I DON'T TRUST YOU

But BLOCKCHAIN And Bitcoin Will Help

DAMU WINSTON
MBA, PMP, CBP

“
Always Striving
For Legendary
”

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Dedication

I dedicate this book, I Don't Trust You, But Blockchain and Bitcoin Will Help, to my mother. On December 11, 2017, I got a call from my sister, who told me that I needed to fly back home to the US. She was concerned that you were on your final days. Over the next few weeks, we saw you completely deteriorate. This was one of the most difficult times of my life. Then, in late February, you started a new palliative chemo treatment to give you comfort in your final days. But little did the doctors know what a fighter you are. So, nine months later, I find myself celebrating life with my mother in Dubai at my home on her birthday, October 11th, 2018. Happy 62nd to you ma! Thank you for showing me what you can make of life, to be positive and never stop fighting, even when everyone else has given up.

To His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates and Ruler of Dubai, The Executive Council, Dubai Future Foundation, Dubai Blockchain Center, and Area 2071—thank you! Your support, leadership, and forward-thinking inspires us all.

And, last but not least, to my beautiful wife and wonderful mother of our two amazing boys, Kareem and Aiden, without you holding us down during tough times, this book would not exist. Thank you.

Dawn Winston

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Because a good editor helps you see the opportunities between the words.

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Abstract

WHY YOU SHOULD READ THIS BOOK ?

(DISCLAIMER: THIS BOOK IS NOT A TECHNICAL OR DEVELOPER'S GUIDE TO BLOCKCHAIN.)

I Don't Trust You captures the sentiment many of us share about almost everything. Let's face it: we all have trust issues. And the complexities of trust are compounded and magnified by our ability to access unvetted information globally, wirelessly, and in real-time. What is considered fiction or fact, authentic or copied, real or fake is all made relative based on what is trending.

There was a time when the internet was only for geeks, nerds, and IT professionals, and the average person saw little value in it. Look at us now. The internet as we know it is an indispensable, inescapable part of our daily lives, so much so that our physical relationships have become increasingly blended with the digital (#phygital).

Chances are you suffer from what psychologists call "nomophobia" (i.e., no-mobile-phone-phobia). It's a real thing; look it up. Do you unlock your phone eighty times a day like the average smartphone user does? Do you check your social media at least once a day, as 85 percent of Facebook's 2.5 billion users do? Have you ever experienced a phantom vibration (the sensation of your phone vibrating when it's not)? If so, you have an addiction.

You are living in a psychological reality seemingly dependent on the internet. A world where data is the new everything. A world where you freely share your children's most private moments in exchange for "likes." A world of blind trust that the Establishment will act in our best interests, physically and digitally, even though history has only proven the opposite. The truth is that we do not own our own data—governments, corporations, and identity thieves own it.

Enter blockchain, a technological infrastructure of trust that promises to be as transformative as the first internet revolution. It is enabling a new future, providing embedded trust to the community it empowers. It is unlocking the evolution of the Internet, moving

from the mere transfer of information to the securing and transfer of value. From currency to international money transfers, supply chain to trade finance, auditing to even securing the transmission of messages, and so much more, blockchain is revolutionizing the applications of the internet

The forward thinker, executive, or business owner should be aware of the concepts of blockchain. I'll try to help you understand how to harness those concepts to blend the physical with the digital, but what you decide to do with this information is ultimately up to you.

This book was written for you. It is about blockchain and the future of money, the future of industry, and the future of society. But mostly, it is about the future of trust. You will learn about this technology, why it is so transformative, what you should know about Bitcoin and other cryptocurrencies, and even why you should consider having your own cryptocurrency. I have also included the blockchain integration framework (BIF), a handy guide to integrating blockchain into your organization's infrastructure, as well as fifty real-life examples of how this technology is significantly improving experiences, maximizing profits, and creating trust in a trustless world.

The book ends with a few thought-provoking insights about the blending and corresponding implications of emerging technologies such as 5G, artificial intelligence, the internet of things, virtual reality, and others with blockchain as we move into the Fourth Industrial Revolution.

Let's use this book to collaborate on building the future of trust together.

So, let's get started.
#StrivingForLegendary

"If you want to go fast, go alone. If you want to go far, go together."

African proverb

Chapter 1:
The World Has Changed

Trust Issues & Why Blockchain?

Imagine a future where you can travel between most countries without a physical passport, visa, or ticket. A world where you arrive at the airport, drop your luggage off at an automated check-in counter and then walk straight through to board your flight without stopping at a security checkpoint. On the flight, you are automatically served a meal that fits your unique dietary preferences, and when you land, you and your luggage are picked up and driven to your final destination by an autonomous transportation service, all without any action in between—one seamless motion. Just like taking an elevator, pressing one button gets you to your desired destination. Instead of you adjusting to the world, the world seemingly adjusts around you, with no manual intervention or even a thought on how to navigate it. Seems futuristic doesn't it? It's not.

