**BLOCKCHAINS AND CRYPTOCURRENCY**

*What does it do? (600 words) What is the state of the art of this new technology? What can be done now? What is likely*   
*to be able to do be done soon (say in the next 3 years)? What technological or other developments make this possible?*

Blockchains is the technology that supports digital currency (such as Bitcoin, Ethereum, etc). The technology allows for the transfer of digital information, while preventing copying of that information, meaning that each piece of information distributed across the blockchain can only have a single owner. Additionally, cryptocurrency is any form of currency that exists digitally, using cryptography (secure communication) to secure transactions. It is a peer-to-peer digital payment system meaning it does need a third party (such as banks) for verification, instead enabling anyone to send and receive payments.

Current Blockchain technology is built open 4 principles, 1. It is a distributed ledger, meaning everyone on the system has individual open access to information, 2. Cryptographic functions ensure the security of the system, 3. There is no need for third party authorisation, as participants confirm changes directly to one another, and number 4. Ability to run smart contracts, which are programs which run when predetermined conditions (set by computer code), are met. There is not a single version of what a blockchain looks like, they can be open or controlled, and new and different blockchains are created every day. The best known public blockchain, underlies bitcoin.

Currently there is a diverse number of industries which use blockchain industries, these include the automotive industry, banking and finance, healthcare and sciences, supply chains, retail and consumer goods, manufacturing, travel and transportation, and telecommunications.

It is evident that blockchains and cryptocurrencies are here to stay, experts say that within the next 10 years digital assets will be a solid alternative to flat currencies in the global market. NFTS (Non- Fungible- Tokens). NFTs are surging new way of buying and selling digital assets that represent real world items, which could generate a whole new way of buying and selling digital collectibles, such as artworks, unique merchandise, sneakers, and more. Cryptoplasm.io Data shows that in 2021, in just two months, there was almost 400$ in gross sales, this trend is likely to continue within the near future.

Due to the secured nature of blockchain technologies, it makes it extremely difficult for hackers to manipulate transactions and obtain information. Because the data used in blockchain technologies is so secure, banking and financial services are moving to implementing these technologies, it is predicted that within the next 3 years almost 66% of banks will have bitcoin solutions implemented. Current banking drawbacks such as maintenance issues, bank hours, and verification all slow down transactions, with blockchains consumers will have 24/7 instant transactions, anywhere.

Blockchain technology can also be extremely useful in the medical industry. Healthcare providers and hospitals will be able to instantaneously exchange data, reducing redundancies and improving the speed of patient diagnosis, while also maintaining customer health privacy. Infact blockchains can also be used to fight counterfeit medication, improve drug safety, and monitor the supply chain. According to grandviewresearch.com the global market size of blockchain technology in healthcare is expected to increase 63% over the next six years.

In real estate, proving and identifying identity is a slow and tedious process, which can take weeks for banks to complete processes. Through smart contracts, self-executing contracts would be able to perform any number of preprogramed tasks, including processing loan requests and verifying bank details. Other possibilities include managing property records and improving transaction transparency.

*What is the likely impact? (300 words) What is the potential impact of this development? What is likely to change? Which*   
*people will be most affected and how? Will this create, replace or make redundant any current jobs or technologies?*

Blockchains has the potential to impact all record-based processes. In terms of job redundancy almost any job which is revolved around the movement of money, both physical and electronic will no longer be necessary. Additionally, a lot of office paperwork associated with the verification of funds will be eliminated by blockchain tech. However, The Future of Job Reports predicts that companies shifting task allocation and juggling of roles in the workplace will yield an overall Net Positive return in employment, they wager that 75 million jobs will be displaced by rising technologies, but it will also make room for an additional 130 million roles.

Individuals most impacted by blockchains, will be business owners. As owners it is important to understand new technologies so that the business can run optimally and efficiently, failure to do these risks falling behind competition. Therefore, business owners will need to familiarise themselves with Blockchains, and how they can implement it in their company or organization, back-office activities such as financial reporting and tax preparation may change, additionally current and future employees may need to be trained so that they can be familiar with blockchains. In real estate, intermediaries such as brokers, lawyers, and banks, will have less or changed roles with blockchain technology, reducing costs and ensuring that buyers and sellers get more out of their money as they save on commissions and fees charged by intermediaries. Social impact can also be positively impacted by Blockchain, for example IBM has started using blockchain to provide a transparent supply chain for produce, building trust with the public, in terms of healthcare, medical records and treatments can be safely and more efficiently stores, and instantly available in emergency situations, greatly aiding those who undergo constant medical treatment.

*How will this affect you? (300 words) In your daily life, how will this affect you? What will be different for you? How might*   
*this affect members of your family or your friends?*

On a personal note, cryptocurrency and blockchains have impacted me as I have started researching investing in crypto, in terms of affect it may impact me financially in a positive way. My father is a manager at a warehouse distribution centre, part of his duties includes managing product origins, traceability, and potential recalls. While blockchain is still relatively new, with transparency and the instant data transfer, my dad as a manger, will be able to better manage production, be able to see consumer level demand in real time, allowing for better prediction of demand. With this my dad and other managers can ensure that they have right type and quantity of stock needed to meet expected demand, making it possible to optimize revenue and profitability.