THE PROMISE OF THE NEW ECONOMY

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Computation power, networks and storage will affect investment area in a big way. The author discusses new platforms that will emerge in a decentralised model that will give birth to powerful new organisations. Siddharth, an IIM graduate, worked heading a equity derivates and algorithmic trading desk, but his life completely changed when he stayed at the Sabarmati Ashram for four years to find answers to some burning questions.

Blockchains and distributed ledger technology have had their share of hype. Bitcoin, Ethereum and cryptocurrencies have enjoyed the limelight, but what is their potential? While there are enough technical articles on how blockchains function, the true challenge lies in articulating their potential.

Simply put, these technologies allow us to maintain a distributed consensus for the ledger. As opposed to a centralised authority maintaining information, we can now do so in a distributed manner. What are the far reaching consequences of this for us? To answer this question, we need to grasp the context of the larger shift that is underway in technology. Blockchain technology, or distributed ledger technology is revolutionary in itself, but part of a much greater puzzle that is falling into place.

The Holy Trinity : Computing | Networks | Storage
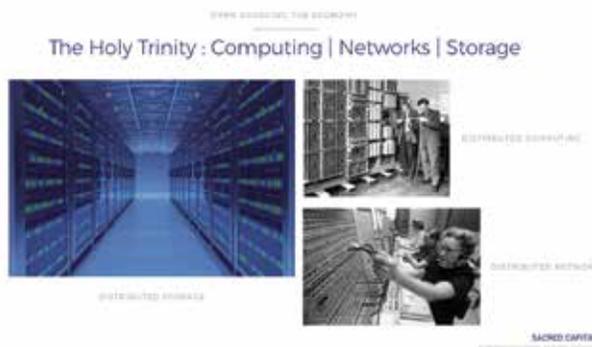
Think of the pieces of this puzzle as the holy trinity of technology. Computational power, networks and immutable storage.

Until the advent of the personal computer in the 1980's, computing was restricted to large institutions due to sheer expense and access to resources. The average person barely caught a glimpse of a computer, let alone engaged with one. However, the computing revolution over the last three decades have allowed us all access to remarkable computational power with the swipe of a finger.

Networks were heavily centralised too, until the advent of the internet. In a world where a simple data connection allows us to broadcast to millions via smart phones, we have reduced our dependence on centralised broadcasting technologies like the printing press, television and radio stations.

There is no doubt that we have all benefited from revolutions like personal computing and the internet. However, we are yet to see their full power manifest. It could be argued that we are on the verge of the last piece of the holy trinity falling into place i.e. immutable storage.

By immutable storage, we mean the ability to store data of any kind without risk of it being lost, deleted or tampered with, unless mandated by a set of rules. In the past we have had to rely on large institutions to store this data for us. For example, governments for holding our land/ birth records, banks holding our financial information, or even large institutions like Facebook or other cloud hosting services holding our intimate information for social networks and apps.

However, several moments in the past few years have exacerbated the need to move to newer models of storing our information. The 2008 crisis called to light our over-dependence on Wall Street banks, while the Cambridge Analytica fiasco at Facebook showed us how misuse of our data can have disastrous impact. Back in India, the problem of fake news is posing new kinds of threats to us – from attacking mobs motivated by false information, to voters making decisions based on facts that are not entirely based on truth.

These problems have asked us all to collectively stop and ask deep question of ourselves. Wasn't technology supposed to help address these issues? Perhaps, and that is why one could argue that the solution lies in building more resilient, humane platforms that are worthy of us in the twenty first century.

How does Distributed Ledger Technology help in this regard? Well, thanks to innovations in blockchains and distributed ledger technology, we are now seeing massive decentralisation in the ability to offer immutable storage. Instead of reliance on large institutions to store data for us, any individual, collective or organisation can now provide immutable storage to its community/users/customers for significantly cheaper costs.

The power to provide immutable storage can create fascinating new possibilities – you could have micro-entrepreneurs providing services for land records, currencies, smart contracts. In fact, much of 2017 was about establishing new business models with this technology.

But what more could we be building with this? When you look at the holy trinity of technology – computation, networks and storage falling into place, one realises that the sum of the three is way larger than the three individual parts by themselves.

Decentralisation in computation, storage and networks are allowing us to build a whole new future – that of distributed economies. If the catch-phrase of the twentieth century was 'Opening-up of Economies' the mantra of the twenty-first is *Open sourced economies*.

