BLOCKCHAINS AND FINTECH

PRESENTED TO **RHB** - FEB 2017 - PRESENTED BY

neuroware

BUT LET ME FIRST INTRODUCE NEUROWARE

Mark Smalley - CEO

Living in Malaysia for the past 19 Years

Building Web Applications for 15 Years

Spent 10 Years Building Tech Communities

Developing Blockchains Apps for 5 Years

Ruben Tan - CTO

Building Web Applications for 10 Years

Active Community Evangelist & Presenter

Early Developer at MyTeksi and OnApp

Studying Distributed Consensus for 5 Years

EXPERIENCED INNOVATORS IN AN EARLY ECOSYSTEM

- **1st Malaysian Company** to Graduate from 500 Startups in Silicon Valley
- **1st Company in Asia** Providing Public Blockchain APIs & Developer Toolkits
- **1st in The World** to Develop Non-Financial Blockchain Agnostic Protocols
- Helped Organize World's 1st Bank-Backed Blockchain Hackathon (DBS)
- Over 15 Years of Collective Blockchain Development Experience

RECENTLY LAUNCHED CORTEX - WORLD'S 1ST BLOCKCHAIN O/S

CORTEX

dashboard | add domain | add user | add database | add api key | help

credits : 11.00000000 | flush | logout

DASHBOARD
DOMAINS
USERS
DATABASES
API
EXPLORER
WALLET
SETTINGS

You are currently logged-in with your private key!
Please remember to logout when you are done editing in order to remove the private key from localStorage.

YOUR PROFILE

EDIT

Name	Mark Smalley
Title	Co-Founder & CEO
Company	Neuroware

CURRENT USAGE

REPORTS

Domains	3 / 10
Sub-Domains	64 / 100
User Accounts	5 / 10
Databases	72 / 100
Active Modules	2 / 7
Active Protocols	3 / 8

RECENT ACTIVITY

MORE

- Updated DNKey on mark.neuroware.io
  12 seconds ago by Mark Smalley
- Added new user johnny.neuroware.io
  1 minute ago by Mark Smalley
- New Everstore db at team.neuroware.io
  3 minutes ago by Mark Smalley
- New wallet for mark.neuroware.io
  1 hour ago by Mark Smalley
- Added new user johnny.neuroware.io
  2 days ago by Mark Smalley
- New Everstore db at team.neuroware.io
  3 weeks ago by Mark Smalley
- New DNKey on keys.neuroware.io
  3 month ago by Mark Smalley

A BRIEF HISTORY OF MODERN MONEY

WHERE NO IDEA IS A NEW IDEA

IT ALL STARTS HERE - ON THE ISLAND OF YAP

SHOPPING WAS NOT EASY

SO THEY CREATED THE WORLD'S FIRST PUBLIC LEDGER

WHERE UPDATES REQUIRED GROUP CONSENSUS

- Size wasn't everything
- The history of each stone determined it's individual value
- Conducting transactions quite literally involved a song & dance
- This required the majority of people from the village to be present

BUT IT COULD NOT SCALE - THEY EVENTUALLY SWITCHED TO US$

WHEN WE THINK OF THE US DOLLAR WE THINK OF REAL MONEY

AND THEN CAME DIGITAL CENTRALIZED ASSETS

AND WITH IT CAME THE RE-CREATION OF ~~MONEY~~ DEBT

IT ALL ENDS IN TEARS (512 US BANKS CLOSED SINCE 2008)

World War 2
US$3 Trillion

2008 Bailout
US$8.5 Trillion

This really annoyed
Satoshi Nakamoto

All other US
Wars Ever

A TIP-TOE INTO BITCOIN

MAGIC INTERNET MONEY

BITCOIN
(the first application / popular digital asset)

VS

BLOCKCHAINS
(the underlying tech / shared public edger)

DOGECOIN
(cheaper and faster copy - but less secure)

VS

RIPPLE
(not everyone is equal - not a blockchain)

ETHEREUM
(built from scratch)

VS

PRIVATE CHAINS
(very similar to traditional databases)

BREAKING DOWN THE BASIC TERMINOLOGY

- Distributed Ledger Technology (DLT) is the top-level terminology
- Blockchains are one sub-set of distributed ledgers
- Public chains are another sub-set of blockchains
- Bitcoin is just one of a thousand different public blockchains
- There are hundreds of private chains & distributed ledgers without blocks
- From distributed DNS to file-storage & asset transfer - they do many things

However…

- When you are able to transfer a native asset on its ledger - magic happens:
- **THE TRANSFER AND SETTLEMENT OCCUR AS A SINGLE EVENT**

WHAT ARE THE BENEFITS OF DISTRIBUTED PUBLIC LEDGERS?

