Blockchain technology and How It Will Revolutionize Our World Economy.



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If someone were to make a list of ”buzzwords” or “mediaspeak” that is used all too often in the last decade’s news and media outlets, the phrase “Blockchain technology” would be at the top. Its meaning is elusive to most; only a few can actually define it in context or discuss its implications in today’s socioeconomic world. Blockchain technology, or The Blockchain is both a new way of conceptualizing the internet and a feat of engineering that redefines the mechanisms and systematic relationships between a user’s data and the computer server that stores it. The Blockchain is impacting many industries that were previously operated by peer-to-network systems in which a user makes a connection to a computer server and stores their data on that server as the single, central location. Blockchain technology offers a new approach one that fixes the issues that come with the current computing solution. Often, data can be in the form of monetary assets or receipts to physical assets, such as a bank statement or an Amazon order. The function of economic institutions is becoming more and more antiquated and inefficient when compared to The Blockchain. With the implementation of Blockchain technology, a more secure, transparent and efficient decentralized world economy is possible.

Contrary to popular belief and recent news coverage, Blockchain technology is not a new technology. Its been around since the 1990’s, and was created with an intended purpose of increasing the security and efficiency of cryptography. Cryptography can be explained simply as the study or artform of “storing and transmitting data in a particular form so that only those for whom it is intended can read and process it.” [[1]](#footnote-1)Its first application was sanctioned by an individual (or groups of individuals) known as Satoshi Nakamoto in 2008, for the digital currency Bitcoin.[[2]](#footnote-2) To understand why Blockchain helps Bitcoin, one must first understand how it does so. Bitcoin takes advantage of The Blockchain’s peer-to-peer networking capability and the shared ledger approach to authentication. This means that instead of a user connecting directly to a central individual server network and sharing a piece of data, the user connects to a group of other users (referred to as the “chain”) and authenticates against them by comparing every other user’s version of the data (the “blocks.”) Each block has a copy of the user’s record or piece of data to validate that their copy of data is in fact the same as the one the user is trying to bring to the server [[3]](#footnote-3). In practical applications, this mechanism shows itself in the form of online payments. In comparison, PayPal (an electronic commerce company facilitating payments between parties through online funds transfers. [[4]](#footnote-4)) uses a peer-to-network system. As a result, there is only one form of authentication handled by the company PayPal on their end of the connection. What happens if PayPal is hacked and your digital balance ledger is changed? In contrast, blockchain prevents hackers from taking down the network by implementing a more secure network protocol (a fundamentally better data transport layer.) In doing so, it completely revolutionizes the security of digital currency systems and insures a decentralized platform making it nearly impossible to tamper with private account data. Bitcoin, the most popular crypto currency utilizes Blockchain technology making it the most secure way of making online transactions.

Billions of people conduct trade in many forms every single day. They expect that both their monetary and physical assets are secure and, in the event, that they are not, millions of dollars can be lost. Security is arguably the most important aspect of any financial system. However, trust in those security measures is what solidifies the interaction between a buyer and seller, thus leading to a stable economy. A service like PayPal, may ensure the success of a transaction by charging a fee while the user may instill their trust in PayPal’s system by signing a term of agreement. Stating that by complying to their data usage PayPal, will guarantee the trade goes through untampered with. In the case that someone wants to buy something using an online trading hub such as eBay, a great deal of risk is at play, and trust is the most important factor in the transaction. A user may look for clues or an indication of a seller’s validity. Whether that be in the form of pictures, number of user reviews or previous sales. In her Ted Talk Bettina Warburg describes “…these parameters as attestations that represent a user’s account.”[[5]](#footnote-5) In the case of eBay, these attestations are limited only to that individual platform. Meaning that there is no cross-service interaction between other service providers such as Amazon or Alibaba. A seller new to eBay may not have the most trustworthy profile, because they are only just starting to facilitate transaction. However, their account on Amazon may be highly qualified and well regarded. Through the mechanisms of Blockchain technology a user controlled portable identity is possible effectively gathering bits of information from all sources that serve as attestations. Bettina Warburg gives the example of a “…government ID or the fact that an individual is over the age of 21.” 5 With Blockchain a user can selectively display this portable identity to help facilitate trust and further accelerate a transaction leading to a more efficient world economy.