Here is the interesting point: all of this is already possible using today's technologies. So the question is, why isn't it so?

It's simple. We have trust issues.

In The Establishment We Trust

Before we can discuss what is possible today, history reminds us to reflect on past lessons. When Lehman Brothers in the United States, filed for bankruptcy in September 2008, it created a domino effect that catapulted the global financial markets into freefall, effectively overnight. Headlines quickly read, "Financial crisis is the worst the world has ever faced".[i]

Financial crisis is worst the world has ever faced

Bank of England starts printing money again to save economy from recession

By James Kirkup

THE world is facing the worst financial crisis since at least the 1930s "if not ever," the Governor of the Bank of England said last night.

Sir Mervyn King was speaking after the decision by the Bank's Monetary Policy Committee to put £75billion of newly created money into the economy in a desperate effort to stave off a new credit crisis and a UK recession.

Economists said the Bank's decision to resume its quantitative easing (QE), or asset purchase programme, showed it was increasingly fearful for the economy, and predicted more such moves ahead.

Sir Mervyn said the Bank had been driven by growing signs of a global economic disaster. "This is the most serious financial crisis we've seen, at least since the 1930s, if not ever. We're having to deal with very unusual circumstances, but to act calmly to this and to do the right thing."

Announcing its decision, the Bank said that the eurozone debt crisis was creating "severe strains in bank funding markets and financial markets". The Monetary Policy Committee (MPC) also said that the inflation-driven "squeeze on households' real incomes" and the Government's programme of spending cuts will "continue to weigh on domestic spending" for some time to come.

The "deterioration in the outlook" meant more QE was justified, the Bank said. Financial experts said the committee's actions would be a "Titanic" disaster for pensioners, savers and workers approaching retirement. Sir Mervyn suggested that was a price worth paying to save the economy from recession.

Under QE, the Bank electronically creates new money which it then uses to buy assets such as government bonds, or gilts, from banks. In theory, the banks then use the cash they gain to increase their lending to businesses and individuals.

By increasing the demand for gilts, QE pushes down the interest rate yields paid to holders of these and other bonds. Critics of the policy say it pushes up inflation and drives down sterling.

The National Association of Pension Funds yesterday called for urgent talks with ministers to address the negative impact of lower gilt yields on pension funds. Joanne Segars, its chief executive, said QE makes it more expensive for employers to provide pensions and will weaken the funding of schemes as their deficits increase. "All this will put additional pressure on employers at a time when they are facing a bleak economic situation," she said.

Ros Altman, of Saga, said the latest round of QE was "a Titanic disaster" that would increase pensioner poverty. As well as fuelling inflation, she said, falling bond yields would make annuities more expensive, "giving new retirees much less pension income for their money and leaving them permanently poorer in retirement".

The MPC also voted to keep the Bank Rate at its historic low of 0.5 per cent, another decision that hurts savers. Yesterday, protesters outside the Bank's headquarters smashed a giant piggy bank to symbolise the situation of pensioners and others forced to raid savings to keep up with the rising cost of living.

Asked about the plight of savers, Sir Mervyn said it was more important to support the wider economy than to support them. He suggested that savers would not be helped by

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* Figure 2: https://www.google.com/imgres?imgurl=https://image.businessinsider.

What made matters worse was the fact that there were countless warning signals. Those who caused the crisis turned a blind eye to predatory financial practices that were manipulative and misleading, geared towards get-rich-quick schemes and business practices that ultimately hurt consumers the most. Someone should have done something. It was a failure of oversight; it was a betrayal of trust.

Had it not been for a swift action taken by the US government, which provided trillions of dollars in bailout money to its banks, many (if not most) major financial institutions around the world arguably would have crumbled. For example, in the United States alone, a few banks each held 10 percent of the nation's deposits, meaning there was a risk that 1 in 10 Americans would be financially ruined if one of those banks were to collapse (and more if other banks followed suit).