- They provide an immutable tamper-proof audit-trail of the truth
- Data can be easily shared and independently verified by third-parties
- Vastly increased security that is much less vulnerable to attack or outage
- Programmable contracts that can radically reduce human errors and costs

pwc

"While Fintech Disrupts Banks,
the Blockchains Disrupt Fintech"

INTERESTING BITCOIN BLOCKCHAIN FACTS TO REMEMBER

- Bitcoin blockchain released in January 2009 by Satoshi Nakamoto
- We do not know who Satoshi is, or what their religion or political views are
- However, the bailout of 2008 was citied as primary catalyst for its creation
- US$13 per coin in 2013 (which is when we bought) - now US$540 per coin
- The Bitcoin network is currently processing over 200,000 daily transactions
- The network's market capitalization is currently around US$7 billion
- 21 million maximum finite supply, decreasingly dispersed every 10 minutes
- **But most importantly of all is the technology behind it…**

BITCOIN AND BLOCKCHAINS HAVE NO NEW TECHNOLOGY

- HASH - Theorized in the 1800s - Coined by IBM in the 1950s
- SHA - Encryption method first introduced by US Navy in 1993
- P2P - Peer to peer protocol popularized by Napster in 1999

COMPARED TO WHAT…? TRUTH CAN ONLY BE STORED ONE WAY

CENTRALIZATION
DATABASES

DECENTRALIZATION
THE CLOUD

DISTRIBUTION
BLOCKCHAINS

TECHNOLOGY — TECHNOLOGY

1950 - 2000 - - - - - - - - - - - - 2010 - - - - - - - - - - - - 2015 - 2030

BUSINESS MODELS — BUSINESS MODELS

HILTON / TAXIS

AIR BNB / UBER

OPEN BAZZAR / LAZOOZ

BLOCKCHAINS ARE SIMPLY A NETWORK OF NODES

- Each member of the network runs their own node and all nodes are equal
- The blockchain becomes more secure as more nodes join the network
- All transactions across the entire network are tracked by each node
- **There are no actual coins** - there is only a ledger of who owns what
- Cryptographic key-pairs represent accounts and passwords
- On the blockchain - no one knows you're a fridge

EVERY ACCOUNT IS MERELY A SET OF KEYS

EACH “ADDRESS” REQUIRES A PRIVATE KEY TO ACCESS IT

SOME ADDRESSES EVEN REQUIRE MULTIPLE KEYS

BITCOIN ISN’T EVERYTHING

BILLIONS INVESTED IN BLOCKCHAINS

BANKS ARE MOVING FAST DUE TO ECOSYSTEM MATURITY

As of January 2016, more than 60 banks and leading financial institutions have made statements confirming that they are actively working on blockchain projects.

BLOCKTECH in FINANCIAL SERVICES Landscape

APPLICATIONS & SOLUTIONS

Exchanges
kraken, Btcr.com, BITSTAMP, POLONIEX, coinbase, BTC, bitcoin.de, GEMINI, mexbt, CAMP BX, PAYMIUM, BITSO, BitOasis, SHAPE SHIFT, CAMP BX, COINIGY, coinsetter

Brokerage
coinbase, BIT Pagos, Unocoin, BTCC, BITFINEX, COINJAI, safello, QUADRIGACX, bitFlyer, NOBLE MARKETS, volabit, coinfloor, coins.ph

Soft Wallets
BLOCKCHAIN, airBitz, ARMORY, coinbase, xapo, ELECTRUM, Mycelium, bread wallet, Coinkite, Darkwallet, coinprism

