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Blockchain 101

CILTNA - Greater Toronto Region Chapter

Toronto, ON May 14, 2018



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BLOCKCHAIN



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WHAT IS IT???

**WHAT CAN YOU
DO WITH IT??**

LEGAL ISSUES???



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1. What is blockchain?

In simplest terms, blockchain is....

..... a **CHAIN**.....

.....made of **BLOCKS!!!!**



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1. What is blockchain?

- Blockchain is a new technology
- Blockchain is NOT bitcoin!
- Blockchain **enables** bitcoin
- Bitcoin → Blockchain as E-mail → Internet



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1. What is blockchain?

- Blockchain is a new technology
- a new way of conducting transactions
- basically, blockchain is...



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1. What is blockchain?

-an **electronic ledger!**
- not just any e-ledger...
- ...but a **distributed** e-ledger
- tamperproof
- accurate
- transparent



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1. What is blockchain?

- blocks (of data)
- data blocks can contain any kind of data
- records of financial transactions
- patient information
- supply chain information
- insurance/contractual information



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1. What is blockchain?

- blocks of data are updated...
- and added to the pile...
- thus making a **CHAIN** of blocks!
- hence, a “blockchain”



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1. What is blockchain?

- blocks are linked to each other
- like links in a chain
- linked with cryptographic coding



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1. What is blockchain?

- data is **verified**
- then is encrypted
- **virtually impossible to alter the data!**



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1. What is blockchain?

- why?
- imagine a paper ledger – you can edit entries
- what if everyone here had a copy?
- **decentralized**
- your version would not be the same – rejected
- **consensus**



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1. What is blockchain?

- **Blockchain can be public (bitcoin)**
- **Blockchain can be private (company)**



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1. What is blockchain?

- Blockchain is...
 - an electronic ledger
 - decentralized
 - tamperproof
 - transparent



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1. What is blockchain?

- Blockchain provides...
 - certainty
 - transparency
 - a single version of “the truth”
 - predictability



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2. How can we use blockchain?

- where would we use blockchain technology?
- anywhere we want a transparent, decentralized, consensus-driven state of affairs



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2. How can we use blockchain?

- financial transactions (bitcoin)
- patient information
- insurance industry
- supply chain industry



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2. How can we use blockchain?

- statistics
- \$140 billion tied up in payments **DAILY**
- 42 days before receiving payment



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2. How can we use blockchain?

- statistics
- administration costs up to 20% of overall costs
- over-reliance on paper
- shipment of flowers Kenya-Rotterdam
- 30 different organizations and 200 communications!



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2. How can we use blockchain?

- statistics
- sensitive goods (pharmaceuticals)
- 8.5% experience temperature deviations
- many shipments don't make it past customs



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2. How can we use blockchain?

- statistics
- 90% of trucking companies have 6 trucks or fewer
- truckers drive 29 billion miles per year with partial or empty trucks!



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2. How can we use blockchain?

- knowledge is power!
- with an objective stated of facts...
- in real-time...
- shared among all stakeholders...
- ... a lot can happen!



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2. How can we use blockchain?

- less confusion
- faster decisions
- more efficient payments
- etc.



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2. How can we use blockchain?

- in the supply chain...
- consider a ship
- insurance (cover, premiums, claims)
- cargo (delivery dates, capacity, rates)
- operations (position, supplies, crew)



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2. How can we use blockchain?

- in the supply chain...
- consider a trucking company
- freight tracking
- capacity location
- carrier onboarding
- load board (quality of data)



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2. How can we
use
blockchain?

- **smart contracts!**



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2. How can we use blockchain?

- smart contracts!
- “if/then”
- embedded into the blockchain
- self-executing
- automated payment
- replenishment
- insurance



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3. Blockchain: legal issues

- **1. jurisdiction/enforceability**
- where is a “blockchain” located?
- what law will apply to the blockchain?
- what about smart contracts? requirements?
- Enforceability of smart contracts?
- jurisdiction/governing law clauses will be key



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3. Blockchain: legal issues

- **2. privacy considerations**
- data/metadata – identifiable?
- decentralized
- can't delete information from the blockchain!
- jurisdictional concerns



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3. Blockchain: legal issues

- **3. evidence**
- on the one hand, blockchain may help
- difficult to argue different facts
- but... what if something does go wrong?
- courts – duty to find the truth
- what if the “truth” on the blockchain is wrong?



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3. Blockchain: legal issues

- **4. liability**
- who is liable for the blockchain itself?
- what if transactions are not settled, or settled incorrectly?



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Questions?



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Thank you!

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