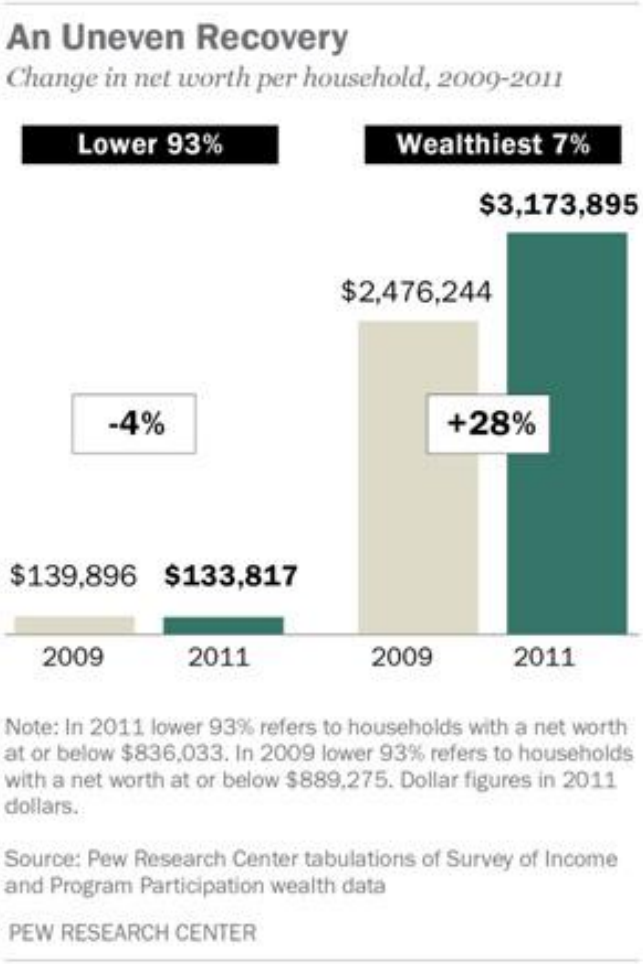
So, banks were failing and governments were bailing them out… but who was bailing out the families that were losing everything? This fueled even more distrust in major institutions.

When leadership puts the interests of the wealthy few over the interests of the many they serve, the question is no longer "Will there be a collapse?" but rather "When?"

This hyper-distrust of big business—the establishment—highlighted the fact that the "system" we all depend on was broken. Media, governments, business leaders, bankers, and others in power

should have exposed the abuse and taken prompt and punitive action against those responsible, but instead, as the years went on, the rich got richer and the poor got poorer.

In the United States alone, between 2009 and 2011, "wealthy households boosted their net worth by 28% in the aftermath of the recession, while the rest of America lost 4%."[ii]



It was time for a change. A change from trust in institutions to something better.

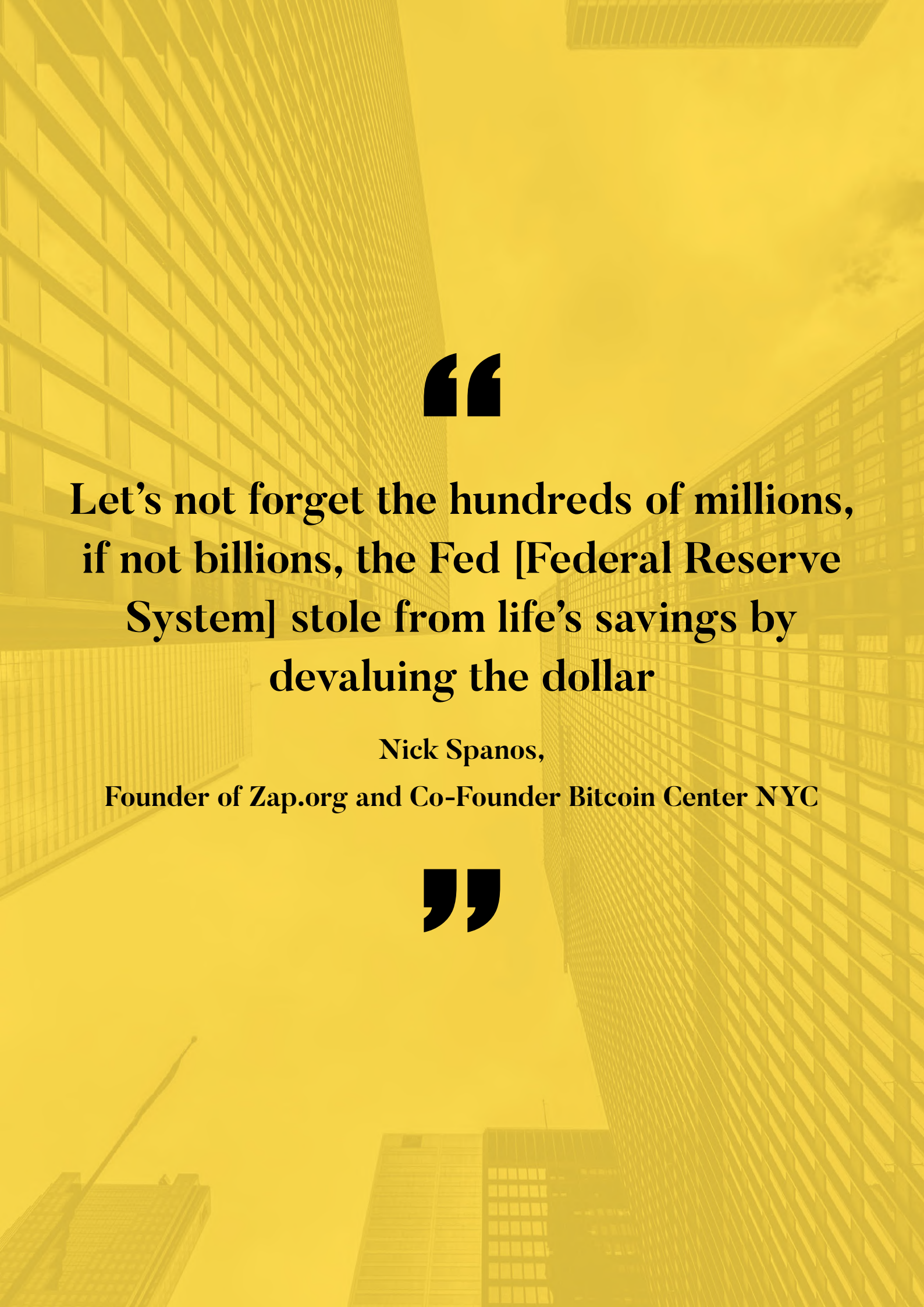
On October 31, 2008, in the midst of financial chaos, a mysterious entity by the name of Satoshi Nakamoto published a paper entitled "Bitcoin; a peer-to-peer electronic cash system,"[iii] detailing a system that would enable payments to be sent directly from one party to another without going through a financial institution, thereby completely eliminating the need for institutions like governments, big businesses like banks, or any other financial services such as Visa, MasterCard, and so on.