Hard Wallets
TREZOR, case, π WALLET, Ledger Wallet, keep key

Investments
Grayscale, loanbase, KOIBANX, Bitbond, WeiFund, BSAVE.IO, Etherplan, BTCjam, dangpu.com, WEALTHCOIN, Yuanbao, lighthouse

Capital Markets
symbiont, Digital Asset Holdings, clearmatics, TradeBlock, t0, epiphyte, itBit, R

Merchants
bitpay, Coinkite, Bitnet, coinbase, PEY, Coinify

Compliance
ELLIPTIC, third key solutions, Sig3, CHAINALYSIS, CryptoCorp, identityMind GLOBAL, vogogo, COINALYTICS

ATMs
LocalBitcoins.com, Robocoin, bitxatm, bitaccess, COINOUTLET, PLANETCAPITAL, btcpoint, Project Skyhook, LAMASSU BITCOIN VENTURES, genesiscoin, GB

Money Services
ChangeTip, BITX, ABRA, coinx, uphold, CoinPip, COINAPULT, BitPesa, BlinkTrade, BITNEXO, MELOTIC

Financial Data
bitcoinity., CoinMarketCap, CryptoCoin, BlockJockey, BRAVE NEWCOIN, BitcoinWisdom, CRYPTRADER, CoinGecko, TradeBlock

Trading
HEDGY, BitMEX, COINUT, Mirror, tradewave, CRYEX, BITNOMIAL, TERA EXCHANGE, TABTRADER

Payments
Align Commerce, BLADE, GOCOIN, GAZEBO.IO, GemPay, cuber, SETL.io, safecash

Supply Chain
CHRONICLED, VAVE, skuchain, PROVENANCE

Payroll
paybits, bitwage

Banks
secco, LHV, fidor BANK, moni

MIDDLEWARE & SERVICES

Services
CRYPTONOMEX, B9, CONSENSYS, SolidX, Chain, RUBIX

Software Development
chainscript, eris INDUSTRIES, openchain, Blockstream, MultiChain, Blockstack.io, PEERNOVA

General APIs
bitcore, coinbase, BitGo, Gem, neuroware, Coinkite, BLOCKCYPHER

Special APIs
TIERION, Open Assets, COLORDCOINS, colu, ChromaWay

Platforms
Counterparty, HYPERLEDGER, erocoin, ethereum, blockstack

Smart Contracts
SmartContract, CoinSpark, bitShares, ROOTSTOCK

INFRASTRUCTURE & BASE PROTOCOLS

Public
bitcoin, ethereum

Special
ripple, stellar

Payment
Amiko Pay, Lightning Network

Miners
ANTPOOL, BitFury, 21 INC, BTCC, BTC Guild, BITCOINCZ

Source: http://startupmanagement.org/2015/10/22/the-global-landscape-of-blockchain-companies-in-financial-services/

By William Mougayar © 2015 1.4

SOME OF THE INSTITUTIONS LEADING THE WAY

Goldman Sachs

Custom blockchain for settlements

DBS

Standard Chartered

Blockchain based trade finance platform

RBC

Blockchain based loyalty platform

VISA

Blockchain based remittance platform

citi

multiple blockchains for cross-boarder payments and loyalty

RHB

1st Bank in Malaysia to Publicly Support Blockchains

Bank of America

Patented a blockchain based wire transfer system

pwc

NASDAQ

IBM

ETHEREUM TAKES THINGS ONE STEP FURTHER

THE WORLD'S SUPER COMPUTER…?

- Raised US$15 Million in crowd-funding when launching their Ether currency
- Aiming to be the first turing complete blockchain, they have almost achieved it
- Heavily supported by Microsoft & also being used by IBM for their IoT platform
- Recently raised US$150 Million in crowd-funding their own venture fund
- However, the more moving parts a system has - the more likely it is to break

CURRENCIES CAN BE MANY THINGS - EVEN VOTING RIGHTS

- Symbol = %
- Decimals = 2
- Name = Equity

Contracts can also be linked, which allows governance contracts (DAOs) to then be able to vote and control upon custom currency transfers…

IMITATION IS THE BEST FORM OF FLATTERY

- 1st Generation of Alt-Coins forked each other with minor tweaks
- Basic breakout alt-coin successes included Litecoin and Dogecoin
- Dash (previously known as DarkCoin) worth noting due to governance
- See the Malaysian-Based **CoinGecko** for a better list!

