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R3 Corda

Part (a)

R3 was founded in 2013 by David Rutter who was previously the CEO of electronic brokerage at ICAP PIc. Rutter also enlisted Jesse Edwards and Todd McDonald early in the company's creation. R3 was initially a means to invest in technological advancements and electronic exchanges. However, after meeting with companies in Silicon Valley, R3 decided to create their own business plan. Specifically, Rutter aimed to develop a method to utilize blockchain technology to move the settlement and clearing of securities into the cloud.

Over the first three years of the company, R3 financed itself by creating a joint venture (JV) with three membership tiers. The consortium members were banks that would buy into the company and be granted privileges, depending on how much money it contributed to R3. Through this investment deal, Rutter and the R3 team were able to establish their company without losing control to the banks.

Part (b)

There are a couple of major pain points facing banks and investors, which are clearing, settlement, and record keeping of their financial assets, especially when trading them. Furthermore, each different financial asset has their own trading rules. For example, a company's stock is traded differently than its corporate bond. Most banks have a plethora of different financial assets, such as their foreign exchange currencies, fixed income securities, property, and many more. Clearing and settlement is the process of transferring ownership of a financial asset from one holder to another. Due to the severe lack of trust between most parties in today's world, this is an extremely time-consuming and expensive process with many steps and hurdles on the way. Moreover, the number of human errors in this process leads to settlement risk which is the risk that there will be an error and the financial asset will not be transferred. To truly understand how expensive this inefficient process is, Capgemini claims that ninety percent of a bank's technology budget goes towards maintaining these legacy IT systems. Distributed ledger technologies can greatly help in lowering the time spent and costs allocated to clearing, settling, and record keeping these financial assets. For example, the consultancy, Santander InnoVentures, estimates that introducing

distributed ledger technologies can reduce banks infrastructure expenses by fifteen to twenty billion dollars every year. The primary reason that banks might prefer to join the R3 consortium rather than develop their own distributed ledger technology is because making their own distributed ledger technology is an extremely expensive, time-consuming, and frankly confusing process. R3 is providing banks an already established platform with about fifty banks already bought into the platform. This would make it much easier for other banks to join in as it is already widely accepted among their financial competitors. Other banks deciding to make their own distributed ledger technology would be the equivalent of every company attempting to make their own version of the Microsoft Windows software when Microsoft first introduced their software product. It is simply unreasonable to devote that much time, money, and energy to doing that when they can simply purchase the already established product for much cheaper, with much less effort.

Part (c)

Corda is a permissioned distributed ledger targeting the financial services industry. The problem of untrusted nodes is in regard to the "lack of trust among financial counterparties" (King, 2018). Resulting from the fact that the financial counterparties each kept their own separate ledgers, anytime there was a discrepancy in the transaction records, both parties would have to contribute a lot of time and money to resolve the issue. Corda solves this problem because its notaries verify the transactions for the counterparties and maintain a centralized ledger.

Since Corda was created for the financial services industry, it is immutable, encrypted, and private in order to meet the standards of the industry. It is also a permissioned ledger, as mentioned above, which means that access is restricted to certain users. Additionally, Corda validates each transaction independently and is compatible with other networks and varying cryptocurrencies. In contrast, the Bitcoin blockchain is permissionless and reaches consensus through proof-of-work which slows down its transaction verification process. The Bitcoin blockchain is also fully transparent and only records transactions involving Bitcoin.

Part (d)

We would recommend Corda to pursue a Platform-as-a-Service Strategy. Utilizing the network effect, Corda would be able to establish a widespread ecosystem: designers, governors and operators of business networks; providers of notary nodes; application developers, etc. With the

enhancement in the compatibility as an open source platform, Corda allows a group of Corda Network participants who collaborate for a specific business purpose to participate in other business networks or transact with other nodes simultaneously with the same infrastructure. As a result, the expansion of the ecosystem would add value to Corda's add-ons such as technical support, training, reporting, middleware, storage, testing, and other services.

R3 could also sell a more sophisticated version of Corda that contains more features. As Corda works as a distributed ledger software for recording, managing and synchronizing contracts between trading partners, most of its supporters come from financial companies. Therefore, an upgraded version of Corda could reduce time and efforts of CorDapps production whilst removing operational barriers.