

BLOCKCHAIN FOR ENTERPRISES

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Blockchain **most power use case** comes when strangers interact to create a new enterprise.

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All the strangers are **forced to follow the rules** of the blockchain otherwise their actions are not recognized.

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Blockchain is the **extension** of the enterprise boundary itself.

Sharing of data is enforced just to grow a blockchain based enterprise.



A **traditional** centralised enterprise has **point-to-point interactions** with its vendors and customers.

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Blockchain based enterprises convert it to group interactions.

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3 ways we will see enterprises embrace blockchain

1. Existing enterprise **expands** itself on blockchain and opens up to new participants.
2. A group of existing enterprises come together to **form a new blockchain company**.
3. An **entirely new blockchain company** is formed with fresh rules just like Bitcoin started from scratch.

The key principle is:

More the **external entities**, more the **benefits** of blockchain. If all entities are inside the company, then blockchain is of limited use.

The core function of blockchain is to **create trust between untrustworthy entities**.

How can a company expand itself on blockchain:

1. FINANCE: It can use blockchain for **cheaper** sources of funding
2. VENDOR MANAGEMENT: It can use blockchain for **more efficient** vendor management
3. SOURCE OF ORIGIN: It can use blockchain to **guarantee** source of origin of its product

How can a company expand itself on blockchain:

4. SOURCING OF RAW MATERIAL: Company can use blockchain for getting access to **cheaper** sources of coal, and ore
5. RESEARCH: Company can **track** its research efforts and **funding** on the blockchain.

How can a company expand itself on blockchain:

6. CORPORATE SOCIAL RESPONSIBILITY: All CSR initiatives can be **tracked** through blockchain

Blockchain group interaction economics yields
higher growth for lower costs than point to point
economics in enterprise setting.



With blockchains new supply chains can be **directly created** without a controlling enterprise.

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Present day point to point enterprises will compete with supply chains created under **blockchain rules**.

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A very powerful game changer is **automatic contracts** that can be **created in blockchain**.

Its possible to provide **automatic finance** to vendors if they have blockchain purchase order and adjust the financing costs from their blockchain invoices.

Design of blockchain enterprise: Components

Rules of supply chain: What business, what roles and what functions

Roles: Customer, Vendor, Financer, Investor, Manager

Systems: Purchase Order System, Customer Ordering System, Invoice System, Quality Assurance System

Automatic Contracts: Payments, Credit and repayments

Token System: To capture the gains of system

One party should not be able to delete data of another party. Its an important requirement in multi-party co-operations.

In blockchain **data can never be deleted**, and this requirement is achieved.

Blockchain also achieves digital signature and timestamping.

No one can deny he wrote it in blockchain.



These features make it impossible to back out from contracts.

Blockchain based enterprises have **better contract enforcement**.

BASIC PROPERTIES OF BLOCKCHAIN IN ENTERPRISE

1. Shared data between different entities
2. Transactions cannot be modified or deleted
3. Digital Signature and Timestamp
4. Possibility of automation

WHY DOES IS IT SEEN TRANSFORMATIVE

1. It **changes** the boundary of your firm
2. By breaking silos around the enterprise, you can **extend** your enterprise
3. I can **show** them my inventory. I can **share** capital
4. My banking partner is **part of my enterprise** loosely
5. By enabling data sharing **across boundaries**.
6. I can work **closely** with other partners

"Supply chains compete, not companies"

/Martin Christopher/

An example blockchain application:

- Supplier issues invoice on the blockchain
- Banker can finance that invoice
- The logistic provider can confirm delivery of the good
- Unpaid debts can be seen
- It reduces many point-to-point connections to one shared ledger in a group

USE CASES OF BLOCKCHAINS

FIRST

Adoption in supply chain:

These are **multi-entity** constructs: Buyer, suppliers
3PL Logistics, distributors,
retailers

Flow of **goods**

Flow of **money**

Flow of **information**

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Value proposition:

By **increasing visibility** across the supply chain,
I can free up my cash.

I can **bring financers** as part of supply chain,
and enable financing for my Tier 1 and Tier 2
suppliers, distributors and retailers.

SECOND

Finance

Financers, NBFCs and Banks can become **integral part** of this network. Since they have visibility in these networks, they can provide capital at hopefully **lower risks** and hopefully **lower costs**.

THIRD

Data Monetization

Data becomes **powerful** when it is combined from **multiple** independent sources.

Data is **split** across many enterprises. They need to be aggregated and monetized.

Data which is **valuable for** the bank is sitting in some enterprise silo.

Supplier data .. Retailer Data .. Distributor data

Who is performing the best? Which are profitable regions?