DISTRIBUTED LEDGERS AND

FINANCIAL TECHNOLOGY

FINTECH IS THE MOST OBVIOUS CHOICE FOR DISRUPTION

THE OLD WAY

THE NEW WAY

- Reconciling Multiple Central Ledgers Vs Auto-Audited Distributed Ledgers?
- Batch Processing CSVs every 24 Hours Vs Really Real-Time Settlement?

VISA THE FIRST TO BRING NEW CLEARING SYSTEM TO MARKET

Note: Conceptual vision for discussion only. Service is in development and availability, features, functionality and timing remain subject to change.

Visa Confidential

LAWMOWER - AUTO SAVINGS ACCOUNT

BITJAM - P2P LOANS VIA BITCOIN

BTCjam

Log In | Sign Up | More

Safe and easy
bitcoin lending.

Invest your Bitcoins and Earn Now

19.3% APR

- Protect from bitcoin volatility
- Peer to Peer lending with credit scoring
- Security done right

Grow my Bitcoin

Personal loans using Bitcoin from

6.7% APR

฿ 1 ≈ $ 218.58

Select the purpose of your loan

Your Email address

Get my Bitcoin

Ribbit Capital | 500 startups | FundersClub | TC | TNW | Bloomberg

neuroware

BITPESA - REMITTANCE VIA BITCOIN

Great for business

Pay staff and suppliers in Kenya in one easy transaction. You can send funds to any mobile money or bank account!

Learn More

LAMASSU - THE MOST POPULAR BITCOIN ATM

BLOCKCHAINS CAN REPRESENT VARIOUS VALUES

everledger

Home API Timeline Smart Contracts

PROTECTION.

We are a fraud detection system, overlaying big data from closed sources like insurers and law enforcement.

BIG EXPECTATIONS NOW SET

- Accenture claim investment banks can save US$12 billion a year
- McKinsey believes financial services will save US$110 billion in 3 years
- White & Case say banks can reduce infrastructure by $20 billion a year
- Bank of England says DLT could add 3% to a country's economic output

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- 80% of top banks to launch DLT projects by 2017 - World Economic Forum
- IBM reports that 15% of big banks will be using blockchains by 2017
- IBM also reported that 65% of banks will have blockchain trials by 2020
- Over US$1 billion to be invested in DLT by 2019 specific to capital markets

R3 - WORLD'S LARGEST BLOCKCHAIN CONSORTIUM

- Founded by ex-banking CEOs with their CTO as ex-CIO of IBM
- Over 100 financial institutions joined R3 (at US$250,000 each per annum)
- Members are then able to engage R3 consultants for pilot projects
- Originally utilizing privately forked Ethereum & Eris solutions
- 15 members trial distributed ledgers for trade finance in 2015
- 10 banks trial blockchain (KYC) identity registry in 2016
- Now heavily promoting Corda (in-house permissioned ledger)
- Opened a lab in Singapore and started working with MAS
- Currently in the process of raising US$200 Million in funding

NOW OVER 25 BLOCKCHAIN CONSORTIUMS WORLDWIDE

BLOCKCHAINS

AND ASIA

SINGAPORE

- DBS - First bank (globally) to launch a public blockchain competition
- DBS & Standard Chartered - first banks (regionally) to use blockchains
- OCBC first bank (regionally) to settle intrabank cross border payments
- MAS - First regulator (regionally) to issue digital currency on blockchains
- QTUM - 1st new blockchain in region to receive over US$1 million

SINGAPORE

Incorporate online in Singapore, Hong Kong, UK, Cayman Islands and BVI via blockchains

CHINA

- Over 60% of Bitcoins mined in China
- 10 banks hiring 30 blockchain developers at a 50% salary premium
- Postal Savings Bank of China sent 100 asset TXs on its own Blockchain
- Central Bank completes digital currency trials using blockchains
- US$1.44 billion fund for blockchains