When we use the word 'Economy' we typically think of large nations like the United States of America, or Great Britain, or India.

The word economy however, has roots in Greek: *oikos*, *nomos*: i.e. rules of the house. This essentially means setting in place rules which allows a community or group of people to interact with each other and function. An economy essentially consists of three layers: governance, reputation and a material currency to keep track of transactions among people.

With the holy trinity mentioned above falling into place, we are now seeing possibilities where anyone leveraging decentralised storage, computation and networking can create and operate their own economy.

In a way, we are moving to a world where local economies or communities of people can self-organise and create, validate and amplify value that is important to them. Why would we want to do this? Because different groups of people can honour different kinds of value. So far, we have been limited to one economic design, or one economic language for all value creation. However, open-sourced economies allow each network or group of people to shape their own contracts and code that they would abide by. Think of these as networks which frame a set of laws for reputation within their community and their own currencies.

What is the motivation for moving towards such a system? It can be summarised best in the words of Gandhi. Through my time spent at

the Sabarmati Ashram, I had the opportunity to engage with and interact with stalwarts of Gandhian movements over the last 60-70 years. It was here that I had the opportunity to dive into Gandhian/distributed economics. Think of this as a stream of economics that was dedicated to the beauty of distributed and local economies.

In the 1930s, 40s and 50s, this philosophy took shape in the form of movements like Gram Swaraj, where communities came together to build self-reliant economies. Such economies have been proven over the centuries to be much more resilient and inclusive. But such movements lacked sustainability due to the inherent frictions associated with them. Local economies suffered from issues of weak governance and patriarchy. More over, wealth created within a local economy could not be ported out of the community easily. Such issues caused us to move towards highly centralised, efficient models of money.

The technological revolution spoken of above, helps reverse some of the changes over the past 50 years. Distributed ledgers allow us to enforce rules in a simple, transparent manner. It allows us to build governance in democratic ways as opposed to relying on small groups of people to shape rules.

More importantly, it allows us to port wealth across networks and communities at ease, in spite of diverse designs. How? Well, to understand this better, it is important to tap into an entire stream of distributed economics (*the foundational work for this stream was initially articulated by JC Kumarappa, a renowned Gandhian economist, and later developed in the west by economists such as EF Schumacher*). It is a vastly different, yet fascinating new world. While the traditional economy i.e. capitalist system is designed to build material capital, distributed economies amplify networks and communities. While the former is built on principles of a zero sum game, the latter uses principles of sufficiency. While the former relies on efficiency, the latter builds resilience i.e. the ability to confine failures to restricted zones. While the former requires centralised regulators, the latter uses 'reputation systems' for tracking the behaviour of each individual.

Reputation systems are critical for peer to peer networks, which is why the distributed economy is sometimes synonymous with the reputation economy.
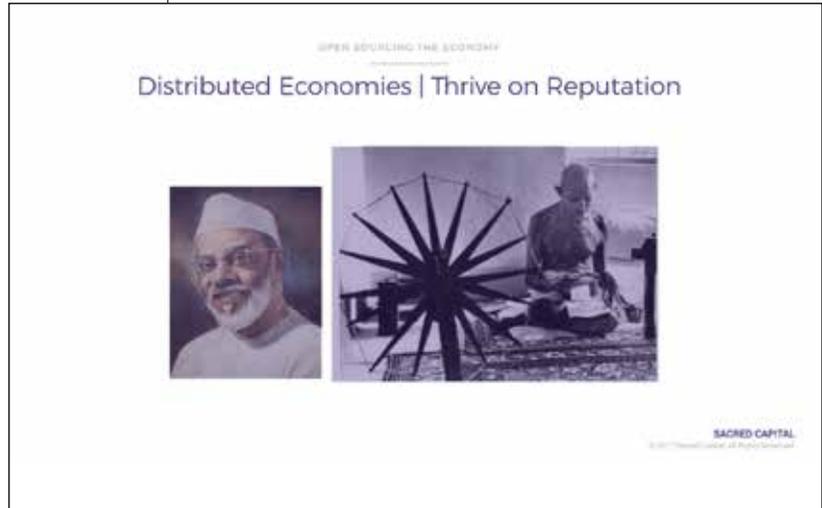
To understand this better, here are four fundamental tenets of the reputation economy[1]

