



Blockchain Technology and its Implication to the Financial Industry

TEAM 6

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Executive Summary

Over the past few years the financial industry has come upon a crucial fork. With the rapid introduction of technology into the industry as well as the development of alternatives, the coming years will be vital in determining both the future of money and the way we use it. This report focusses on the different financial institutions that make up the industry, the technology being introduced, and discusses important events in its history such as the 2008 market crash.

But what is money? It has three major characteristics: It is a store of value; a medium of exchange; and a unit of account. It has taken on various looks in history, having its roots in the barter systems where people would exchange their excess goods with others for theirs. Soon they realized that different goods were considered to have different value, with cattle more valuable than crop. From here it developed into commodities holding value, with eventual development into standardized metal coins. Paper money arose in the 11th century in China and eventually developed into bills of exchange during the Renaissance and promissory notes backed by precious metals after. This led directly into our current system of using the US Dollar as the de facto money, which, historically was backed by gold until the 1970s.

The dollar, and by extension, other national currencies, fulfil the three conditions mentioned earlier. But these currencies now face a threat, it comes in the form of blockchain technology. Blockchain is a method of using cryptography to develop a trustless system for exchange over a peer-to-peer network. It offers complete decentralization, transparency, and acts as an open ledger where all transactions are public information, either within an organization or to the world

and offers use on both ends of the spectrum. These are both discussed in the context of this report.

The most prominent implementation of blockchain is in the cryptocurrency called Bitcoin. This is the biggest contender to the dollar and has its roots in protesting big financial institutions and their aggregation of wealth. It allows for the coin to be transferred between individuals without requiring an intermediary third party. It is most prominent as a medium of exchange but due to high volatility does not fulfil the requirements as a store of value or medium of account. It has a finite supply and is thus similar in properties to Gold. Another prominent cryptocurrency is called Ethereum, it is like bitcoin, however, it also offers a platform on which others can easily build solutions to problems marred by centralization and lack of transparency.

When discussing the dominance of the US dollar, some background is required on how it is managed. The major body for regulating the dollar is called the Federal Reserve. It was formed in 1913 after a series of financial upsets and acts as a private centralized banking system that dictates monetary policy. It is overseen by a board of governors whose chairman is elected by the US President. There are several controversies surrounding the Federal Reserve, the major one of which is the complete lack of transparency when it comes to its operations. Another complaint is that even though it dictates monetary policy it is a private body that exercises excessive control over the money supply. The benefits that blockchain offers in terms of transparency and decentralization are considered would offer solutions to these objections.

The financial institutions that are most prominent in our current environment are Stock Markets. These are a market where investors can trade in securities such as bonds and stocks. This trading can be done either by individuals or by institutions. The stock market of a country is made up of different stock exchanges, these are organized marketplaces that provide facilities for brokers to trade in stocks and securities. Some of the most prominent exchanges in the world are the NYSE, the largest by market capitalization, the NASDAQ, the second largest, and the TSX, the largest in Canada. Though, historically, these exchanges had physical operating floors where trading took place, with the advent of technology most is now done electronically. With the introduction of blockchain there can be a single point ledger for all transactions and ownership records.

The institution that acts as an intermediary between stock exchanges and companies are called Investment Banks (IB). It provides services such as financial capital, underwriting of securities to companies and government companies. Some of the major services that IBs provide are assisting companies in Initial Public Offerings (IPOs) and Mergers and Acquisitions (M&A). They also generally have a commercial arm where customers can store their money. IBs are ones that stand to gain the most from implementing blockchain. It would provide substantial help in internal bookkeeping as well assist in creating real-time settlement. It also prevents the occurrence of fraud due to its open nature and real-time settlement.

The 2008 market crash is a big driver in the development of blockchain technology. This report considers the factors that led to the market crash. These include an unprecedented growth in consumer debt and the relative ease with which house mortgages could be gained and these

mortgages being used in financial instruments called credit default swaps. This contrasted with the 2002 market recession which was instead caused by flooding of the market in technology companies that did not make any money and eventually failed. With blockchain this market crash could not have been prevented but the slow recovery could have been expedited.

In conclusion, technology has become a large determinant in molding the financial industry and is seeing introduction of new tech every day. One such is Blockchain that presents an open decentralized ledger managed by a peer-to-peer network. This serves to act as a transformative and disruptive power in the industry and could be a decisive factor for the future.