**Discuss whether the technology is Disruptive – is it Disrupting, has disrupted, or**

**will disrupt your industry.**

Disruptive innovation is a term in the field of business administration which refers to an innovation that creates a new market and value network and eventually disrupts an existing market and value network, displacing established market leading firms, products, and alliances. [En.wikipedia.org. (2018). *Disruptive innovation*. [online] Available at: https://en.wikipedia.org/wiki/Disruptive\_innovation [Accessed 25 Apr. 2018].]

From my point of view, block chain technology is in the process of disrupting this world in variable aspects. Actually, block chain is not an innovative idea to change the current technology. The nature of block chain is an open-source ledger that can promise to store immutable data. Currently, block chain will take nearly ten minutes to get a block ready. Thus, block chain is not a perfect way to store meta data from society.

It's unlikely to be a wholly disruptive technology that attacks traditional business models with a lower-cost solution that overtakes other networking technology quickly, according to Karim Lakhani[]. Instead, Block chain is a foundational technology, with the potential to create new foundations for economic and social systems, Lakhani said in The Truth About Block chain[].

Block chain isn't a single technology. Rather it's an architecture that allows disparate users to make transactions and then creates an unchangeable record of those transactions.

When we can find more efficient way to share information this type of peer-to-peer networks, block chain will disrupt our whole society.

In the industry of healthcare data communication, privacy, security and interoperation are three critical elements to be considered. First of all, patient’s records will be stored by block chain and doctors will be authorized by patients to read diagnosis history of one particular patient. Due to the nature of block chain, it distributes work to uncentralized nodes in the network by hashing algorithm so it is impossible to change the records without consensus. Secondly, the patient’s record should be consistent and available across institutional boundaries, and the terms of its access strictly dictated by the patient.

A blockchain powered health information exchange could unlock the true value of interoperability. Blockchain-based systems have the potential to reduce or eliminate the friction and costs of current intermediaries. [Transaction, C. P. (2016). Blockchain: Opportunities for Health Care.]

**–Discuss the Value Chain from the Technology**

Blockchain might impact the value chain from three aspects: change the traditional models of healthcare, strengthen the security and scaling blockchain for healthcare.

**Innovating traditional models of healthcare**

Blockchain has the potential to propel innovation in preventative care and community-based healthcare models. The capacity of a distributed ledger technology for ensuring data integrity while sharing between parties can ensure collaboration between rising trends in healthcare, which are vital to the improvement of health in communities worldwide.

Blockchain can tie together a complex team-based healthcare, finance and payment with the care provided along with it. The inherent properties of cryptographic public and private key access, proof of work and distributed data, creates a new level of integrity for healthcare information. Blockchain technology also makes it easy to track a drug as it moves from the manufacturer to the patient. This improves the traceability of a drug as it moves across the supply chain, and helps prevent drug counterfeiting.

Blockchain provides frictionless connectivity, strengthened by smart contracts and authorization to access all electronic health data. Its transaction layer can enable instantaneous access to a diverse set of standardized, anonymous and non-patient identifiable information. Transparency and automation can also lead to higher efficiency and lower administration costs. It is a phased approach rather than an instant overhaul of systems, and hence is suited to healthcare sector.

**Educating the healthcare industry on security**

In the current system, security and trust are the most common concerns shared by businesses regarding the information shared between different entities. Information can be entered anywhere along the line of communication and this leads to trust issues, especially in the healthcare industry. There are also concerns where multiple vendors hold different versions of the same patient record that are not validated, resulting in various errors, inconsistency and incompleteness. Add to that reports of security breaches, tampering of personal data and the ever-present hacking threat, it’s not surprising healthcare officials are concerned.

Since blockchains are cryptographically secure and the data present therein can be authenticated using digital signature that are unique to each person, this technology could be the answer to most of these concerns.

**Scaling blockchain for healthcare**

The healthcare industry is on the verge of disruption in its digital infrastructure. The current system does not fully support the security or interoperability that is inherently necessary. To utilize collected medical data to its maximum potential, data portability and interoperability of records between systems is a must.

With the advent of wearables and numerous new IoT devices that are interconnected with their data flows harnessed, better security is needed and readily accessible to healthcare professionals. All these challenges could be minimized with the help of blockchain technology and its interoperability, integrity and security, and portable user-owned data.