Initial Coin Offering: An Accounting Information Systems Teaching Case

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Learning Objectives

1. Blockchain fundamentals.
2. Auditing problem in the online marketing industry.
3. Proposed auditing solutions using blockchain and their current challenges.
4. Introducing N+1 Accounting Entry Systems.
5. ICO common structures and different types of tokens.
6. Teaching Case efficacy results
LO1 - Fundamentals

- ICO
- Hash
- Block
- Miners
- Blockchain
- Distributed Blockchain
- Digital Wallet
- Token Creation
- Auditing Transactions
Fundamentals

- https://anders.com/blockchain/
- https://metamask.io/
- http://tokenfactory.surge.sh/
- https://ropsten.etherscan.io
Fundamentals: HASH

SHA256 Hash

Data: #aaaDC2018

Hash: 20de052a5e8a792312bace80c42b816ae3da64707ad9a3b6ef9dc0d8eaeadd3eb9

https://anders.com/blockchain/
## Fundamentals: BLOCK

<table>
<thead>
<tr>
<th>Block</th>
<th># 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonce</td>
<td>166048</td>
</tr>
<tr>
<td>Data</td>
<td>#aaaBC2018</td>
</tr>
<tr>
<td>Hash</td>
<td>0000c88453e09fbf9aa1afdad1b09a773b2e91f4e3f55cf94228d3a98a1652b7</td>
</tr>
</tbody>
</table>

[https://anders.com/blockchain/](https://anders.com/blockchain/)
Fundamentals: Blockchain

https://anders.com/blockchain/
Fundamentals: Distributed B\C

https://anders.com/blockchain/
Fundamentals : Install Digital Wallet

https://metamask.io/
Fundamentals : Create a Token

http://tokenfactory.surge.sh/
Fundamentals: Audit on Blockchain

https://ropsten.etherscan.io
LO1 - Fundamentals

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LO 2: Auditing problem in the online marketing industry.
LO 2: Auditing problem in the online marketing industry.

1. User arrives at website
2. Website requests ads
3. Website matches ads and displays them
4. User sees ads

The ad serving process

90 viewed ad
100 viewed ad
LO 2: Auditing problem in the online marketing industry.

10% difference is an accepted Standard due to different accounting Systems.

- A triple entry system has been discussed in the literature to provide a more reliable recording system where a neutral intermediary along with each party creates a record of a transaction.

- The neutral intermediary would be a blockchain because it would be distributing and automating the storage and verification process.


We have 2 different realities on the Blockchain. We need 1 reality!

Bill McCarthy and Graham Gal

Blockchain

Advertiser

Advertiser Reality

Publisher

Publisher Reality
LO4. Introducing N+1 Accounting Entry Systems

1. Advertiser
2. Publisher
3. Viewer

Reconciled based on viewer collected token on approved links already posted on the Blockchain
LO4. Introducing N+1 Accounting Entry Systems

• The model presented can not address the multiple reality scenarios.
• Views of blockchain based on role helps within the organization but it can not help when different realities exists between different organizations
LO4. Introducing N+1 Accounting Entry Systems

• In this case, a new notion of an N+1 Accounting Entry System is presented when multiple parties are needed to create ONE reality by closing the cycle.
LO4. Introducing N+1 Accounting Entry Systems

1. Advertiser
2. Publisher

Reconciled based on viewer collected token on approved links already posted on the Blockchain
LO4. Introducing N+1 Accounting Entry Systems

Creating 1 reality, where viewer continues to receive tokens every time she sees an ad on a pre-approved webpage, that is already published on the Blockchain.

https://youtu.be/lxORjqEt_c4
If three parties are involved in a transaction, a quadruple accounting entry system is needed (N+1), and again, blockchain technology can enforce the reliability and the authenticity of the transaction, while maintain the privacy of the parties’ identity.
LO5. ICO common structures and different types of tokens.

• There are different strategies to structure an ICO. The number of tokens is not that important, as it can be subdivided, what matters is the percentage distribution of the tokens. In that event, a number of parameters need to be considered.
LO5. ICO common structures and different types of tokens.

• It is a good practice to initiate the token selling into phases so that the entire selling process is concluded in 60 days.

• Having phases helps build the momentum and allows issuers to adjust the offering marketing strategy accordingly.
LO5. ICO common structures and different types of tokens.

• Setting a price for the tokens should be in fiat money due to the volatility of the different dominant cryptocurrencies (i.e. bitcoin).

• At least 70% of the token needs to be sold, and the remaining 30% are to be set aside for overhead and growth.

• The 30% can be distributed on referral programs, growth efforts and to the founders.
LO5. ICO common structures and different types of tokens.

- Tokens are an alternative for startups to raise funds for a given project and it is considered as crypto-assets.
- Depending on their capacity to influence in the investment of a company, they can be classified as follows:
LO5. ICO common structures and different types of tokens.

- **Security token**: Not exempt from Federal laws or any other governing security. It is also known as “investment token” which refers to traditional instruments that startups can use, such as: shares or bonds.

- **Utility token**: Exempt from Governing regulations and represents a future access of products and services which are not subjected to have an influence.
LO5. ICO common structures and different types of tokens.

- Learn from the others by looking at existing whitepapers
  - https://www.coinhills.com/ico
  - https://icosource.io/ico-bounties/
Teaching Case Efficacy

• What is an ICO? / What is a hashed string?
• Explain why is it hard to alter a blockchain?
• Provide an Example where blockchain can help solving an existing industry problem.
• Explain the N+1 Accounting entry system
• If you are starting your own ICO, how would you distribute the tokens among the developers, the investors, and the application.
• What is the difference between a security token and a utility token.
Thank you

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