Bitcoin relies on a complete removal of trust from existing financial markets and systems in favor of a new, shared trust among peers. It represented a disruption in where and how value is stored and transferred. Instead of a central, opaque, authoritative entity presiding over everything, the power was to be put back into the hands of individuals.

As with all revolutionary ideas, Bitcoin had its most avid of advocates and its most cynical of critics. Nevertheless, when the first Bitcoin transaction was recorded in January 2009, it not only set in motion an entirely new paradigm in the financial sector, but also gifted the world with an entirely new technological infrastructure—an infrastructure of trust.

The Building Blocks of Bitcoin

Bitcoin is a utility of blockchain, the infrastructure of trust. To make an overly simplistic analogy: Bitcoin is to blockchain as a phone call, VOIP call, or even a Whatsapp message is to a telecommunications provider. The



“Let’s not forget the hundreds of millions, if not billions, the Fed [Federal Reserve System] stole from life’s savings by devaluing the dollar”

Nick Spanos,

Founder of Zap.org and Co-Founder Bitcoin Center NYC

telecommunications provider hosts the infrastructure that enables one to make a phone call or use mobile data. Similarly, blockchain is the infrastructure technology that enables Bitcoin transactions.

As the author and MIT professor Michael Casey puts it, even if you are not technologically inclined, you should think of blockchain as a new form of bookkeeping or record keeping. He is right. In essence, bookkeeping is how societies maintain order. It enables knowledge to be powerful, establishing what is mine, what is yours, and when. Even the ancient Mesopotamians, who lived around 5,000 years ago, deemed these types of facts to be of great importance—so important, in fact, that they used clay tablets as ledgers. These tablets standardized transactions by using consistent symbols to represent items, holes to indicate the quantity, and additional marks that likely represented other contract terms like date and parties involved. So, even as far back as the earliest written languages, bookkeeping established trust among peers.

*Evolution of record keeping
Simply put, the process of establishing trust involves having a common, generally accepted means for tracking the exchange or transfer of value, which in turn determines how the society operates. Figuratively and literally speaking, bookkeeping is the trust mechanism that forms the bedrock of a functioning society. In that regard, blockchain is bookkeeping for the digital age. This even applies to credit, a word derived from the Latin word credo ("I believe").

Throughout history, human beings have always invented social communities first—they develop rules of social exchange, embed their members in complex and reciprocal relationships, and build trust. Only when these relationships and the trust that is built from them are firm can communities enter into commercial trade and set up markets for exchange. Markets are secondary not primary institutions. They are derivative in nature and exist only as long as there is enough trust in place to assure the terms of trade. Markets are, after all, conversations.—Bernard Lietaer, The Future of Money

Conversely, as seen in the financial markets in the immediate aftermath of the 2008 crash, societies built on distrust (i.e., a failure to deliver on credo) only lead to anarchy.
So what is value? In my eyes, it is anything that follows these three criteria:

1. It is verifiable, it is unique.
2. It is scarce (i.e., the quantity is limited).
3. There is a perceived demand for it.

Thus, in January 2009, when the first Bitcoin transaction was recorded, Bitcoins became valuable. From a blockchain perspective, anything that is valuable is an asset. In addition, actions that happen to assets are transactions.