1[2]. It is linked to identity: Within a social network, or community of people, if I have a reputation as a 'good dentist' or a 'film-enthusiast' it is a reputation that is firmly fixed with me. It cannot be transferred to another entity like we do with money.
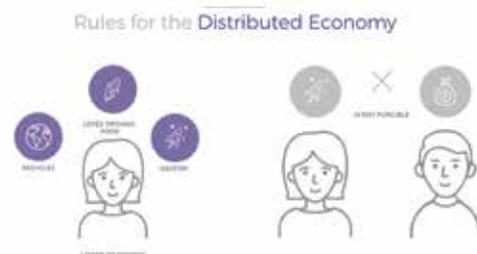
2. It is NOT fungible: What does this mean? The fact that I'm a good dentist cannot be 'bought' by someone else. Sure, my reputation as a good dentist can be monetised as a practicing doctor, but I cannot sell it in return for money. That would be absurd.

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1. Source: Sthalekar, Siddharth, Reputation Economy 101: https://app.sacred.capital/feeds/preview/feed/249/
2. Source: Brock, Arthur: Reputation is Orthogonal to Exchange http://www.artbrock.com/blog/reputation-orthogonal-exchange

3. Multi-dimensional and Diverse: When we qualify people, or describe them to others, we do so using multiple labels. We do not rate our friends using one uniform scale i.e. from 0 to 100. In fact, when we engage with people we are newly introduced to, it is always better to have multiple data points. I might be a food lover, a good speaker, a cyber security expert— they are all records of my reputation. We cannot 'add' up all these individual reputations to present one meta score for Siddharth like a 65 out of 100. In fact, you might say he is a 4 star cyber security expert, a 65/100 food lover, a 'fantastic' speaker and more. In fact, the more diversity you have in categories and scales, the better it is.

More importantly, each reputation is designed differently. Earning a reputation as a good dentist might take me decades of blemish free practice and deep knowledge. A reputation as a food-blogger could be attained in weeks. They each have different scales and representations – some can be numbers, others scales, other binary classifications. The bottom line, diversity is celebrated in this world as opposed to uniformity.

It is vastly different from the traditional economic system, where everyone's net-worth can be summed up in one scale i.e 5mn USD, or 150mn USD and so forth.

Rules for the **Distributed Economy**
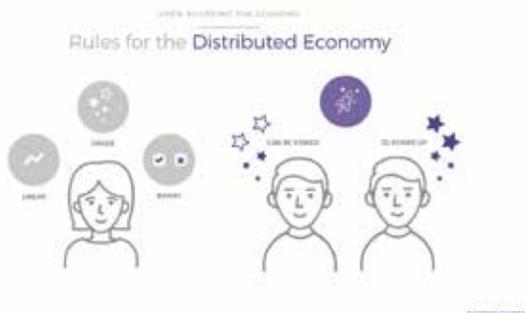
4. Reputation can be staked and ported: Does this mean we can 'invest' reputation and create a portfolio? Well, no, but it is like 'lending your name' or credibility to different intentions. If I ask you for movie recommendations, you are lending your name to the 5 films that you love. If it turns out that they are not great, your reputation in my lens drops, and *vice versa*. In this way, staking reputation on other initiatives can bring us a corresponding increase or decrease in reputation.

What is interesting here is that my reputation isn't a 'zero sum game'. If I had a 100 dollars to invest across 10 new organisations, I am limited by this number. I cannot make commitments for 500 dollars. But with reputation I could lend my name to innumerable initiatives, it is just that I have to be prepared for the consequences of my actions!

So how will all of this be enabled? Over the last couple of months, we have seen some heavy-weights move in this direction to build the nuts and bolts for this economy. Hub, initiated by the co-founder of LinkedIn, Colony.io and Holochain are just some examples of protocols that will allow us to design and play with reputation in this way. It's critical to understand the importance of these initiatives. They are allowing network effects to play into reputation, which was not considered immutable in the

Infrastructure for the Distributed Economy

Immutability is the cornerstone for network effects. Allowing reputation to earn 'money-like' qualities

past. This immutability is important, because it allows reputation to attain money-like qualities, something it did not possess in the past. These rapid innovations are allowing entrepreneurs to start plugging into networks and provide all kinds of benefits and utilities to reputation – something that will allow us as users to feel secure in its ability to provide for our needs.