Similarly, to how The Blockchain offers solutions and alternatives to security vulnerabilities and user trust, it can also improve upon antiquated systems in terms of speed and efficiency. A common idiom adopted by many people is “time is money.” It’s true in nearly every regard including performant software systems that handle millions of requests and process billions of dollars every second. Financial institutions like banks, adopted software systems in the early 80’s and have seen little improvement in terms of speed and load optimization since then. As the user pool of online banking grew, the systems that maintained the accounts and online legers stayed the same. In other words, as technology evolved propelling our society into the 21st century, the banking systems stayed in the 1980’s. [[6]](#footnote-6) This disregard for innovation has left consumers restricted by their computers and the network that they connect to. The reason a user must wait multiple days, sometimes weeks to authenticate a monetary transaction is the result of negligence and confining banking policy 6. Just to move a few digital numbers from one computer to another takes days, while we stream ultra-high definition movies to our T.V.s in an instant.

If these systems were updated and able to utilize the power and efficiency of The Blockchain, users and institutions would save time and money. The Blockchain solves this issue by improving network performance and stability. Blockchain employs a decentralized peer-to-peer (P2P) network. Instead of waiting to connect to a central server somewhere in the world, a user can connect to another user or group of users nearby. In many cases, this proximity is based off geolocation, and uses a refined algorithm to determine the most efficient pathway to a peer. [[7]](#footnote-7) These users all share an instance or multitude of instances of the system, supporting the entirety of the network simultaneously. By pulling computational resources from billions of devices, The Blockchain can improve the transaction speed and stability of a platform. If one user disconnects from the network, only a fraction of performance is impacted. In comparison, if someone were to disconnect the central server of Chase Bank’s online system. Every user would lose access to their funds and it may take weeks to regain connection. Several academic studies have taken place to determine The Blockchain’s performance and resource consumption impact on preexisting systems. An article titled "Banking on Blockchain: Costs Savings Thanks to the Blockchain technology," 7 the author interprets raw performance data and describes the nuances of engineering approaches to architecting systems. The article draws the conclusion of increased cost savings with the installation of The Blockchain. With the implementation of Blockchain technology, companies can optimize their servers performance and as a result, save money.

Cost savings are many companies top priority and a large expenditure for corporations today is marketing. As with any service or product, marketing and client outreach is a large factor in converting a potential lead into a paying customer. Making a cutting-edge technology known to the world and feasible for business implementation can be challenging. Like any other product, it needs to convince business owners, policy holders and the consumer that it’s revolutionary mechanisms will make an impact. A typical internet service like Cisco Systems may spend a portion of their gross revenue on sales and marketing. However, Blockchain is not typical by any means. Blockchain does not market itself or make revenue. This is because it is not backed by a single entity of ownership. This means that Blockchain technology is an opensource platform comprised of many contributors who maintain the technology, debug errors and implement new features. If someone wants to add to its source code or utilize its capabilities for a different application, this is not only possible but encouraged. However, this comes with advantages and disadvantages. For example, if an individual registers as a third party contributor and makes a change to Blockchain’s source code, it could break the system. Of course, the process of registering as a contributor is rigorous and heavily monitored. However, this idea of allowing “outside the organization” contributors handle aspects of the business and development can be dangerous. More importantly it can disincentivize other companies from using Blockchain. This effect is a large reason why The Blockchain has not been implementing in its entirety. Large corporations may hire experts in the field of computer science and Blockchain engineering to vet Blockchain source code, deeming it ok for instillation. 7 While Blockchain is the future many are skeptical of when it will be implemented. Experts theorize that it will take another decade in research and development until The Blockchain fully supersedes current baking systems. This is important because the world economy will continue to run inefficiently in the meantime.

Security, speed, stability and trust are all factors that affect how we as consumers interact with systems such as online checking accounts and internet trading stores. The server architecture that makes up these systems is outdated, and in turn limits the world economy’s ability to grow and flourish. With the introduction of Blockchain technology, these antiquated systems can be rebuilt in a more secure, transparent and efficient way. Unlike many other forms of technology, the way in which we have traded has always been the same. Facilitating it in the forms of economic institutions such as banks and trading posts. Because of Blockchain technology humans will trade monetary and physical assets differently for the first time in thousands of years. Banks and trading posts that trade will be removed and instead facilitated through peer-to-peer connections over the internet, connecting the buyer and seller instantly, creating a completely unique, transparent receipt. Blockchain technology is the key to a completely unified world economy, free of restrictions and accessible to all.

Work Cited

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Umarovich, Adam Albekov , Natalia Vovchenko Gennadyevna, Olga Andreeva Vladimirovna, and Roman Sichev Alexandrovich. "Block Chain and Financial Controlling in the System of Technological Provision of Large Corporations' Economic Security." European Research Studies 20, no. 3B (2017): 3-12. The article is up to date and maintains the research of current trends and mechanisms for the blockchain technology application to ensure the economic security of large corporations. Multiple corporations operating in terms of digital economy were selected as the main research focus. Namely bitcoin and other alternative coins such as etherium. The articles primary research is financial controlling effectiveness in large corporate entities, implemented with the blockchain technology application.

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