Furthermore, transactions that are documented are stored on a ledger (like a bank statement).
When most people hear the terms "asset," "transaction," or "ledger," they immediately think "finance and accounting." It is often believed that this is the sole purpose of blockchain. For the purpose of this book, however, "assets and their movements are captured as transactions on a ledger."

- Assets: nouns;
  anything of value, can be a personal identity, place, or thing (E.g., Damu Winston, Bitcoin, music album)
- Transactions: verbs;
  the corresponding actions applied to the asset (e.g., Damu Winston moved from Charlotte, North Carolina, USA, to Dubai, United Arab Emirates; Bitcoin from address A was transferred to address B; music album from Artist was sent to the Customer)
- Ledger: unchangeable history;
  a permanent, lasting record of transactions and assets.
- Smart contracts:
  As an example, when a user sends x, a predetermined event will automatically occur. If x, then y. The ledger will record the action taken as a transaction. (More on this later.)

Also, transactions documented on the ledger are time-stamped and appended only, which means all transactions appear in chronological order and thus previous transactions cannot be altered, hidden or corrupted (which also deters corruption itself).

With this understanding, the applications of blockchain are numerous, far beyond just financial, and the implications are enormous. As we move into a more digitally blended reality, technology—specifically blockchain—results from the evolution of bookkeeping to serve the citizens of a digitally dependent society.

The Middle Man

Intermediaries—which include institutions such as governments, banks, and credit card companies—are inherently designed to protect you (the consumer) and merchants by providing a centralized, trusted platform where it is possible to dispute transactions and make payments reversible (even for irreversible services). Put it this way: if someone fraudulently buys a product online using your credit card details, you can dispute those charges and more often than not you will get your money back. These same benefits apply to the merchants as well. Therefore, as a consumer of services offered by financial institutions, there are costs passed on to use them as trusted third-parties. These types of intermediaries serve as brokers that are entrusted to facilitate transactions.

Intermediaries rely on ledgers to keep track of assets. For example, if you have ever made a payment online using

PayPal, Visa, or Mastercard, your payment is debited and credited to the receiver by at least one or a series of centralized ledgers. There is no transparency to this approach; you (the consumer) have no oversight over what is happening with this transaction behind the scenes. This is what is known as blind trust.

As with most things, blind trust has its benefits and challenges. Today, most centralized ledgers such as credit bureaus are designed to provide companies with consumer credit history, credit rating, and additional insights. Therefore, not only in the US, but global consumers must trust these intermediaries "blindly" as a necessity to gain access to capital, loans, open an account, and so on.

Here is an example. Let's say you travel to another country and you need money sent to you from your home country (i.e., an international money transfer). Historically, your options were to use a bank (which takes an average of three business days) or a money transfer service such as Western Union, UAE Exchange, or MoneyGram. Although these options can be quick, you might pay anywhere from 7 percent to 25 percent of the transaction in transfer fees, and another 7.9 percent of the amount would be lost due to currency conversions (according to a 2017 World Bank study).[iv]

The reason for this is that, in the example of an International Money Transfer, funds are debited from your bank, then credited to a central authority (the country's central bank, for example). The funds are then transferred to what is known as a correspondent bank, and from there to the receiving bank. Each of these "hops," which can number as few as four to upwards of eleven, are managed by another centralized ledger, each of which charge fees that someone has to pay for.

In addition, if any of these centralized ledgers are compromised, that could have significant implications on the security of users' personal and financial information. For example, in 2018, Equifax—one of the three major credit bureaus in the United States—publicly announced it had been hacked. Over 143 million customers, close to 50 percent of the US population, were impacted by this data breach. The full implications of this have yet to be realized. This is a downside to blind trust, and without any greater controls and transparency going forward, how can anyone trust that this will not happen again?