KOREA

- 27 fintech firms form consortium
- South Korea's securities exchange launches blockchain service in which startup equity shares can be traded
- South Korea's Financial Services Commission start working on blockchain based digital currency
- Shinhan Bank (oldest bank) working on cryptocurrency remittance

JAPAN

- 42 banks form ripple consortium, now over 100 members partnering
- Stock exchange partners with IBM
- Mizuho Financial Group and others use DLT for interbank payments
- Bank of Tokyo-Mitsubishi testing blockchain e-cheques systems
- Merchants to 5X to 20K in 2017

AUSTRALIA

- Sydney Stock Exchange launches own blockchain for equity transfers
- Australian Securities Exchange in process of migrating to blockchains
- ASX have invested over US$100 million into multiple DLT startups
- Australian banks and governments using DLT for remittance services

BLOCKCHAINS IN

MALAYSIA

WHERE DO WE (MALAYSIA) STAND …?

from the coindesk.com most recent quarterly report

THE BLOCKCHAIN EMBASSY OF ASIA - MADE IN MALAYSIA

BlockChain Embassy Asia

AMBASSADORS USE CASES CONTACT EMBASSY TOOLBOX NEWS

our mission is to educate organizations throughout asia in both the legal and technical implications of distributed ledgers

We are a non-profit digitally distributed organization that is using and promoting blockchain governance as a method for collaboration between various business entities and existing community efforts across Asia

REQUEST MEMBERSHIP

9 FOUNDING MEMBERS FORM THE STEERING COMMITTEE

Malaysian BlockChain Ambassadors

RHB	MahWengKwai & Associates	Maybank
Trustee Ambassador	Legal Ambassador	Banking Ambassador
CapitalBay	1337 VENTURES	chain of things
Invoicing Ambassador	Community Ambassador	IoT Ambassador
atoplus	iTrainAsia	R1
FinTech Ambassador	Education Ambassador	Technology Ambassador

BIG PROBLEMS INVOLVE MULTIPLE PARTNERS & MOVING PARTS

(now drawing attention from international banks seeking partnerships)

WHERE DO WE (MALAYSIA) STAND …?

also from the coindesk.com most recent quarterly report - but not the MY part

OUR FIRST CLIENT IS ONE OF SIX LICENSED ECF OPERATORS

(ATA-Plus also use RHB trustee services - and now require a crypto-trustee partner)

ataplus

Dogecoin (Testnet) Blockchain / ATA-Plus V0.0.1 / Datastores / Investments

Credits: 254.00000000 FLUSH LOGOUT

COMMITS

DATASTORES

- ISSUERS
- COMPANIES
- INVESTORS
- INVESTMENTS
- SECTORS
- ADD NEW

SCHEMA

DOCUMENTATION

6 Months Sitewide Total Investments

ADD NEW RECORD

74c87dfa57a94dc86666209cd87a01b5

Date of Investment

"For ECF to flourish, there must be a deep depository of trust and transparency that is frictionless & inclusive. Neuroware's tech enables us to provide all that and more!"

sort by Most Recent

search investments

f2583c4bbbc1d7f70fe776ef8de24e3e9131884de2be5ed3365fe72e53fa2177 EDIT DELETE SCHEMA