While we will have protocols in place to allow reputation

to be captured and ported, some of the fundamental issues with this kind of an economy is that the diversity can sometimes be confusing. We are soon foreseeing a world with thousands or millions of distributed economies – each with its own scale and design and benefits. In the past, we moved away from the inconvenience of barter and distributed economies towards the convenience of one single design for money. These technologies however, help simplify this problem. With that in mind, Sacred Capital is helping address issues in this space in two ways:

1. Taxonomy i.e building relationships between the varied kinds of reputation. Is my reputation established in 'women empowerment' related to social-justice? Or is it related to my love for food?
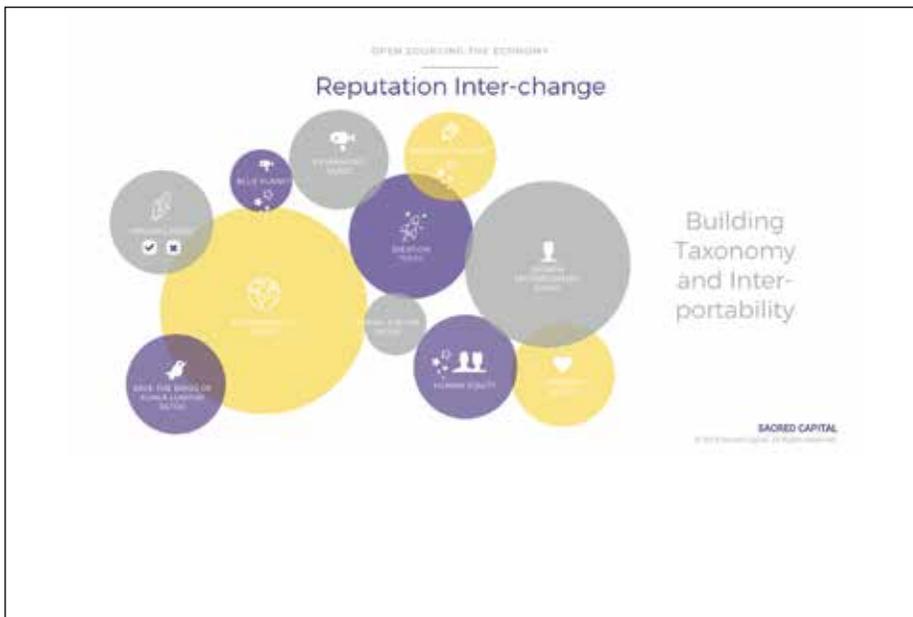
2. Inter-portability i.e. how does my 'women empowerment' score translate to sustainability. Is a 4 star rating equivalent to 75 in sustainability?

This is where Sacred Capital comes in. Through conversations on our platform, and by establishing precedents of who stakes what for which initiative we are going to be able to derive intelligence for both taxonomy and inter-portability of reputation. It is like crowd-sourced research, but for the reputational economy. **Think of us as the inter-change, or an exchange, but for reputation.**

In the past we have only been able to influence value at scale with money, but we now have countless levers at our disposal. That means individuals and entrepreneurs such as you will be able to initiate distinct conversations, shape movements, and explore new dimensions of value creation. All of this because you can port, scale, leverage and stake reputation to give birth to new kinds of networks!

In summary, we should say that this is not a radical new concept that will see adoption in Silicon Valley before other regions. In fact, you could argue that these designs for wealth resonate intuitively with people in India, Latin America and S. E. Asia because they are fundamentally diverse and heterogeneous in their way of life. Instead of relying on centralised institutions, they have relied on social fabric for their well-being over centuries. Even today, communities in India pride themselves in their ability to look out for each other, circulate capital for commerce and entrepreneurial ventures through these social networks.

Some argue that this is a new form of literacy. Over the last 500 years, huge benefits have accrued to mankind due to a vast rise in literacy across the globe. 500 years ago, only 1% of the world's population was literate, however, we now have more than 87% of the world benefiting from literacy. It is not just access to jobs, but the ability to organise, innovate and the ability to create value where there was none. Think about how that might translate to the open-sourcing of economic language i.e. allowing people to articulate and validate value that is important to them, as opposed to restricting themselves to one centralised way of sustaining themselves. The possibilities are endless. ∎