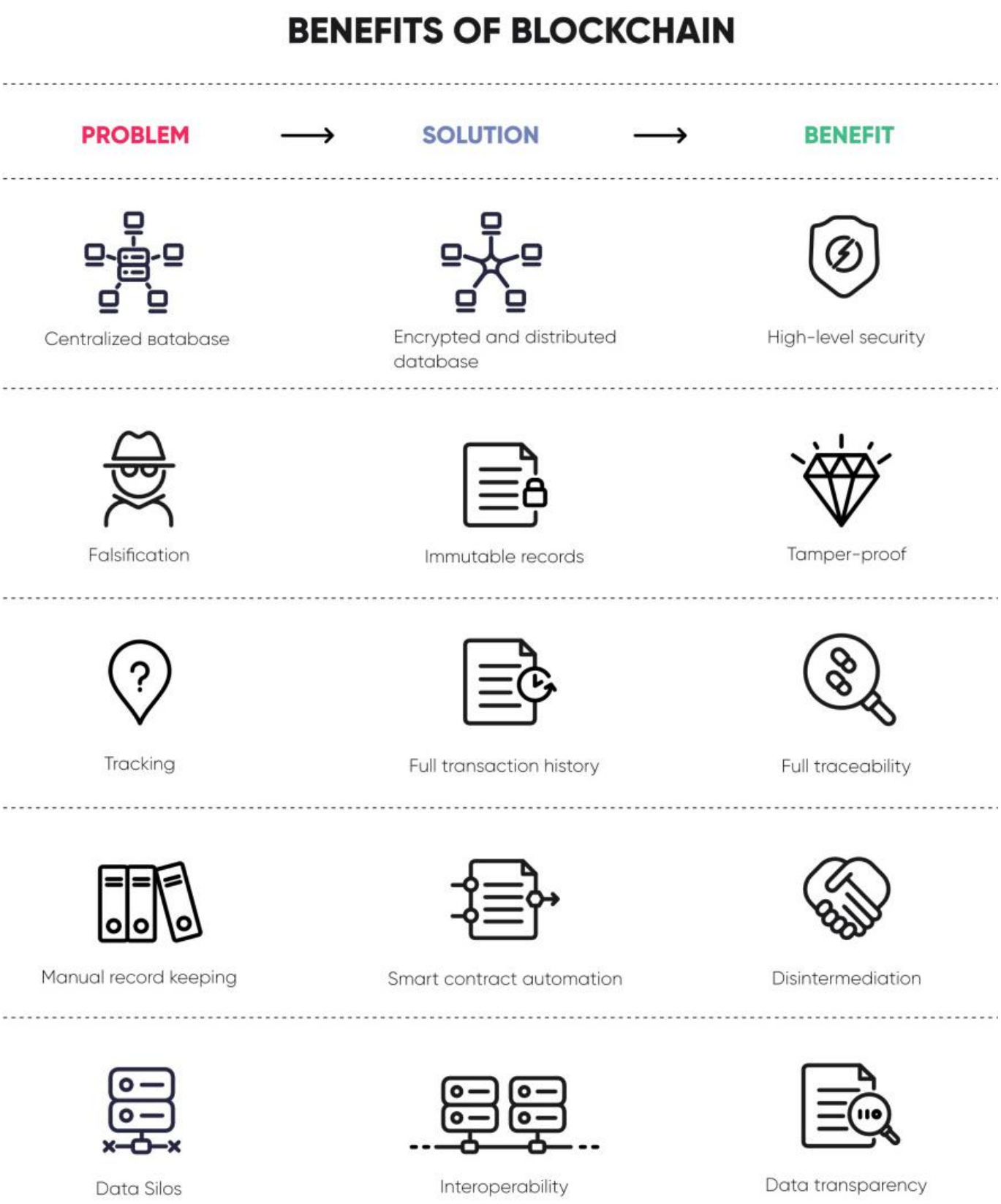
Blockchain completely disrupts these traditional intermediary business models. Using a blockchain-like alternative such as stellar.org, in the international money transfer (also known as a cross-border payment) example mentioned above, ownership of funds would be transferred from one customer directly to the other customer (peer to peer) almost instantly, securely, without any intermediaries, and it would cost

“

The greatest movements in humanity’s history have been created by the people for the people. Bitcoin enabled the movements of value to be more transparent by bringing together knowledge capital and incentives, in a fair and open environment that thrives on transparency. Things from now on, in our world are going to move even faster.

Sam Lee,
CEO, Blockchain Global

”



* Figure 4: Benefits of Blockchain. Supply chain provided by www.apla.io.

only $0.02 for every one thousand transactions.

So How Is It Trusted?

A group of transactions is called a block. The history of the blocks, including trusted timestamps are stored in a continuously growing list of records known as a chain of blocks; hence the name blockchain. The blocks are linked and secured using cryptography (the process of obscuring information to make it unreadable without special knowledge).

Once a transaction is created, it is time-stamped and enters a stage of approval where the transaction is encrypted and shared with each of the participants. Transactions are only officially added to the "chain of blocks" through a form of consensus (majority approval, where the participants will either accept or reject transactions as being authentic). Basic information about the transaction is made public to the network, which enforces transparency and allows transactions to be viewed and monitored in real-time.

With blockchain, ledgers are not centralized. Instead, they are decentralized, which creates tamper-proof transactions without the single point of failure present in existing systems. Thus, peers or parties involved can be trust-less, meaning we just do not have to trust them, since verifiable trust is achieved purely through the application of the technology. It is systematic, and thus quicker and can be cheaper. In essence, a blockchain is an encrypted, time-stamped, append-only ledger of transactions, and any copies of it are maintained and distributed across the participating members in the network. This decentralized ledger approach makes it easy to verify transactions and thus making trust verifiable. There is no "blockchain server"—the data is shared across the devices of all participants wherever they may be globally or locally, and in such a way that it would require the majority of the connected devices to simultaneously break down for data to

Block chain is shared Digital Ledger. In other words, it's a constantly updated list of transactions.