Key	Value
Index: Investment ID [auto]	bf28617205e695439c0dd2285a76d7c1

powered by neuroware

ataplus

Kyri - Co-Founder & Director of Licensed ECF Platform

NEM - MALAYSIAN BASED BLOCKCHAIN

Rank	Coin	Total %	MktCap	Liquidity	Developer %	Developer	Community %	Community	Public Interest %	Public Interest	Last 7 Days	
16	LBRY Credits (LBC) - (N/A) ฿0.00003348	53 ▲0.6	฿1,477 ▲3.310%	139.65	77	208 / 30 / 34 / 107 / 69 / 470 / 252 / 11 / 278 / 4	41	1157 / 2 / 0.02 / 0 / 8842 / 3394	35	48,800 / 378400	฿0.00003348	Buy Sell
17	Storjcoin X (SJCX) - (N/A) ฿0.00015004	52 ▲0.6	฿7,572 ▲1.319%	19.06	81	137 / 54 / 31 / 443 / 421 / 180 / 25 / 29	41	1200 / 4 / 0.06 / 0.2 / 2688 / 10386	35	37,900 / 201256	฿0.00015004	
18 ▲1	BitShares (BTS) - (N/A) ฿0.00000412	52 ▲0.8	฿10,626 ▲1.088%	65.70	71	133 / 58 / 75 / 199 / 186 / 30 / 9	41	1133 / 3 / 0.02 / 0 / 7979 / 5833	36	75,100 / 528201	฿0.00000412	
19 ▼1	NEM (XEM) Proof of Importance (N/A) ฿0.00000551	52 ▲0.3	฿49,606 ▲2.678%	115.26	62	40 / 36 / 30 / 316 / 215 / 82 / 16 / 0	33	171 / 2 / 0 / 0 / 2371 / 3093	38	318,000 / 263653	฿0.00000551	Buy Sell
20 ▲2	Lumens (XLM) - (N/A) ฿0.00000240	51 ▲1	฿16,603 ▲1.524%	78.61	60	271 / 49 / 64 / 112 / 50 / 68 / 14 / 0	40	789 / 3 / 0.06 / 0.2 / 4970 / 8358	41	379,000 / 316512	฿0.00000240	
21 ▲2	Namecoin (NMC) SHA-256 (N/A) ฿0.00023929	51 ▲0.9	฿3,526 ▲2.633%	29.90	74	132 / 43 / 33 / 91 / 34 / 133 / 28 / 292	41	2571 / 2 / 0 / 0 / 1442 / 3318	42	106,000 / 1632993	฿0.00023929	
22 ▼1	Vertcoin (VTC) Lyra2RE (33.2 GH/s) ฿0.00004637	50 ▲0.1	฿1,528 ▲11.306%	27.91	63	81 / 49 / 31 / 40 / 36 / 25 / 16 / 0	46	4070 / 3 / 0.08 / 0.6 / 2612 / 25801	43	76,600 / 1269032	฿0.00004637	

MONEY MATCH FIRST IN MALAYSIA TO USE RIPPLE

Malaysia: MoneyMatch raises $150k seed from Australia's Kosciuszko for forex platform

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Subscribe to our newsletter

(L-R) Naysan Munusamy, Damien Santer and Fazil Fuad

ETHERSCAN FOUNDED BY A MALAYSIAN - FUNDED BY DCG

Etherscan
The Ethereum Block Explorer

LOGIN | Search by Address / Txhash / Block / Token | GO | LANGUAGE

HOME | BLOCKCHAIN | ACCOUNT | TOKEN | CHART | MISC

TOTAL SUPPLY OF 88,464,230.97 ETHER
$10.56 @ 0.01085 BTC/ETH

LAST BLOCK
3104622 (14.40s Avg)

TRANSACTIONS
16160931

Hash Rate
7,766.31 GH/s

Network Difficulty
111.68 TH

Blocks | View All

Block 3104622 > 15 secs ago	Mined By Ethpool_2 3 txns IN 12 secs Block Reward 5.0015 Ether
Block 3104621 > 27 secs ago	Mined By Ethermine 5 txns IN 13 secs Block Reward 5.00409 Ether
Block 3104620 > 40 secs ago	Mined By 0x96338149e9f6c26... 4 txns IN 4 secs Block Reward 5.00187 Ether
Block 3104619 > 44 secs ago	Mined By DwarfPool1 0 txns IN 20 secs Block Reward 5 Ether

Transactions | View All

TX# 0X8C82912A90EB24422A0DD89... From 0xea674fdde714fd9... To 0xdc17d353b01285... Amount 1.0045803417014828 Ether	> 15 secs ago
TX# 0X30803DA432AD0EC50B674EB... From 0xf34a762291e2578... To 0x6fc82a5fe25a5cd... Amount 0.09972424738776952 Ether	> 15 secs ago
TX# 0X9F3AEC03CD8978780C11C59... From 0x2e67179261a34b... To 0x44e9bfd5eb0651... Amount 1.506161 Ether	> 15 secs ago
TX# 0X69429B51113744361D7EF7D... From 0xea674fdde714fd9... To 0xb2db64a2574811... Amount 1.0055965023717969 Ether	> 27 secs ago

