Blockchain and Cryptocurrencies

## Cryptocurrency is a cashless anonymous payment system that can be modified to accommodate internet of things (IOT) applications. For example, Expedia now recognises bitcoin as a new payment option for hotel bookings, but it has the potential to include payment for flights and activities among various other services.

## Blockchain, on the other hand, is the actual system cryptocurrency runs on. It is a ledger which is distributed to everyone, everywhere and to all cryptocurrency users. Every time a transaction goes through it goes on a ledger. A ledger can only hold so much memory before a new “block” must be created hence the term “blockchain”. To verify if the transaction has occurred mathematical signatures that need to be mined by “miners” are required. Any user on the blockchain can mine and verify the transaction which is what makes it safe. Blockchain offers an open decentralised database for any transaction that holds value where any member of the community has the ability to verify the transaction hence making it safe. Those that do verify the transaction by mining do get rewarded for doing so.

Verge is an entirely private network based globally (supports widespread mass adoption) and is a flexible and fast way to exchange currencies. Verge encourages low cost transactions to be private, fast and efficient so individuals can send and receive payments however they want and for whatever they choose to buy. This is done through the use of multiple anonymity-based networks such at TOR and I2P which allows the IP addresses of the users to be obfuscated.

Cryptocurrency has a secure method of fraud prevention through use of cryptography. Crypto-coins stay safe because of “keys” which are blocks of information that can be used to make mathematical guarantees about messages in order to confirm that whoever is sending the coins is the actual owner of the coins. Keys are given to an individual once they have created an account for cryptocurrencies. This account is called a “wallet” in which two unique keys are given, private and public. The private key is given the ability to take some data and be able to “sign” it so other users on the blockchain have the ability to verify the signature if they choose to. Private keys cannot be replicated by another user. To be able to see and verify the transaction, the public key is used to see if the signature is valid. Hence, if the public key works that is clear evidence that the coins sent was signed by the private key and was something that was meant to be sent.

In the next three years, it is expected that peer to peer trading will become more common for more uncommon things such as paying off energy trading. Power ledger have collaborated with KEPCO in Japan to establish a direct link between the power ledger and the meter in which the Power ledger platform can access the meters data hence the appropriate billing and trading of coins to pay off that debt will occur accordingly. Power ledger will provide KEPCO access to their platform, so they can be able to monitor electricity transactions between users which enables and incorporates peer to peer trading methods hence giving an opportunity to also generate invoicing, evaluating the trading position of each individual participant and validating the security and accuracy of the platform.

The major technological companies will become more decentralised. Facebook released a statement saying that technology was meant to be a decentralizing force that was for the people and now because of the rise of a small amount of major tech companies and governments using technology to watch their citizens, technology has become a way that centralises power instead of decentralising it. Mike Zuckerberg state that he would look at cryptocurrency and blockchain that take power from centralised systems available and place it back into the people’s hands.

Technology experts also believe that cryptocurrency has the potential to store various kinds of confidential information in different ways such as in a way that another company or even the government would not have any control or access on that information hence be free from its influence and the bias it may bring.

This development will allow anyone around the world that has a mobile phone device and the internet to be able to set up their own wealth or “wallet”. With cryptocurrency all that is needed is a mobile device and an internet connection to be able to create a wallet and it’s completely free. People living in poverty or in low conditions don’t have access to a bank account at all but some of them do have a mobile device and a connection to the internet. Through this, the individual will be able to set up their own “wallet” and be able to trade and use their coins so they can either invest and grow more or to trade for goods and services.

When cryptocurrency got released banks finally had a competitor that they haven’t had for centuries. An opponent that will be able to challenge their ways and regulations placing a centralised form of government to something that is decentralised and placed in the people’s hands. Both of which can do the same thing, build wealth. When crypto became more popular the banks were forced to upgrade their systems and protocols, so they can keep their customers hence Pay ID was introduced.

# How will this affect you?

As an investor for bitcoin amongst various other cryptocurrencies, blockchain technology is an opportunity for me to gain some financial gain. Cryptocurrency allows me a way to increase my current wealth as the prices for each individual coin regularly fluctuate which allows me to keep trading and build my wealth. The crypto coins that I would have allows me to potentially trade them for assorted items in the securely and in some cases anonymously. This is different to me as monetary prices don’t fluctuate as much as cryptocurrency does hence allowing me to make a greater profit.

With cryptocurrency I would be able to directly transfer money almost instantaneously between people hence making it extremely efficient. International money transfer takes approximately 5 business days to be able to transfer money in banks as it has multiple steps that need to be gone through before the money reaches the recipient. However, the bitcoin protocol runs over the internet hence the recipient will receive your money almost instantly.