It is supported by a peer-to-peer(p2p) network that's either public or private

Every member on the community network uses the same "consensus mechanism" to verify every transaction made through the network

This creates a unique permanent audit trail

There's no single point of failure and no way to make modifications to the transaction record

Blockchain is the technology behind bitcoin, Ethereum, and other crytocurrencies

* Figure 5: Blockchain fundamentals overview
The "chain of blocks" and the history transactions — pwc.com|weforum.org

be irreplaceably lost or corrupted. The network which hosts these participants can be made up of computers and servers, known as nodes. Each of the nodes hosts encrypted copies of the ledger; they have no authority to modify or manipulate transactions. Even the originator of the original transaction is unable to modify an existing transaction. Instead new transactions are required to resolve a human error. Consequently, this "chain of blocks" can never be historically modified or deleted. In other words, transactions are "immutable," meaning irreversible and unchangeable.

Blocks act as chronological historical records going all the way back to its Genesis Block (first block); thus creating an immutable audit trail.

Think of it this way: If you use a pen and paper to write a sequence of transactions on a ledger, regardless if someone tries to cross out a previous transaction, because you used a pen the transaction history would be unerasable. Conversely, with blockchain, since the ledger is mirrored across to its' members, there is only an option to add transactions.

This approach eliminates the need for trust provided by intermediaries (often at great risk and high cost). Instead, trust shifts to an unbiased, distributed network. This drastically reduces the cost of trust online and, at the same time, gives assets unique identifiers and makes transactions verifiable and tamper-proof.

Side note: while using blockchain, if I sent a digital asset (like cryptocurrency/ bitcoin) to the wrong person, I cannot cancel or adjust that transaction. Instead, the new owner would have to return the digital asset at their discretion and then I could proceed in sending it to the correct person. This results in three separate, unamendable transactions; vs. a single update. But if the wrong person decides not to return the digital asset there is no authority to enforce anything.

Why is all of this so Important?

Blockchain solves the double spending problem.

If you've ever emailed someone, shared a picture online, or even downloaded a music file from a website, you've received an exact copy of another file (and who knows if that file is a copy of another file, and so on and so on). The act of emailing, sharing, or even downloading from another source means that two different parties can both have the exact same copy of a digital file, which can then (usually) be shared with an infinite number of parties as well. This is fine when the file in question is a photo or a document,

but it becomes a problem when the file has financial value. If an item is abundant and not verifiably unique, how can its value be maintained?

This is what is known as the double spending problem, which for a longtime has challenged the way digital assets maintain value. If digital money can be easily copied, it will instantly lose its intrinsic value, much the way counterfeiting devalues physical currency.

We do not encounter this double spending problem when it comes to physical assets, since if I gave you one apple you would receive the original physical apple, and I would no longer have that physical apple. At any given time, in the physical world, no two people can have the same unique apple. Digital assets, however, are a different story. Historically, intermediaries (third-parties), like banks and governments, have existed to broker this accounting problem and therefore maintain the value of currency.

Blockchain enables a form of trust that bridges the digital with the physical. If the Internet was created to share and exchange information, then blockchain exists to share and exchange value, digitally. Now imagine applying this concept to anything else of value—for example, paintings, marriage certificates, education degrees, health records, virtual community assets, or anything else that holds value in the digital space.

Take CryptoKitties, a virtual pet business that, according to Bloomberg, has raised $27.85 million USD to date and, as of January 2018, had conducted $52 million in transactions by the platform's 235,000 users. In March 2018, the most expensive CryptoKitty sold for $140,000 USD; prior to that, the highest price for a single CryptoKitty was $100,000 USD. The company tapped into the massive demand for cats online, creating uniquely identifiable digital cats and operating on a scarcity model, in which only a limited number of these virtual pets will ever be created. These digital collectible items can be purchased, raised, sold, and bred to create even more unique CryptoKitties.

Gamers know! This new business model represents an explosion of new untapped opportunity, especially for established brands looking to find creative ways to improve value in the digital age. The world of gaming is already familiar with putting value into things that are not physical. Now imagine your favorite brands being accessible items in your favorite games—for example, having your Fortnite character wear a Coca-Cola T-shirt. This cross-platform advertising approach represents a licensing explosion opportunity.

Games with embedded blockchain infrastructure could enable brands to have control over their assets within those games, leveraging blockchain as a way to agree on the past actions of their digital assets and, through smart

contracts, programmably control future actions. If blockchain is modern-day bookkeeping, then smart contracts are modern-day digital oracles. Smart contracts are essentially preplanned rules, performing a predetermined step (or steps) after a certain event or condition occurs (i.e., "if x then y").