BANK BLOCKCHAIN

USE CASES

IN BANKS WE TRUST

- Banks traditionally play three **fundamental** roles:
  - STORE DEPOSITS
  - MAKE PAYMENTS
  - PROVIDE CREDIT
- Perhaps more importantly, banks are also the custodians of **trust**:
  - TRUSTEE SERVICES
  - ESCROW PAYMENTS
  - LETTERS OF GUARANTEE

BANKING ON THE FUTURE OF BLOCKCHAINS

- With banks already KYC and AML compliant, there are no entities more suited to be offering digital currency brokerage and key management
- With the advent of smart-contracts, banking becomes a sequence of code
- Regulation and compliance would be designed as part of the protocol
- If retail and commercial banking processes were 100% based upon blockchains, staffing requirements could be reduced by at least 90%
- Existing internal infrastructure can be replaced by distributed protocols

LOYALTY REWARDS AS THE IDEAL PROTOTYPE

(following in the foot steps of China's UnionPay)

- Provides the opportunity to radically reduce infrastructure costs
- Allows for the development of APIs - allowing for outsourced innovation
- Allow for developers, consumers and merchants to communicate directly
- Introduce multi-signature arbitration at local and (or) global levels
- Tap into a tamper proof audit trail of every transaction for better analytics
- Very similar technology to digital cash - but unregulated and in your control
- Begin developing e-Wallet strategies (such as multi-signature key signing)

CURRENT MULTI-SIGNATURE BITCOIN SOLUTIONS IN MALAYSIA

REMOVING THE ECF OPERATOR - SANCTIONED BY REGULATORS

COMPLETING AN EQUITY CROWDFUNDED INVESTMENT PROCESS

REJECTING INVESTMENT OR RETURNING FUNDS TO INVESTORS

CRYPTO TRUSTEES ARE THE FOUNDATION FOR EVERYTHING

(which is why this is the first area of interest being explored between RHB and neuroware)

- Unlike financial trustee services, crypto-trustees do not actually move funds as crypto-trustee services are just multi-signature 3rd key services
- Multi-signature solutions are required for a whole host of services:
  - Escrow payments or refundable crypto payments
  - Identity management and KYC processes
  - Distributed governance & user roles
  - Shared data services
- In all cases, those issuing multi-signature processes can:
  - Automatically audit everything
  - Guarantee shared responsibility

PWC AND MORTGAGES

(automating business with the ultimate smart contract)

- At **origination**, blockchain could help establish more accurate record keeping
- At **fulfillment**, it could provide immutable proof that loan estimates were sent and received on time
- Smart contracts would speed up **settlement** flows throughout
- In the **servicing** process, blockchain could track the movement of payments
- And in the **secondary** markets, it might also provide transparency about the ownership of underlying assets

TRADITIONAL SUPPLY CHAINS ARE COMPLICATED

COMMON PROBLEMS WITH THE MAJORITY OF SUPPLY CHAINS

- Multiple entities maintaining multiple copies of the truth within easily compromised closed silos requiring painfully slow & expensive reconciliation
- Time consuming requirements for setting-up third-party financial trustees and physical escrow accounting processes between each transaction
- Lack of automation between checkpoints, processes and sensory inputs
- Excessive use and reliance upon physical paper-trails and certification

- **ALL OF THESE PROBLEMS EXIST DUE TO A LACK OF TRUST**
  (if only there was a way they could all use the same source of truth)

SIMPLIFYING SUPPLY CHAINS WITH BLOCKCHAINS

TO SUMMARIZE

- The next IT revolution is already underway and finance is only its first target
- Although the future of Bitcoin is uncertain - blockchains are here to stay
- Distributed ledger technology will continue growing at an increasing pace
- **Like databases, there is no blockchain suitable for every use-case**

THANK YOU

NOW IS THE TIME TO QUESTION THINGS

LEARN MORE ABOUT

neuroware

http://neuroware.io