchain and Advertising

Blockchain technology has contributed to advertising, and more so in online advertising. As more businesses and organizations tend to implement it more and more, its grand contributions are being more

obvious. In Fig. 5, about 20 of the tangible contributions of the blockchain technology to advertising industry are highlighted.

As of now, some well-known businesses in the world have already resorted to blockchain technology in best optimizing the extent and frequency of their sharply targeting advertising. They are taking advantage of the technology in cost reduction, controlling of the false information and enhancement of transparency. In that way they would ensure higher rate of return by all means, including the higher rate of customer return and loyalty.

Through time and the expected further learning of the blockchain technology, artificial intelligence, and smart contracts, alongside the growth of confidence and trust in the ecology, the advertising industry would flourish into more efficiency, transparency, accuracy, and more as a good source of information than disinformation in not only movement of merchandise, but also political views and performances. More competition and less power concentration would arise.

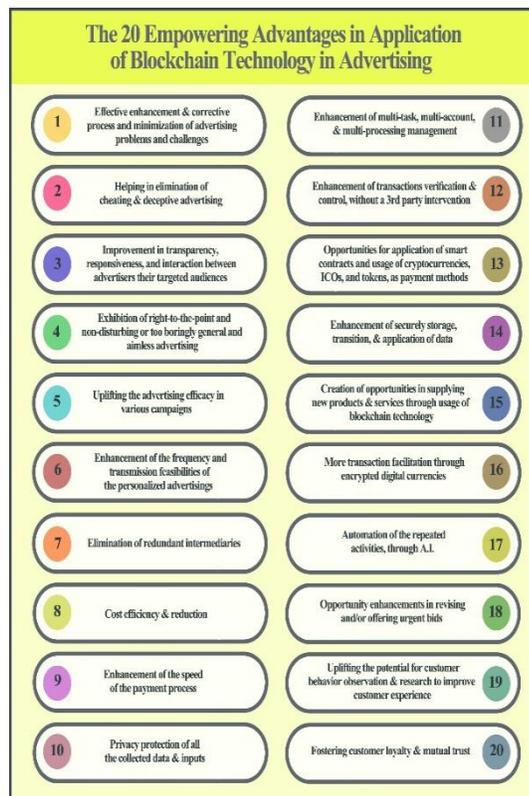


Fig. 4. Twenty blockchain advertising advantages  
Sources: A. Takyar. (Sep 3, 2022) and S. Daley (March 1, 2019).

## 6. References

- [1] Catalini, Christian. (April 24, 2017). "How Blockchain Technology Will Impact the Digital Economy." Commercial Laws, Financial Regulation. Faculty of Law, University of Oxford, Oxford, U.K.
- [2] S. Daley. (March 1, 2019). 9 ways blockchain in marketing and advertising Is getting our attention. Uploaded: June 30, 2022
- [3] Gans, Joshua; Scott, Erin L.; Stern, Scott. (May-June 2018). "Do Entrepreneurs Need a Strategy? Strategy for Start-Ups." *Harvard Business Review*.
- [4] Hamzaee, Reza G. (July 22, 2022). "Crypto Rials Could Facilitate the Process of Inflation Control, Twelve important Recommendations in the Acquisition of Cryptocurrencies + Infographics." A research article in Persian language. Tasnim News Agency, Tehran, Iran.

- [5] [Hamzaee, Reza G.; Salimi, Maryam. \(April 2022\). "Blockchain Technological Transformation from a Centralized into a Decentralized Ecosystem: BlockCity Is Rising." \*Archives of Business Research, Society for Science and Education, UK, Vol. 10, No. 4. DOI:10.14738/abr.104.12268. pp. 153-172.\*](#)  
<https://doi.org/10.14738/abr.104.12268>
- [6] Schramm, Carl. (May-June 2018). "Do Entrepreneurs Need a Strategy? It's Not About the Framework." *Harvard Business Review*.
- [7] Stern, Scott.; Scott, Erin L. APRIL 4, 2021. "Making good choices on the entrepreneurial path." Massachusetts Institute of Technology (MIT), Webinar.
- [8] A. Takyar. (Sep 3, 2022). Blockchain advertising – towards transparency, accountability, and privacy.  
<https://www.leewayhertz.com/blockchain-advertising-use-cases/>