For example, in one of my blockchain projects for a large transport and logistics company, once a customer makes a payment for a freight-forwarding service, that action triggers the creation of delivery appointments and plans that best serve that customer (while also maintaining an audit of shipment-related events and activities).

These smart contracts not only automate more steps, but the computers executing the contract are decentralized (in which no single authority controls them). Smart contracts also enforce the obligations of all parties in a contract without the added expense of a middleman. In this way, smart contracts take automation to the next level, enabling new possibilities built on logic-based trust. Smart contracts are also the logical next step to an autonomous society.

Furthermore, the internet of things (IoT) is the natural progression of an autonomous society in which devices such as vehicles, home appliances, physical gadgets, and other electronics can connect to each other without human intervention. Blockchain and its smart contracts enable IoT devices to be even more autonomous, since automatic rules can be applied to trigger transactions (events), all without the need for intermediaries. But more about this later.

Although this technology does have many positive applications, there are a great number of misunderstandings about its capabilities. A 2016 research findings by Deloitte reported that of the 26,000 blockchain projects they had researched, 92 percent had failed within two year.[v] A deeper dive into the research shows, a lack of due diligence and value to ecosystem partners. Metaphorically speaking, blockchain is not the Swiss army knife of technology; it's a tool in your technology toolbox. The right approach, therefore, is to first understand the business, including its pain points and business processes, and then identify the appropriate technology that will enable the business to produce cheaper, better, faster widgets. Second, standardize, optimize, and streamline business processes. Third, identify collaborators to build an ecosystem that offers greater value to the customer. This will be further explored using the blockchain integration framework (BIF) outlined in chapter 3 with more than ten use cases from around the world on what makes a blockchain network sustainable.

Here are some common misconceptions of, or issues with the use of Blockchain:

- Blockchain is a hot buzzword, let's use it for every technology project
  - False: Let's not do that! Blockchain is a TOOL. For example, you would not use a hammer to unscrew a nail. Technology is not a one-size-fits-all. Different technology solutions work best for different situations. For advice with your Blockchain queries, always check with this source: www.FixMyBlockchain.org
- Blockchain is Bitcoin.
  - Sort of: According to Brock Pierce (an American entrepreneur notorious for claiming that he coined the term blockchain), "Another way to look at this is to view blockchain as the Operating System and Bitcoin as one of many Applications." A more accurate comparison is that Bitcoin is a utility of the blockchain infrastructure.
- Blockchain is a magical database in the cloud.
  - False: Blockchain theoretically can, but it is prohibitively expensive to hash/store digital files. Therefore, traditionally blockchain implementations do not store the digital asset (like a pdf or picture) itself, it provides proof of its unique existence; like a verification.
- Blockchain is free.
  - False: It is not cheap to run. As blockchain networks grow, energy consumption grows as well. A blockchain network is however constrained by the costs to support the processing power and storage of the chain of blocks.
- There is only one blockchain.
  - False: Blockchain has many forms, for example, Distributed Ledger Technology (DLT), Distributed Consensus Ledger, Consortium or Federated Blockchain, Private Blockchain, Public Blockchain, Interledgers like Ripple, etc.
- Blockchain can become the backbone of the global economy.
  - Maybe: The verdict is still out on this one. There are a lot of factors, including governments, Internet providers, merchants, retailers, etc., supporting and adopting the technology.
- Blockchain records can be altered or hacked.
  - Maybe: The blockchain consensus algorithm will enforce a single truth. So If the majority of the population starts calling the sky green instead of blue, that becomes the system's truth. Given that most consensus algorithms require 51 percent (majority approval), it's hard to make such a hypothetical scenario happen. But could it happen? There used to be a time society thought the worldwas flat, or what about religious "facts" vs. science facts.

We do live in an age where anything is possible. It's like Peter Diamandis from Singularity University says: "Right now, and for the first time ever, a passionate and committed individual has access to the technology, minds, and capital required to take on any challenge."

- Blockchain can only be used in the financial sector.

  - False: This book will hopefully expand your understanding of the technology and its many applications (use cases).

Blockchain and Bitcoin are trending topics but if you find yourself, like the majority, confused by what they really are, if and how they impact you, or if they are just a passing craze not to worry about then this book is written for you.

It is about Blockchain and the future of money, the future of industry and the future of society. But most important, it's about the future of trust in an Internet dependent society.

I've also included the Blockchain Integration Framework (BIF); a handy guide to integrating Blockchain into your organization's infrastructure, as well as 30+ real-life examples around how this technology is currently improving experiences, maximizing profits and creating trust in a trustless world. Lastly, the book ends with a few thought-provoking insights about the blending and corresponding implications of emerging technologies like 5G, AI & IoT with Blockchain.

Let's use this book to collaborate on building the future of trust together.

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