Data which is **valuable to** the bank lies at the enterprise which is making buying decisions.

Play the J curve

J curve is Profit versus Time relationship

In J .. the profits first fall over time .. then they rise up

Startups in blockchain can play the J curve

Who's up for this ? Playing the J curve ..
Medium term investment horizon

Venture Capital Investors - YES
(They get 25 shots. 3 has to succeed)
Public Investors - NO

Early Adopters - YES
Early Majority - NO

Challengers - YES
Incumbents - NO

Start-up sales team - YES
Established Sales Team - NO

Venture Capital Model is playing the J curve.
Play more options. Established players cannot do it.



That's why startups in blockchain **can outperform global enterprises.**

Startups can play the J curve. Established Enterprises cannot.

Important thing to remember:

The database in blockchain is operated by a group of enterprises rather than one enterprise. And this **small change makes all the difference**.

There will be lot of beachheads competing.
Only one will win.

In the **engineering** community, customers gravitated to Sun's Solaris; in the **graphics** community, to Macintoshes; in the **workgroup**, to Novell Netware; in the Fortune 500 replicated-site environments of branch **banking and retail**, to OS/2; in the VAR-dominated **professional services** systems for doctors and dentists, to SCO Unix; and in **consulting and financial services**, to Lotus Notes.

While Microsoft won out in the end, each one of these companies was able to ride a pragmatist wave within a specific market to boost its sales a quantum leap upward. It is crucial, therefore, for every long-term strategic marketing plan to understand the pragmatist buyers and to **focus on winning their trust**.

The key to create such blockchain enterprises is to keep the **production side** small and sharp enough, and how to have consumption or **market size** large enough.

Shared data systems should be very sharp in finding those data that **everyone** wants, but needs not too much effort to construct.

When a new shared data system is initiated, it should be **really focussed on** high value shared data.

And **one full cycle** of that high value shared data system should be finished.

Sources of competitive advantage in shared data systems

1. **Network effects**
2. **First mover** advantage
3. **More time** with initial key influencing consumers when the product was growing from scratch



Creativity has no limits. So infinite combinations of shared data systems are possible in a variety of areas.

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And as more shared data systems come, more is the need of further shared data systems.

As everything, **less is more** if directed well.

Enterprise markets are not meritocratic. People who use do not buy.

In **Consumer markets**, people who use, buy the product.

Blockchain based enterprises will introduce meritocracy in business.

Blockchain enterprises is a new kind of enterprise that is designed to **create value through a self-regulating methodology** that is both decentralized and auto-incentivizing, as opposed to the conventional top-down hierarchical, command and control approach.



It has

a **self regulating mechanism**

both decentralized and auto-incentivizing.

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The basic hypothesis of economic behavior here is that, the participants will automatically gravitate to “**do the right thing**” to increase the value of the token that they own and earn. The more business value that is created by the enterprise overall, the more the token value increases.

We do this in a two-step process – “**the white paper**”.

First, we set up an **initial monetary policy** in the form of a finite number of digital tokens that represents the overall value of the enterprise. This also creates the requisite economic scarcity to start with, that is essential to this approach.

Second, we **setup a governance model** in the form of clear encodable rules for how the participants who generate value in the enterprise will “earn” in tokens. This incentivizes the participants to “do the right thing” to generate value for the enterprise, which in turn increases the value of the tokens.

These **two fundamental steps**, essentially, sets up a self-regulating system that, theoretically, should not need the conventional checks and balances of top-down hierarchical command and control enterprises.

The above system is analogous to income being earned by the employees of an enterprise solely in shares. The assumption here is that the enterprise would, therefore, **automatically self-correct** to ensure that it always increases its share value (the basic hypothesis again).

Another important distinction from a traditional enterprise here is that, **participants** in this new kind of enterprise could be both the employees (sic) and its customers (besides any other stakeholders) all of who are vested in its success by virtue of owning its tokens.

The **only requirement** is to have an infrastructure that establishes trust “inherently” without a third-party arbitrator.

Hence, a self-regulating system.

Summary of important points:

1. Point-to-point becomes **group economics**
2. Blockchain Enterprises **play the J curve**
3. They are **self regulating and auto-incentivizing**
4. **Automatic execution of contracts**
5. **Non repudiability of obligations**
6. **Advantages of shared Data System**

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Self Auditing is another big feature of blockchain enterprises.

The system will not need external auditors as information is in the blockchain itself.

Trust comes from blockchain not external entities.

Auditing a blockchain enterprise **must follow the trail of information** from blockchain itself.

If it cannot be linked through blockchain, it does not exist.

Additional Properties of blockchain enterprise

- 1. Self Auditing**
- 2. Complete transactional transparency**
