Blockchain: What is it all about?

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"A decentralised system is one which requires multiple parties to make their own independent decisions."
Three Layers of Open Blockchain

- **Ledger**: With Memory, Mostly Transparent, Cryptography Based, Inefficient
- **Tokens**: Cryptocurrency, Identity, Utility, Others Digital Assets for Exchange of Value
- **Incentive System**: Single Party with Different Roles, Reinforcement, Alignment of Interests

Blockchain is mathematically-based trust machine that enhances collaboration relationship among untrusted nodes’ through consensus.
The potentials of User Innovation Models, as a less volatile category of systematic innovation, are best described by Gadison and Annarosa (2014):

“The full exploitation of new technology capabilities and future internet requires an open distributed infrastructure able to leverage the potential of bottom-up social innovations. There are several examples of social innovation collaborative initiatives in an open context: Smart Cities, Open Data, Living Labs, time banks and digital currencies, new models of urban mobility, new models of collaborative consumption and also collaborative events such as BarCamps, Open festival, competitions etc.

Distributed innovation and User Innovation, in particular, could play a fundamental role in facilitating the emergence of creativity and grassroots civic innovations, which in turn might lead to systemic innovation. User Innovation can be seen as a way to better link disruptive and cumulative innovation to achieve systemic innovation.

Open Innovation essentially focuses on profit; User Innovation on user wellbeing; and Social Innovation on societal improvement.”

<table>
<thead>
<tr>
<th>Governance</th>
<th>Centralised Technology</th>
<th>Decentralised Technology</th>
<th>Distributed Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralised</td>
<td>Cloud or server</td>
<td>Closed P2P, Private/Consortium Blockchain</td>
<td>None</td>
</tr>
<tr>
<td>Governance</td>
<td></td>
<td>(e.g. Multichain?)</td>
<td></td>
</tr>
<tr>
<td>Decentralised</td>
<td>HashGraph?</td>
<td>Open P2P, Public Blockchain</td>
<td>None</td>
</tr>
<tr>
<td>Governance</td>
<td></td>
<td>(e.g. Bitcoin, Ethereum?)</td>
<td></td>
</tr>
<tr>
<td>Distributed</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
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<td>Governance</td>
<td></td>
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On Development Economics and Technology:

Technology, if decentralised, may induce more technological adoption if the country or businesses have access to open source, a benevolent economic incentive structure that embodies interests of most, and global in market reach.
Three Stages
Open
Blockchain
Development

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Just a ledger</td>
<td>Bitcoin</td>
</tr>
<tr>
<td>2.0</td>
<td>Ledger + Other Applications</td>
<td>Ethereum</td>
</tr>
<tr>
<td>3.0</td>
<td>Large Scale Applications and Autonomous Organisations</td>
<td>Not Materialised</td>
</tr>
</tbody>
</table>
Applications of Blockchain in different Domains

Telecommunications, Voting, Healthcare, Nortarization, Banking, Equity brokerage & Exchanges, Insurance, Web Domain, Internet of Things,

But not all projects need blockchain tech!
Machines will soon take away all our jobs! I am glad that we have enough to retire!
Robots will soon take away all our jobs! I am glad that we have enough to retire!

All our savings are in cryptocurrencies and tokens, and they have been stolen!

www.ideaink.io
Oh No! and you are still so cool?

Naah! Government will take care of us!
Cow Token: Inclusive Blockchain Design

**Cow Token**
Onshore: a Private Blockchain
Centralised Governance
Decentralised Technology

**Domestic Cow Token**
Onshore: a Consortium Blockchain
Centralised Governance
Decentralised Technology

**International Cow Token**
Offshore: a Public Blockchain
Decentralised Governance
Decentralised Technology

Token exchange via smart contract

Unbanked Farmer
Livestock Insurer
Lender

Offshore Lender
P2P Lender

ERC20: Borderless Fractional Digital Asset Ownership

David Lee (2018), "Decentralisation Technology and Distributed Innovation"
In the design, the best features of private, consortium and public blockchains are combined to have a user innovation that facilitates E-payments, financing, identification, insurance, international exchanges, crowdfunding, and digital ownership.

The Sentinel Chain is a B2B marketplace for financial services accepting the use livestock as collateral.

1. This innovation transform the livestock from “dead capital” to a fungible fractional asset with a transparent and clear defined value.

2. Pension Solution: Fractional Ownership of Utility and Basic Necessities!
Decentralisation system has brought about a diminishing role of jurisdiction to become borderless on the Internet for transfer of value.

Decentralisation system has also solved the pain point of access to global cheap capital and talents.

Finally, decentralisation system has allowed for fractional ownership of a digital asset.

These are all the pain points of catch-up theory.

Developing economies will catch up with sustainable growth!
And they thought that we would be taking away their jobs!
And they thought that we would be taking away their jobs!

I love this Smart City concept!
Security

Blockchain is inefficient

No single point of failure or “takeover”

Costly to attack

Blockchain is more resilient!
Conclusion

• Blockchain as a trust machine for token value transfer will be the driver for fourth industrial revolution
• Blockchain with fractional ownership may be a solution for pension fund shortages and mass unemployment
• Blockchain is an important resilient security feature for Smart City
• Technology is not for human to worship!
  • 3Cs: Community, Creative, and Compassion
  • 5Ds: Digitalisation, Disintermediation, Democratisation, Decentralisation, Diminishing Oneself
• Privacy and HUMAN dignity are what we must safeguard in a “Smart” World!
Well, glad that they did not use blockchain!

At least they get their wish! We will give them minimum wage!
HANDBOOK OF DIGITAL CURRENCY
BITCOIN, INNOVATION, FINANCIAL INSTRUMENTS, AND BIG DATA

Edited by David LEE Kuo Chuen

Incorporating currencies, payment methods, and protocols that computers use to talk to each other, digital currencies are poised to grow in use and importance. The Handbook of Digital Currency gives readers a way to learn about subjects outside their specialties and provides authoritative background and tools for those whose primary source of information is journal articles. Taking a cross-country perspective, its comprehensive view of the field includes history, technicality, IT, finance, economics, legal, tax and regulatory environment. For those who come from different backgrounds with different questions in mind, The Handbook of Digital Currency is an essential starting point.

“The Handbook of Digital Currency is a very timely reference source on the emerging phenomenon of digital currencies, especially in these times of astonishing growth in popularity and public attention to digital currencies and cryptocurrencies. This book provides an authoritative and reliable reference in this quickly emerging field, setting up a context for future academic and research works on the topic.” —David Gergic, ETH Zurich
Cryptocurrency market has been growing fast since its emergence in recent years. Moreover, digital finance has forged the convergence of profit motives with social objectives creating a class of large FinTech companies. In addition, the underlying technology innovation may be applied to a wide range of industries, not limited to financial sector. Yet, few researches have been done to study these phenomena. Hence, it is the task of this book to shed light on the introduction and trends in FinTech, Blockchain and token sales.

Inclusive FinTech: Blockchain, Cryptocurrency and ICO hopes to dispel the many misconceptions about blockchain and cryptocurrencies (especially Bitcoin, Initial Crypto-Token Offering or ICO), as well as the idea that businesses can be sustainable without a social dimension going forward. It is written for those who are looking for a switch from their career to something more meaningful and sustainable, as well as those who want a deeper understanding of where to search for business opportunities. Most important of all, this book seeks to change the mindset of a whole new generation that is familiar with digital economy and yearns for a more just and equitable world.